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As filed with the Securities and Exchange Commission on February 3, 2015

Registration No. 333-201474

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

**Amendment No. 1
to
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

BELLEROPHON THERAPEUTICS LLC

(to be converted into Bellerophon Therapeutics, Inc.)

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	2834 (Primary Standard Industrial Classification Code Number)	36-4771642 (I.R.S. Employer Identification No.)
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**53 Frontage Road, Suite 301
Hampton, New Jersey 08827
(908) 574-4770**

(Address, including zip code, and telephone number, including
area code, of registrant's principal executive offices)

**Jonathan M. Peacock
Chief Executive Officer
Bellerophon Therapeutics LLC
53 Frontage Road, Suite 301
Hampton, New Jersey 08827
(908) 574-4770**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

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**Approximate date of commencement of proposed sale to the public:
As soon as practicable after this Registration Statement is declared effective.**

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o

Accelerated filer o

Non-accelerated filer ☒
(Do not check if a smaller reporting company)

Smaller reporting company o

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities To Be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2) (3)
Common Stock, \$0.01 par value per share	\$73,600,000	\$8,552.32

- (1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.
- (2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.
- (3) A registration fee of \$8,017.80 was previously paid in connection with the Registration Statement, and the additional amount of \$534.52 is being paid herewith.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

Bellerophon Therapeutics LLC, the registrant whose name appears on the cover of this registration statement, is a Delaware limited liability company. Immediately prior to the effectiveness of this registration statement, Bellerophon Therapeutics LLC will be converted into a Delaware corporation, which we refer to as the Corporate Conversion, and renamed Bellerophon Therapeutics, Inc. Shares of the common stock, par value \$0.01 per share, of Bellerophon Therapeutics, Inc. are being offered by the prospectus that forms a part of this registration statement. For convenience, except as context otherwise requires, all information included in the prospectus that forms a part of this registration statement is presented giving effect to the Corporate Conversion.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated February 3, 2015

PRELIMINARY PROSPECTUS

4,000,000 Shares



Common Stock

We are offering 4,000,000 shares of our common stock. This is our initial public offering and no public market currently exists for our shares. We anticipate that the initial public offering price of our common stock will be between \$14.00 and \$16.00 per share.

We have applied to list our common stock on the NASDAQ Global Market under the symbol "BLPH."

We are an emerging growth company as that term is used in the Jumpstart Our Business Startups Act of 2012, and as such, are subject to reduced public company disclosure standards. See "Prospectus Summary—Implications of Being an Emerging Growth Company."

Investing in our common stock involves a high degree of risk. Before buying any shares, you should carefully read the discussion of material risks of investing in our common stock in "Risk Factors" beginning on page 14 of this prospectus.

	Per Share	Total
Initial public offering price	\$	\$
Underwriting discount and commissions ⁽¹⁾	\$	\$
Proceeds to us, before expenses	\$	\$

(1) We have agreed to reimburse the underwriters for certain expenses in connection with this offering. See "Underwriting."

Our principal stockholders have indicated an interest in purchasing an aggregate of up to approximately \$20 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these stockholders may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It also is possible that these stockholders could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or not to sell any shares to these stockholders.

We have granted the underwriters an option to purchase up to 600,000 additional shares of our common stock to cover over-allotments. The underwriters can exercise this option at any time within 30 days after the date of this prospectus.

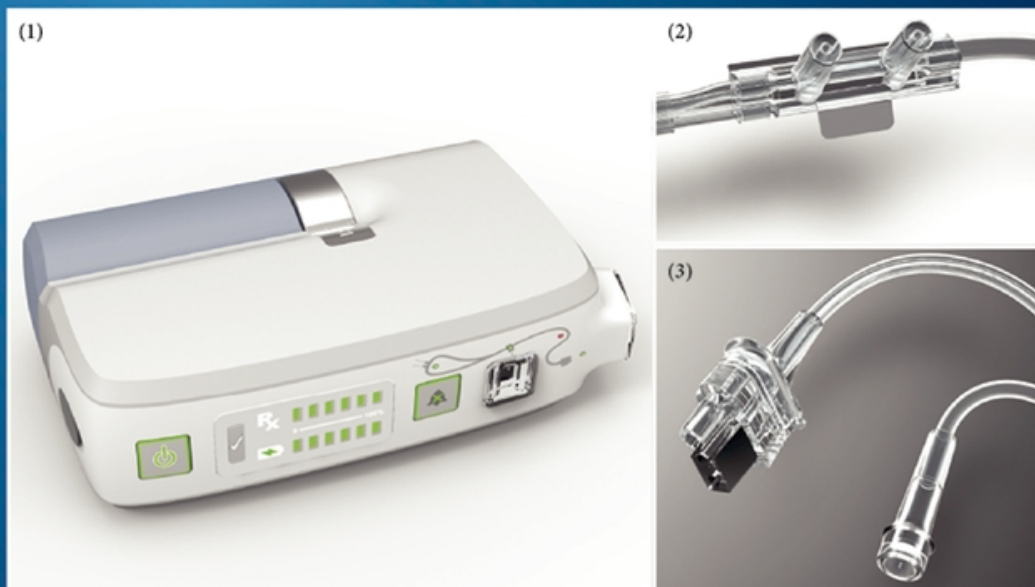
Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed on the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of common stock to investors on or about , 2015.

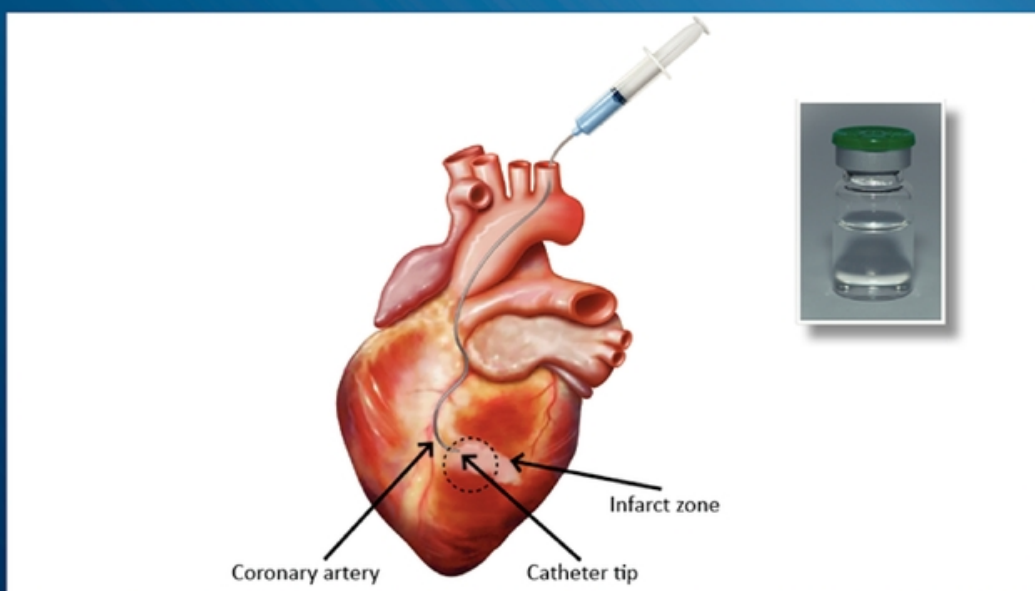
Leerink Partners
FBR

Cowen and Company
SunTrust Robinson Humphrey

The date of this prospectus is , 2015.



Engineering CAD illustrations of our (1) INOpulse[®] Mark2 device, (2) triple-lumen nosepiece detail and (3) triple-lumen cannula to device connector detail. These illustrations depict prototypes, which are currently under development and not commercially available.



Picture of BCM vial and illustration of deployment of the device through a percutaneous coronary catheter. The device is under investigation and not commercially available. These images are not to scale.

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Neither we nor any of the underwriters have authorized anyone to provide you with information other than that contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give to you. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

No action is being taken in any jurisdiction outside the United States to permit a public offering of our common stock or possession or distribution of this prospectus in that jurisdiction. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions relating to this offering and the distribution of this prospectus applicable to that jurisdiction.

The trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing our common stock. You should read this entire prospectus carefully, especially the "Risk Factors" section and our financial statements and the related notes appearing at the end of this prospectus, before making an investment decision.





This prospectus relates to an offering of our common stock following certain transactions described herein that will occur prior to the effectiveness of the registration statement of which this prospectus forms a part, which we refer to as the Corporate Conversion. As used in this prospectus, unless the context otherwise requires, references to the "Company," "Bellerophon," "we," "us" and "our" refer to (i) following the date of the Corporate Conversion discussed under the heading "Corporate Conversion," Bellerophon Therapeutics, Inc. and its consolidated subsidiaries, or any one or more of them as the context may require, and (ii) prior to the date of the Corporate Conversion, Bellerophon Therapeutics LLC and its consolidated subsidiaries, or any one or more of them as the context may require.

Company Overview

We are a clinical-stage therapeutics company focused on developing innovative products at the intersection of drugs and devices that address significant unmet medical needs in the treatment of cardiopulmonary and cardiac diseases. We have two programs in advanced clinical development. The first program, INOpulse, is based on our proprietary pulsatile nitric oxide delivery device. We are currently developing two product candidates under our INOpulse program: one for the treatment of pulmonary arterial hypertension, or PAH, for which we intend to commence Phase 3 clinical trials in the second half of 2015, and the other for the treatment of pulmonary hypertension associated with chronic obstructive pulmonary disease, or PH-COPD, which is in Phase 2 development. Our second program is bioabsorbable cardiac matrix, or BCM, which is currently in a placebo-controlled clinical trial designed to support CE mark registration in the European Union. We completed enrollment of this trial in December 2014, with 303 patients having completed the treatment procedure, and we expect to report top line results in mid-2015. Assuming positive results, we intend to conduct a pivotal pre-market approval trial of BCM beginning in the first half of 2016, which will be designed to support registration in the United States. We are developing BCM for the prevention of cardiac remodeling, which often leads to congestive heart failure following an ST-segment elevated myocardial infarction, or STEMI.

Our Product Candidates

The following table summarizes key information about our development programs and product candidates. We have worldwide commercialization rights to all of our product candidates.

PROGRAM	INDICATION		PHASE 1	PHASE 2	PHASE 3	UPCOMING MILESTONE
INOpulse	PAH					• Phase 3 clinical trial expected to start in second half of 2015
	PH-COPD					• Phase 2b clinical trial expected to start in second half of 2015
PROGRAM	INDICATION	REGION	PILOT	FEASIBILITY	PIVOTAL	UPCOMING MILESTONE
BCM*	Prevention of Congestive Heart Failure	EU				• Trial results expected mid-2015
		US				

* We are currently conducting a single clinical trial for BCM that, assuming positive results, we plan to use as a CE mark registration trial in the European Union and following which we would conduct a second, larger clinical trial to support registration in the United States.

From the inception of our business through September 30, 2014, \$184.3 million was invested in our development programs. To date, our sole source of funding has been investments in us by our former parent company, Ikaria.

INOpulse

Our INOpulse program is an extension of the technology used in hospitals to deliver continuous-flow inhaled nitric oxide. Use of inhaled nitric oxide is approved by the U.S. Food and Drug Administration, or the FDA, and certain other regulatory authorities to treat persistent pulmonary hypertension of the newborn. Ikaria, Inc., or Ikaria, has marketed continuous-flow inhaled nitric oxide as INOmax for hospital use in this indication since approval in 1999. In October 2013, Ikaria transferred to us exclusive worldwide rights to develop and commercialize pulsed nitric oxide in PAH, PH-COPD and pulmonary hypertension associated with idiopathic pulmonary fibrosis, or PH-IPF, with no royalty obligations. Our INOpulse program is built on scientific and technical expertise developed for the therapeutic delivery of inhaled nitric oxide. In 2010, Ikaria filed an investigational new drug application, or IND, for INOpulse for the treatment of patients with PAH, which is a form of pulmonary hypertension that is closely related to persistent pulmonary hypertension of the newborn. In 2012, Ikaria filed a second IND for INOpulse for the treatment of patients with PH-COPD. These INDs were included in the assets that were transferred to us by Ikaria.

Nitric oxide is naturally produced and released by the lining of the blood vessel and results in vascular smooth muscle relaxation, an important factor in regulating blood pressure. As the muscles of the blood vessels relax, this allows the heart to increase blood flow to tissues and organs of the body, including the lung. When administered through inhalation, nitric oxide acts to selectively reduce pulmonary arterial pressure in the lung with minimal effects on blood pressure outside of the lungs, an important safety consideration.

Inhaled nitric oxide is widely used in the hospital setting for the treatment of a variety of conditions and, as reported by Ikaria, over 450,000 patients have been treated with inhaled nitric oxide worldwide since its first such use. However, chronic outpatient use of this therapy has previously been limited by a lack of a safe and compact delivery system for outpatient use. We have designed our INOpulse device, which is the means by which inhaled nitric oxide is delivered to the patient, to be portable, which enables use by ambulatory patients on a daily basis inside or outside their homes. Our INOpulse device has a proprietary mechanism that delivers brief, targeted pulses of nitric oxide timed to occur at the beginning of a breath for delivery to the well-ventilated alveoli of the lungs, which minimizes the amount of drug required for treatment. We estimate this, and the higher concentration of nitric oxide we use, reduces the volume of drug delivered to approximately 5% of the volume required for equivalent alveolar absorption using standard continuous flow delivery systems, and also reduces the amount of nitric oxide, as well as its by-product nitrogen dioxide, that is exhaled and released into the patient's environment. INOpulse is designed to automatically adjust nitric oxide delivery based on a patient's breathing pattern to deliver a constant and appropriate dose of the inhaled nitric oxide over time, independent of the patient's activity level, thus ensuring more consistent dosing of the nitric oxide to the alveoli of the lungs.

In our recently completed INOpulse clinical trials, we used the first generation INOpulse device, which we refer to as the INOpulse DS device. In future clinical trials, we intend to use our second generation device, which we refer to as the Mark2. The Mark2 has approximately the same dimensions as a paperback book and weighs approximately 2.5 pounds. The Mark2 has a simple and intuitive user interface and a battery life of approximately 24 hours when recharged, which takes approximately four hours and can be done while the patient sleeps. Based on the doses we have evaluated in our clinical trials, we expect that the cartridge will need to be replaced once a day. In addition, we have developed a triple-lumen nasal cannula, which forms part of the Mark2 and enables more accurate dosing of nitric oxide and minimizes infiltration of oxygen, which can react with nitric oxide to form nitrogen dioxide.

Our triple-lumen nasal cannula consists of a thin, plastic tube that is divided into three channels from end-to-end, including at the prongs that are placed in the patient's nostril with one channel delivering inhaled nitric oxide, a second for breath detection and a third available for oxygen delivery. INOpulse is designed to be compatible with many long-term oxygen therapy systems. In the usability research we conducted, all eight patients with experience with the INOpulse DS device responded positively to the Mark2, and several of these patients indicated that the ability to take the Mark2 outside the home would likely reduce concerns with maintaining compliance.

Our technology is based on patents we have exclusively licensed from Ikaria for the treatment of PAH, PH-COPD and PH-IPF. These include patents with respect to the pulsed delivery of nitric oxide to ensure a consistent dose over time, which expire as late as 2027 in the United States and as late as 2026 in certain other countries, as well as with respect to the special triple-lumen cannula that allows for safer and more accurate dosing of pulsed nitric oxide, which expires in 2033. We have also licensed several other patent applications from Ikaria for certain of the innovations included in the Mark2, and certain of the resulting patents, if issued, would expire as late as 2033.

INOpulse for PAH

We are developing INOpulse for the treatment of PAH to address a significant and unmet medical need in an orphan disease, which is a disease that affects fewer than 200,000 individuals in the United States. This program represents a potential first-in-class therapy for this indication. In October 2014, we completed a randomized, placebo-controlled, double-blind Phase 2 clinical trial of INOpulse for PAH. The data from this trial showed trends toward lower pulmonary vascular resistance in both active arms compared to placebo and a slight trend toward increased six-minute walk distance in the higher dose group. While neither result reached the threshold for statistical significance, additional exploratory analyses of patients who were compliant with therapy, assessed as being on therapy for greater than 12 hours per day, as well as a similar analysis of patients on long-term oxygen therapy, or LTOT, showed clinically meaningful and statistically significant improvements in both the primary endpoint of pulmonary vascular resistance and the key secondary endpoint of six-minute walk distance, relative to placebo, for patients on the higher dose. These two sub groups each comprised more than 50% of the total patients enrolled in the trial. Statistical significance for clinical trials means that, should the trial have a positive outcome, the results have a low probability of having occurred because of chance rather than from the efficacy of the product.

We believe the results of this trial provide sufficient indication of clinical benefit and safety to continue development of INOpulse for PAH in pivotal Phase 3 clinical trials. We had an End of Phase 2 meeting with the FDA on January 8, 2015. Based on feedback from the FDA at this meeting, we are moving forward with Phase 3 development and plan to conduct two adequate and well-controlled confirmatory Phase 3 clinical trials, either sequentially or in parallel. We intend to finalize the clinical trial design following additional discussions with the FDA as well as with other regulatory authorities, including with the EMA.

The FDA has granted orphan drug designation to our nitric oxide program for the treatment of PAH. If a product with an orphan drug designation is the first to receive FDA approval, the FDA will not approve another product for the same indication that uses the same active ingredient for seven years, unless the other product is shown to be clinically superior.

PAH is characterized by abnormal constriction of the arteries in the lung that increases the blood pressure in the lungs which, in turn, results in abnormal strain on the heart's right ventricle, eventually leading to heart failure. While prevalence data varies widely, we estimate there are a total of at least 35,000 patients currently diagnosed with and treated for PAH in the United States and European Union. Moreover, because PAH is rare and causes varied symptoms, we believe there is significant under-diagnosis of the condition at its early stages. There are several approved therapies for PAH, and

we estimate, based on public product sales data, that 2012 combined global sales for these therapies were over \$4.0 billion. Most PAH patients are treated with multiple medications and many are on supportive therapy. We believe that approximately 20,000 patients have severe to very severe PAH and are treated with multiple therapies, including LTOT. Despite the availability of multiple therapies for this condition, PAH continues to be a life-threatening, progressive disorder. A French registry initiated in 2002 and a U.S. registry initiated in 2006 estimate that the median survival of patients with PAH is three and five years from initial diagnosis, respectively.

INOpulse for PH-COPD

We are also developing INOpulse for the treatment of PH-COPD. The data from an initial three-month, open-label chronic-use Phase 2 trial conducted by a third party, which we in-licensed, showed that pulsed inhaled nitric oxide significantly reduced pulmonary arterial pressures in PH-COPD patients on LTOT and did so without causing hypoxemia, or an abnormally low level of oxygen in the blood, which is a significant concern for these patients. In June 2012, Ikaria submitted the data from this trial to the FDA as part of the IND package for INOpulse for PH-COPD. Based on discussions with the FDA, we believe this trial is an adequate Phase 2 trial. The FDA asked us to confirm the dose range and the safety related to hypoxemia in PH-COPD patients using the INOpulse device, prior to proceeding to large scale trials. Following this guidance we conducted a Phase 2 acute dose ranging randomized placebo-controlled trial in 159 patients with the INOpulse DS device, with doses ranging from 3 mcg to 75 mcg. This trial, which we completed in July 2014, identified a dose range that showed similar reduction in pulmonary arterial pressure versus baseline when compared to the initial acute effects of pulsed inhaled nitric oxide in the original chronic-use trial. In addition, in our confirmatory trial, none of the INOpulse doses tested had an adverse effect on hypoxemia relative to placebo. While the reduction in pulmonary arterial pressure did not reach statistical significance versus placebo in this acute setting, which was the primary endpoint of the trial, we believe that the results have confirmed a dose range for this therapy that delivers a significant reduction in pulmonary arterial pressure versus baseline and does not cause hypoxemia in patients with PH-COPD. We are currently evaluating our trial design for chronic use in this population in a three-month Phase 2b trial and plan to finalize the protocol following discussions with regulatory authorities in the United States and European Union.

COPD is a disease characterized by progressive and persistent airflow limitations. Patients with more severe COPD frequently have hypoxemia and may be treated with LTOT. Despite treatment with oxygen, hypoxemia can progress and contribute to pulmonary hypertension. In 2010, Datamonitor estimated that over 1.4 million COPD patients in the United States were being treated with LTOT. Based on academic studies, we estimate that 50% of COPD patients on LTOT have pulmonary hypertension. PH-COPD patients have a lower median life expectancy and a higher rate of hospitalization than COPD patients with similar respiratory disease but without pulmonary hypertension. Currently, there are no approved therapies for treating PH-COPD, and the only generally accepted treatments are LTOT, pulmonary rehabilitation and lung transplant.

BCM

Our second program, BCM, is a medical device intended to prevent congestive heart failure following an ST-segment elevated myocardial infarction, or STEMI, which is a type of severe heart attack. Patients who suffer a STEMI are at an increased risk for congestive heart failure due to potential cardiac remodeling, which is a structural change in the size and shape of the heart that affects its ability to function normally.

BCM is delivered during a minimally invasive, commonly performed cardiac procedure called a percutaneous coronary intervention procedure. BCM is a formulated sterile solution of sodium alginate and calcium gluconate designed to be administered as a liquid through the coronary artery. When administered following a STEMI, BCM flows into damaged heart muscle where, in the presence of

abnormally high extracellular calcium released by the damaged cells, it forms a protective hydrogel meshwork within the wall of the heart's left ventricle. Based on pre-clinical animal studies, we believe that BCM has the potential to act as a flexible scaffold to provide physical support to the ventricle wall in the early stages of recovery following a STEMI and prevent further structural damage while the heart muscle heals. In addition, in our pre-clinical animal studies, as calcium levels in the damaged area returned to normal, BCM dissolved and was excreted through normal kidney function.

In a 27-patient pilot clinical trial conducted in 2009, BCM was safely administered within seven days following a STEMI. Patients showed no deterioration from baseline of important measures of left ventricular function at one, three and six month measurements. Follow-up safety data for these patients, which was obtained four years after the completion of the pilot clinical trial, showed one death from T-cell lymphoma—likely a preexisting condition—and one hospitalization from congestive heart failure. One patient was lost to follow-up in year four, but this patient had no device related adverse events through the three-year evaluation. These results were below the incidence of adverse events of approximately 25% to 30% we expected for patients following an acute myocardial infarction, or AMI, commonly known as a heart attack. This expectation was based on our review of publicly reported data from two long-term third-party studies of AMI patients.

We initiated a clinical trial of BCM in December 2011 and enrolled the first patient in April 2012. We completed enrollment of this trial in December 2014, with 303 patients having completed the treatment procedure at almost 90 clinical sites in Europe, Australia, North America and Israel. We expect to report top line results in mid-2015, following a six-month follow-up period for all patients. This trial is a CE mark registration trial in the European Union. If the results of this trial are positive, we expect it would form the basis for our application for CE marking in the European Union and we would expect to conduct a second, larger clinical trial to support approval in the United States through the premarket approval, or PMA, pathway.

In the United States, we are developing BCM under an investigational device exemption, or IDE. We sponsored an IDE application for our ongoing feasibility clinical trial of BCM to prevent ventricular remodeling and heart failure in patients who are at high risk for ventricular remodeling after an AMI and a successful percutaneous coronary intervention. The FDA has designated BCM as a Class III device. Class III devices are those which the FDA deems to pose the greatest risk, such as those that are life sustaining or life supporting. As a result, the FDA regulates Class III devices under the most rigorous device approval pathway, the PMA process. Device approval under the PMA pathway must be supported by extensive data, including from pre-clinical studies and clinical trials, that demonstrate the safety and efficacy of the device for its intended use. In August 2013, the FDA confirmed that no additional pre-clinical studies were required to support a PMA application. Assuming positive results from this trial we intend to conduct a pivotal pre-market approval trial of BCM beginning in the first half of 2016, which will be designed to support registration in the United States.

We have an exclusive worldwide license to BCM from BioLineRx Ltd. and its subsidiary, or BioLine, including with respect to issued composition of matter patents on BCM that expire as late as 2029 in the United States, with a possible patent term extension to 2032 to 2034 depending on the timing of marketing approval and other factors, and 2024 in certain other countries. We licensed this product candidate in 2009, following completion of the 27-patient pilot clinical trial conducted by BioLineRx Ltd.

Data from the American Heart Association and the European Association for Percutaneous Cardiovascular Interventions suggests that a total of over 1,900,000 patients suffer a heart attack in the United States and European Union each year, with at least 750,000 of these patients having a STEMI. Following a STEMI, patients are at increased risk of developing cardiac remodeling and subsequent

congestive heart failure, and data from long-term third-party studies suggest that the five-year post-AMI rate of congestive heart failure or death is approximately 35% to 40%.

Our Strategy

Our goal is to become a leader in developing and commercializing innovative products at the intersection of drugs and devices that address significant unmet medical needs in the treatment of cardiopulmonary and cardiac diseases. The key elements of our strategy to achieve this goal include:

- *Advance the clinical development of INOpulse.* One of our lead product candidates is INOpulse for PAH. Based on the results from our recently completed Phase 2 clinical trial in PAH, we intend to initiate a Phase 3 clinical trial for this indication in the second half of 2015. In addition, we believe the results of the PH-COPD clinical trials support continued Phase 2 development and we plan to evaluate our options for further development, including potentially through partnerships.
- *Advance the clinical development of BCM in the prevention of cardiac remodeling following a STEMI.* One of our other lead product candidates is BCM. Assuming positive results from our ongoing clinical trial, we expect to file for CE marking in the European Union in the second half of 2015 and to initiate a pivotal trial in early 2016 to support a PMA submission seeking marketing approval in the United States.
- *Leverage our historical core competencies to expand our pipeline.* We have years of institutional experience in the use of inhaled nitric oxide in treating pulmonary hypertension and in the development of drug-device combination product candidates. If we successfully advance INOpulse for the two product candidates we are currently developing, we expect to develop INOpulse for treatment of PH-IPF and, subject to obtaining additional license rights from Ikaria, potentially other outpatient pulmonary hypertension indications. Our longer-term vision is to identify and opportunistically in-license innovative therapies that are at the intersection of drugs and devices and to develop and commercialize these product candidates.
- *Build commercial infrastructure in select markets.* As we near completion of the development of our product candidates, we expect to build a commercial infrastructure to enable us to market and sell certain of our product candidates with a specialized sales force and to retain co-promotion or similar rights, when feasible, in indications requiring a larger commercial infrastructure. While we may partner with third parties to commercialize our product candidates in certain countries, we may also choose to establish commercialization capabilities in select countries outside the United States.

The Spin-Out

In October 2013, Ikaria completed an internal reorganization of certain assets and subsidiaries, in which it transferred to us exclusive worldwide rights, with no royalty obligations, to develop and commercialize pulsed nitric oxide in PAH, PH-COPD and PH-IPF. Following the internal reorganization, in February 2014, Ikaria distributed all of our then outstanding units to its stockholders through the payment of a special dividend on a pro rata basis based on each stockholder's ownership of Ikaria capital stock. We refer to Ikaria's distribution of our then outstanding units to its stockholders as the Spin-Out. Shortly after the Spin-Out, Ikaria was acquired by entities affiliated with Madison Dearborn Partners, a private equity firm.

In connection with the Spin-Out, we entered into several agreements with Ikaria providing for, among other things, the provision of transition services, the cross license of certain intellectual property, commitments not to compete, the manufacture and supply of the INOpulse drug and device and certain employee matters.

As used in this prospectus, unless context otherwise requires, references to "Ikaria" refer to Ikaria, Inc. and its subsidiaries and any successor entity.

Risk Factors

Our business is subject to a number of risks of which you should be aware before making an investment decision. As a clinical-stage biotherapeutics company, we may face inherent risks in our business and our industry generally. These risks are discussed more fully in the "Risk Factors" section of this prospectus immediately following this prospectus summary. These risks include, among others:

- We have incurred significant losses since inception. We expect to incur losses over the next several years and may never achieve or maintain profitability.
- Our very limited operating history as a stand-alone company may make it difficult for you to evaluate the success of our business to date and to assess our future viability. We currently rely on Ikaria for transition services and may be unable to make the changes necessary to operate as a stand-alone company.
- We will need substantial additional funding. Prior to the Spin-Out, we were funded by Ikaria. Going forward, if we are unable to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.
- We are dependent on the success of our INOpulse and BCM product candidates and our ability to develop, obtain marketing approval for and successfully commercialize these product candidates. If we are unable to develop, obtain marketing approval for or successfully commercialize our product candidates, either alone or through a collaboration, or experience significant delays in doing so, our business could be materially harmed.
- We rely on Ikaria for our supply of nitric oxide for the clinical trials of INOpulse. Ikaria is the sole supplier of nitric oxide. Ikaria's inability to continue manufacturing adequate supplies of nitric oxide, or its refusal to supply us with commercial quantities of nitric oxide on commercially reasonable terms, or at all, could result in a disruption in the supply of, or impair our ability to market, INOpulse.
- Clinical trials involve a lengthy and expensive process with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.
- We exclusively license BCM from BioLine and INOpulse from Ikaria, and we may enter into additional agreements to in-license technology from third parties. If we fail to comply with our obligations under any such license agreements, we could lose rights that are important to our business.
- We may seek to enter into collaborations with third parties for the development and commercialization of our product candidates. If we fail to enter into such collaborations, or such collaborations are not successful, we may not be able to capitalize on the market potential of our product candidates.
- If we are unable to obtain and maintain patent protection for our technology and products or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and products may be impaired.
- Our principal stockholders will continue to have substantial control over us after this offering, which could limit your ability to influence the outcome of key transactions, including any change of control.

Corporate Information

We were incorporated under the laws of the State of Delaware on October 17, 2013 under the name Ikaria Development LLC. We changed our name to Bellerophon Therapeutics LLC on January 27, 2014. We currently have three wholly-owned subsidiaries: Bellerophon BCM LLC, a Delaware limited liability company; Bellerophon Puls Technologies LLC, a Delaware limited liability company; and Bellerophon Services, Inc., a Delaware corporation. Our website address is www.bellerophon.com. The information contained on, or that can be accessed through, our website does not constitute part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Our executive offices are located at 53 Frontage Road, Suite 301, Hampton, New Jersey 08827, and our telephone number is (908) 574-4770.

Corporate Conversion

We are currently a Delaware limited liability company. Prior to the effectiveness of the registration statement of which this prospectus forms a part, we will complete transactions pursuant to which we will convert into a Delaware corporation and change our name to Bellerophon Therapeutics, Inc. In connection with the conversion, all of our outstanding voting units and non-voting units will convert into shares of voting common stock and non-voting common stock, respectively, and options to purchase our non-voting units will become options to purchase non-voting shares of our common stock. Pursuant to their terms, upon the consummation of this offering, the non-voting common stock will be converted into voting common stock and options to purchase non-voting common stock will become options to purchase voting common stock. Also, in connection with our conversion into a Delaware corporation, certain entities affiliated with certain of our principal stockholders will be merged with and into us. See "Corporate Conversion."

Implications of Being an Emerging Growth Company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we are permitted and intend to rely on exemptions from specified disclosure and other requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company if we have more than \$1.0 billion in annual revenue, we have more than \$700.0 million in market value of our stock held by non-affiliates or we issue more than \$1.0 billion of non-convertible debt over a

three-year period. We may choose to take advantage of some or all of the available exemptions. We have taken advantage of certain reduced reporting burdens in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards, and therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

THE OFFERING

Common stock offered	4,000,000 shares
Common stock to be outstanding after this offering	11,905,326 shares
Over-allotment option	The underwriters have an option for a period of 30 days from the date of this prospectus to purchase up to 600,000 additional shares of our common stock to cover over-allotments.
Use of proceeds	<p>We estimate that the net proceeds from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$52.6 million, or approximately \$61.0 million if the underwriters exercise their option to purchase additional shares from us in full, assuming an initial public offering price of \$15.00, the midpoint of the estimated price range set forth on the cover page of this prospectus. We intend to use the net proceeds from this offering to fund the first trial in our planned Phase 3 clinical program for INOpulse for PAH and for working capital and other general corporate purposes.</p> <p>See "Use of Proceeds" for more information.</p>
Risk factors	You should read the "Risk Factors" section beginning on page 14 of this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
Directed shares	At our request, the underwriters have reserved for sale, at the initial public offering price, up to 10% of the shares offered hereby for employees, directors and other persons associated with us who have expressed an interest in purchasing common stock in the offering. The number of shares available for sale to the general public will be reduced to the extent that these individuals purchase all or a portion of these reserved shares. Any reserved shares not so purchased will be offered by the underwriters to the general public on the same basis as the other shares offered by this prospectus. See "Underwriting" for more information.
Proposed NASDAQ Global Market symbol	"BLPH"

The number of shares of our common stock to be outstanding after this offering is based on 7,905,326 voting and non-voting shares of our common stock outstanding as of December 31, 2014 and excludes:

- 1,086,255 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2014 at a weighted average exercise price of \$10.00 per share;
- 50,571 additional shares of our common stock available as of December 31, 2014 for future issuance under our 2014 equity incentive plan, which shares, upon the effectiveness of the

registration statement for this offering, will be available for future issuance under our 2015 equity incentive plan; and

- 449,591 additional shares of our common stock that will be available for future issuance, as of the effective date of the registration statement for this offering, under our 2015 equity incentive plan, of which we expect to grant options to purchase an aggregate of 99,367 shares to certain of our employees upon the commencement of trading of our common stock on the NASDAQ Global Market.

Unless otherwise indicated, all information in this prospectus:

- assumes no exercise of the outstanding options described above;
- assumes no exercise of the underwriters' option to purchase additional shares;
- gives effect to the Corporate Conversion as described under "Corporate Conversion";
- assumes the conversion of all of the outstanding shares of our non-voting common stock into common stock upon the closing of this offering; and
- assumes the filing of our restated certificate of incorporation and the adoption of our amended and restated bylaws upon the closing of this offering.

In addition, unless otherwise indicated, all information in this prospectus gives effect to a one-for-12.5257 reverse unit split of our outstanding units that became effective on February 2, 2015.

Our principal stockholders have indicated an interest in purchasing an aggregate of up to approximately \$20 million in shares of our common stock in this offering at the initial public offering price. Assuming an initial public offering price of \$15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, these stockholders would purchase up to an aggregate of approximately 1,333,333 of the 4,000,000 shares offered in this offering based on these indications of interest. However, because indications of interest are not binding agreements or commitments to purchase, these stockholders may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It also is possible that these stockholders could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or not to sell any shares to these stockholders.

SUMMARY FINANCIAL INFORMATION

The following summary financial information as of and for the years ended December 31, 2013 and 2012 has been derived from our audited financial statements as of and for the years ended December 31, 2013 and 2012 included elsewhere in this prospectus. The following summary financial information as of September 30, 2014 and for the nine months ended September 30, 2014 and 2013 has been derived from our unaudited condensed consolidated financial statements included elsewhere in this prospectus. The summary financial information below should be read in conjunction with our historical financial statements and the related notes included elsewhere in this prospectus, as well as the "Selected Financial Information" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of this prospectus.

Our financial statements for periods prior to the Spin-Out, which occurred on February 12, 2014, include allocations of costs from certain shared functions provided to us by Ikaria, including general corporate and shared services expenses. These allocations were made based on either specific identification or the proportionate percentage of employee time or headcount to the respective total Ikaria employee time or headcount, as applicable, and have been included in our financial statements for periods prior to February 12, 2014.

The financial statements included in this prospectus may not necessarily reflect our financial position, results of operations and cash flows as if we had operated as a stand-alone company during all of the periods presented. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period, and our interim period results are not necessarily indicative of results to be expected for a full fiscal year or any other interim period.

	<div> <div>Nine Months Ended</div> <div>September 30,</div> </div>		<div> <div>Year Ended December 31,</div> </div>	
(in thousands, except per share data)	2014	2013	2013	2012
	(unaudited)			
Statement of Operations and Comprehensive Loss Information				
Operating expenses:				
Research and development	\$ 36,368	\$ 39,068	\$ 52,985	\$ 38,727
General and administrative	10,537	6,155	9,013	7,185
Other operating expense	—	—	—	315
Net loss and comprehensive loss	<u>\$ (46,905)</u>	<u>\$ (45,223)</u>	<u>\$ (61,998)</u>	<u>\$ (46,227)</u>
Net loss per unit:				
Basic and diluted(1)	\$ (5.94)			

(in thousands)	As of September 30, 2014 (unaudited)	As of December 31,		As of September 30, 2014	
		2013	2012	Pro Forma(2)	Pro Forma As Adjusted(3)
Balance Sheet Information					
Cash and cash equivalents(4)	\$ 30,605	—	—	\$ 30,605	\$ 83,205
Restricted cash(5)	13,127	—	—	13,127	13,127
Working capital (deficit)	27,906	(12,440)	(10,892)	27,906	80,506
Total assets	48,634	3,636	3,349	48,634	101,234
Allocated portion of Ikaria special dividend bonus payable	—	4,273	2,865	—	—
Other non-current liabilities	—	1,108	389	—	—
Total long term liabilities	—	5,381	3,254	—	—
Members'/stockholders' equity / invested (deficit)	35,100	(15,737)	(11,116)	35,100	87,700

- (1) The weighted average units outstanding for basic and diluted net loss per unit for the nine months ended September 30, 2014 is 7,898,041. No net loss per unit information is presented for periods prior to the Spin-Out.

- (2) The pro forma balance sheet information gives effect to the Corporate Conversion.
- (3) The pro forma as adjusted balance sheet information gives further effect to (i) our issuance and sale of 4,000,000 shares of common stock in this offering at an assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and (ii) the conversion of all of our outstanding shares of non-voting common stock into shares of voting common stock.
- (4) Pro forma and pro forma as adjusted information does not reflect changes to our cash and cash equivalents after September 30, 2014, including the \$0.92 million we are entitled to pursuant to the services agreement with Ikaria, which became effective as of January 1, 2015.
- (5) Represents cash deposited into escrow to pay amounts owed under the transition services agreement with Ikaria.

A \$1.00 increase (decrease) in the assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, working (deficit) capital, total assets and members' equity/invested (deficit) by \$3.7 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before you decide to invest in our common stock, you should carefully consider the risks and uncertainties described below, together with the other information contained in this prospectus, including our financial statements and the related notes appearing at the end of this prospectus. If any of the following risks occur, our business, financial condition, results of operations and prospects could be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you might lose all or part of your investment.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since inception. We expect to incur losses over the next several years and may never achieve or maintain profitability.

Since inception, we have incurred significant operating losses. Our net loss was approximately \$46.2 million for the year ended December 31, 2012, \$62.0 million for the year ended December 31, 2013 and \$46.9 million for the nine months ended September 30, 2014. We do not know whether or when we will become profitable. We have not generated any revenues to date from product sales. We have not completed development of any product candidate and have devoted substantially all of our financial resources and efforts to research and development, including pre-clinical studies and clinical trials. We expect to continue to incur significant expenses and operating losses over the next several years. Our net losses may fluctuate significantly from quarter to quarter and year to year. Net losses and negative cash flows have had, and will continue to have, an adverse effect on our deficit and working capital. We anticipate that our expenses will increase substantially if and as we:

- continue our research and clinical development of our inhaled nitric oxide program using our proprietary pulsatile technology, which we refer to as our INOpulse program, for the treatment of pulmonary arterial hypertension, or PAH, and pulmonary hypertension associated with chronic obstructive pulmonary disease, or PH-COPD, and of our program in respect of bioabsorbable cardiac matrix, or BCM, for the prevention of left ventricular remodeling following an ST-segment elevated myocardial infarction, or STEMI;
- identify, develop and/or in-license additional product candidates;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- in the future, establish a manufacturing, sales, marketing and distribution infrastructure;
- maintain, expand and protect our intellectual property portfolio;
- add equipment and physical infrastructure to support our research and development;
- hire additional clinical, regulatory, quality control and scientific personnel; and
- add operational, financial and management information systems and personnel, including personnel to support our product development, any future commercialization efforts and our transition to a public company.

To become and remain profitable, we must succeed in developing and eventually commercializing products that generate significant revenue. We do not expect to generate significant revenue unless and until we are able to obtain marketing approval for, and successfully commercialize, one or more of our product candidates. This will require us to be successful in a range of challenging activities, including completing pre-clinical studies and clinical trials of our product candidates, discovering additional product candidates, obtaining regulatory approval for our product candidates, manufacturing, marketing and selling any products for which we may obtain regulatory approval, satisfying any post-marketing requirements and obtaining reimbursement for our products from private insurance or government payors. We are in the early stages of most of these activities and have not yet commenced other of

these activities. We may never succeed in these activities and, even if we do, may never generate revenues that are significant enough to achieve profitability.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. If we are required by the U.S. Food and Drug Administration, or the FDA, or the European Medicines Agency, or the EMA, to perform trials in addition to those currently expected, or if there are any delays in completing our clinical trials or the development of any of our product candidates, our expenses could increase.

Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our product offerings or even continue our operations. A decline in the value of our company could cause you to lose all or part of your investment.

In addition, our recurring losses from operations, accumulated deficit and our need to raise additional financing in order to continue to fund our operations, raise substantial doubt about our ability to continue as a going concern. If we are unable to obtain sufficient capital in this offering, our business, financial condition and results of operations will be materially and adversely affected and we will need to obtain alternative financing or significantly modify our operational plans to continue as a going concern. Further, even if we successfully complete and receive the net proceeds from this offering, given our planned expenditures for the next several years, including, without limitation, expenditures in connection with our clinical trials, our independent registered public accounting firm may conclude, in connection with the preparation of our financial statements for fiscal year 2014, or any other subsequent period, that there is substantial doubt regarding our ability to continue as a going concern.

Our very limited operating history as a stand-alone company may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

We were formed as a wholly-owned subsidiary of Ikaria, Inc., or Ikaria, in October 2013 and became a stand-alone company in February 2014 following our spin-out from Ikaria, which we refer to as the Spin-Out, and, as such, have a very limited operating history as a stand-alone company. Prior to the Spin-Out, Ikaria assisted us by providing financing and certain corporate functions. Following the Spin-Out, Ikaria has no obligation to provide assistance to us other than on an interim basis as provided for in the agreements we entered into in connection with the Spin-Out. See "Certain Relationships and Related Person Transactions—Relationship with Ikaria."

Our operations to date have been limited to organizing and staffing our company, developing and securing our technology, and undertaking pre-clinical studies and clinical trials of our product candidates. We have not yet demonstrated the ability to successfully operate as a stand-alone company or to complete development of any product candidates, obtain marketing approvals, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing products.

Assuming we obtain marketing approval for any of our product candidates, we will need to transition from a company with a research and development focus to a company capable of supporting commercial activities or we will need to enter into strategic partnerships. We may encounter unforeseen expenses, difficulties, complications and delays and may not be successful in such a transition.

We will need substantial additional funding. If we are unable to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

We expect our expenses to increase in connection with our ongoing activities, particularly as we initiate additional clinical trials of our INOpulse and BCM product candidates and continue research and development and seek regulatory approval for these and potentially other product candidates. In addition, if we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. In particular, the costs that may be required for the manufacture of any product candidate that receives marketing approval may be substantial. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company. As of September 30, 2014, we had cash and cash equivalents and restricted cash of \$43.7 million. From the inception of our business through September 30, 2014, Ikaria made cumulative investments of \$177.5 million in us and contributed an additional \$80.0 million in cash to us in connection with the Spin-Out. Now that we are a stand-alone company, any additional funding will need to come from another source. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research and development programs or any future commercialization efforts.

We plan to use the net proceeds from this offering primarily to fund our ongoing research and development efforts. We will be required to expend significant funds in order to advance development of our INOpulse and BCM product candidates and any other potential product candidates. The net proceeds from this offering and our existing cash, cash equivalents and restricted cash will not be sufficient to fund all of the efforts that we plan to undertake, such as the further development of INOpulse for PH-COPD or BCM, or to fund completion of clinical development or commercialization of any of our product candidates. Accordingly, we will be required to obtain further funding through public or private equity offerings, debt financings, collaborations or licensing arrangements or other sources. Adequate additional funding may not be available to us on acceptable terms or at all. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy.

We believe that the net proceeds from this offering, together with our existing cash, cash equivalents and restricted cash as of September 30, 2014, will enable us to fund our planned operating expenses and capital expenditure requirements, as set forth below under "Use of Proceeds," at least into mid-2016. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the progress and results of our current and planned clinical trials of our INOpulse and BCM product candidates;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs of operating as a stand-alone company;
- the cost and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of any product candidates for which we receive marketing approval;
- our ability to establish and maintain strategic partnerships, licensing or other arrangements and the financial terms of such agreements;

- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the scope, progress, results and costs of discovery, pre-clinical development and clinical trials for any other product candidates;
- the extent to which we acquire or in-license other product candidates and technologies;
- our headcount growth and associated costs; and
- the costs of operating as a public company.

Identifying potential product candidates and conducting pre-clinical studies and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for several years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans.

Raising additional capital may cause dilution to our stockholders, including purchasers of our common stock in this offering, restrict our operations or require us to relinquish rights to technologies or product candidates.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of public or private equity offerings, debt financings and/or license and development agreements with collaboration partners. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest may be materially diluted, and the terms of such securities could include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specified actions, such as incurring additional debt, making capital expenditures or declaring dividends.

If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. If we raise funds through collaborations, strategic partnerships or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us.

Risks Related to Our Business and Industry

We may be unable to make, on a timely or cost-effective basis, the changes necessary to operate as a stand-alone company, and we may experience increased or unexpected costs after the Spin-Out or as a result of the Spin-Out.

We have historically operated as part of Ikaria's broader corporate organization, and Ikaria has assisted us by providing certain corporate functions. However, following the Spin-Out, Ikaria is contractually obligated to provide to us only those services specified in a transition services agreement, or the TSA, a services agreement, or the 2015 Services Agreement, and the other agreements we entered into with Ikaria to govern our relationship following the Spin-Out. See "Certain Relationships

and Related Person Transactions—Relationship with Ikaria" for a summary of these agreements. The TSA and the 2015 Services Agreement provide for certain services to be provided until February 2016. We may be unable to replace in a timely manner or on comparable terms the services or other benefits that Ikaria previously provided to us that are not specified in the TSA, the 2015 Services Agreement or the other agreements. Also, upon the termination of the services provided under the TSA or other agreements, such services will be provided internally or by unaffiliated third parties, and we expect that in some instances, we will incur higher costs to obtain such services than we incurred under the terms of such agreements. Ultimately, we may be unable to replace in a timely manner or on comparable terms the services specified in such agreements. In addition, during the transitional services period, we will rely, in part, on the same executive team at Ikaria that also will continue to manage the business of Ikaria during such time, and there may be conflicting demands on their time, which could result in an inadequate level of attention to the demands of our business. If Ikaria and its employees do not continue to perform effectively the transition services and the other services that are called for under the TSA, the 2015 Services Agreement and other agreements, we may not be able to operate our business effectively and our business and financial condition could be adversely affected.

Prior to the Spin-Out, we utilized the executive management team and administrative resources of Ikaria. Many daily functions were performed by Ikaria, including those related to the preparation of our financial statements and the engagement of auditors to audit our financial statements, which have become our responsibility following the Spin-Out. We may need to acquire assets and resources in addition to those provided to us by Ikaria, and we may face difficulty in integrating newly acquired assets into our business. Additionally, as a stand-alone company, we no longer have access to Ikaria's financial resources. Instead, our ability to fund our capital needs will depend on our ongoing ability to generate cash from operations, enter into partnering arrangements, obtain debt financing and access capital markets, which are subject to general economic, financial, competitive, regulatory and other factors that are beyond our control. Our business, financial condition and results of operations could be harmed, possibly materially, if we have difficulty operating as a stand-alone company, fail to acquire necessary capital or assets that prove to be important to our operations, or are unable to enter into partnering or other business development arrangements.

We also anticipate that we will incur additional incremental expenses associated with being a stand-alone company. We estimate that these incremental pretax expenses were between \$4.0 million and \$5.0 million for the year ended December 31, 2014.

Our historical and pro forma financial information is not necessarily representative of the results we would have achieved as a stand-alone company and may not be a reliable indicator of our future results.

The historical financial and pro forma financial information we have included in this prospectus may not reflect what our results of operations, financial position and cash flows would have been had we been a stand-alone company during the periods presented. This is primarily because:

- our historical financial information reflects allocations for services historically provided to us by Ikaria, which allocations may not reflect the costs we will incur for similar services in the future as a stand-alone company; and
- our historical financial information does not reflect changes that we expect to incur in the future as a result of our separation from Ikaria and from reduced economies of scale, including changes in the cost structure, personnel needs, financing and operations of our business.

In addition, the pro forma financial information included in this prospectus is based on the best information available, which in part includes a number of estimates and assumptions. These estimates and assumptions may prove not to be accurate, and accordingly, our pro forma financial information should not be assumed to be indicative of what our financial condition or results of operations actually

would have been as a stand-alone company, nor to be a reliable indicator of what our financial condition or results of operations actually may be in the future.

Following this offering, we also will be responsible for the additional costs associated with being a public company, including costs related to corporate governance and having listed and registered securities. Therefore, our financial statements may not be indicative of our future performance as a stand-alone public company.

For additional information about our past financial performance and the basis of presentation of our financial statements, please see "Summary Financial Information," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the notes thereto included elsewhere in this prospectus.

The ownership by certain of our executive officers and directors of equity of Ikaria, as well as the continued roles of certain of our directors with Ikaria, may create, or may create the appearance of, conflicts of interest.

Because of their current or former positions with Ikaria, our chief business officer, Manesh Naidu, our chief clinical development officer, Reinilde Heyrman, our chief scientific officer, Martin Meglasson, our treasurer, David Abrams, and one of our directors, Daniel Tassé, own equity in Ikaria. In addition, two of our directors, Matthew Holt and Adam B. Weinstein, may be deemed to beneficially own equity in Ikaria. Such equity ownership may create, or may create the appearance of, conflicts of interest. The individual holdings of equity of Ikaria may be significant for some of these persons compared to such person's total assets. Ownership by certain of our executive officers and directors of equity of Ikaria creates, or may create the appearance of, conflicts of interest when these officers or directors are faced with decisions that could have different implications for Ikaria than the decisions have for us. In addition, Matthew Holt and Daniel Tassé are currently serving on our board of directors as well as Ikaria's board of directors, and Mr. Tassé is currently serving as the chief executive officer of Ikaria. We expect that following the consummation of this offering these directors will remain in their roles at both companies. The continued service at both companies creates, or may create the appearance of, conflicts of interest when these directors are faced with decisions that could have different implications for Ikaria than the decisions have for us, such as the allocation of time and resources to the provision of transitional services to us by Ikaria pursuant to the TSA, the 2015 Services Agreement and the other agreements.

We face substantial competition from other pharmaceutical, biotechnology and medical device companies and our operating results may suffer if we fail to compete effectively.

The pharmaceutical, biotechnology and medical device industries are highly competitive. There are many pharmaceutical, biotechnology and medical device companies, public and private universities and research organizations actively engaged in the research and development of products that may be similar to our product candidates. In addition, other companies are increasingly looking at the cardiopulmonary and cardiac disease market as a potential opportunity. Currently, there are 12 drugs approved for the treatment of PAH, within the following categories: prostacyclin and prostacyclin analogs (including Flolan® (epoprostenol), which is marketed by GlaxoSmithKline, Tyvaso® (treprostinil), Orenitram® (treprostinil) and Remodulin® (treprostinil), which are marketed by United Therapeutics Corporation, and Ventavis® (iloprost) and Veletri® (epoprostenol), which are marketed by Actelion Pharmaceuticals US, Inc., or Actelion), phosphodiesterase type-5 inhibitors (including Adcirca® (tadalafil), which is marketed by United Therapeutics Corporation, and Revatio® (sildenafil), which is marketed by Pfizer Inc.), endothelin receptor antagonists (including Letairis® (ambrisentan), which is marketed by Gilead Sciences, Inc., and Opsumit® (macitentan) and Tracleer® (bosentan), which are marketed by Actelion) and a soluble guanylate cyclase stimulator (Adempas® (riociguat), which is marketed by Bayer HealthCare Pharmaceuticals Inc.). Actelion recently submitted a new drug application, or NDA, to the FDA for selexipag, a selective prostacyclin receptor agonist. There are also

other treatments in Phase 1 and Phase 2 clinical development, including other nitric oxide generation and delivery systems, including GeNOsyl™, which is being developed by GeNO LLC, and a nebulized formulation of nitrite, which is being developed by Mast Therapeutics.

Currently, there are no approved therapies for treating PH-COPD, and the only generally accepted treatments are long-term oxygen therapy, pulmonary rehabilitation and lung transplant, and we are not aware of any therapies for PH-COPD in advanced clinical development.

There are no generally accepted products approved for structural support to prevent cardiac remodeling following an AMI. Other product candidates that are currently in clinical development include stem cell therapies to restore heart muscle cells following an AMI, with large Phase 3 trials expected to be completed in 2018 or 2019. We do not expect BCM to compete with, or replace, current treatments for congestive heart failure following AMI, but instead believe it will become part of the treatment regimen used in conjunction with other therapies. In addition, because BCM can be delivered by a minimally invasive percutaneous coronary intervention procedure, we do not believe it will directly compete with devices that are used to treat congestive heart failure, which are designed for administration during open heart surgery or by intra-cardiac injection involving a thoracotomy procedure. These include mesh restraining devices, for example HeartNet™; injectable biopolymers, for example Algisyl LVR™; and implantable electro stimulation devices, for example, CardioFit™. In addition, volume reduction surgery or cardiac assist devices, or pumps, are sometimes used to treat patients with congestive heart failure.

Many of our competitors, either alone or through their strategic partners, have substantially greater name recognition and financial, technical, manufacturing, marketing and human resources than we do and significantly greater experience and infrastructure in the research and clinical development of medical products, obtaining FDA and other regulatory approvals of those products, and commercializing those products around the world. Additional mergers and acquisitions in the pharmaceutical, biotechnology and medical device industries may result in even more resources being concentrated in our competitors. Large pharmaceutical and medical device companies in particular have extensive expertise in pre-clinical and clinical testing and in obtaining regulatory approvals for medical products. In addition, academic institutions, government agencies, and other public and private organizations conducting research may seek patent protection with respect to potentially competitive products or technologies. These organizations may also establish exclusive collaborative or licensing relationships with our competitors. Accordingly, our competitors may be more successful than we may be in obtaining approval for inhaled nitric oxide products and achieving widespread market acceptance. We anticipate that we will face intense and increasing competition as new products and technologies become available.

We will not be able to compete effectively unless we successfully:

- design, develop and commercialize products that are superior to other products in the market;
- attract qualified scientific, medical, sales and marketing, engineering and commercial personnel;
- obtain patent and/or other proprietary protection for our processes and product candidates; and
- obtain required regulatory approvals.

It is also possible that Ikaria will seek to develop and commercialize inhaled nitric oxide products or product candidates in PAH, PH-COPD and/or PH-IPF. While a subsidiary of Ikaria has granted to us an exclusive license to develop and commercialize pulsed nitric oxide in PAH, PH-COPD and PH-IPF and the scope of that license includes certain technology developed or acquired by that subsidiary after the date of the license agreement, the license does not include technology developed or acquired by other subsidiaries or affiliates of Ikaria. Because Ikaria and its subsidiaries and affiliates are not subject to any non-competition obligations in our favor, it is possible that these other subsidiaries or affiliates of Ikaria may seek to develop or commercialize inhaled nitric oxide or other products or product candidates, using technology not exclusively licensed to us, that are competitive with our products or product candidates.

Risks Related to the Discovery, Development and Commercialization of Our Product Candidates

We are dependent on the success of our INOpulse and BCM product candidates and our ability to develop, obtain marketing approval for and successfully commercialize these product candidates. If we are unable to develop, obtain marketing approval for or successfully commercialize our product candidates, either alone or through a collaboration, or experience significant delays in doing so, our business could be materially harmed.

We currently have no products approved for sale and have invested a significant portion of our efforts and financial resources in the development of our INOpulse for PAH, INOpulse for PH-COPD and BCM product candidates. Our prospects are substantially dependent on our ability to develop, obtain marketing approval for and successfully commercialize these product candidates. The success of our product candidates will depend on, among other things, our ability to successfully complete clinical trials of each product candidate. The clinical trial process is uncertain, and failure of one or more clinical trials can occur at any stage of testing. For example, although we believe our recently completed Phase 2 clinical trials of INOpulse for PAH and INOpulse for PH-COPD support advancement into a Phase 3 and a Phase 2b clinical trial, respectively, the primary endpoints for both INOpulse for PAH and INOpulse for PH-COPD were not statistically significant for any of the doses tested.

In addition to the successful completion of clinical trials, the success of our product candidates will also depend on several other factors, including the following:

- receipt of marketing approvals from the FDA or other applicable regulatory authorities;
- establishment of supply arrangements with third-party raw materials suppliers and manufacturers;
- establishment of arrangements with third-party manufacturers to obtain finished drug products that are appropriately packaged for sale;
- the performance of our future collaborators for one or more of our product candidates, if any;
- the extent of any required post-marketing approval commitments to applicable regulatory authorities;
- obtaining and maintaining patent, trade secret protection and regulatory exclusivity, both in the United States and internationally;
- protection of our rights in our intellectual property portfolio;
- launch of commercial sales if and when our product candidates are approved;
- a continued acceptable safety profile of our product candidates following any marketing approval;
- commercial acceptance, if and when approved, by patients, the medical community and third-party payors;
- establishing and maintaining pricing sufficient to realize a meaningful return on our investment; and
- competition with other products.

If we are unable to develop, receive marketing approval for, or successfully commercialize our product candidates, or experience delays as a result of any of these factors or otherwise, our business could be materially harmed.

Clinical trials involve a lengthy and expensive process with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

We recently completed Phase 2 clinical trials of INOpulse for PAH and INOpulse for PH-COPD and are currently conducting a clinical trial of BCM. The risk of failure of all of our product candidates is high. It is impossible to predict when or if any of our product candidates will prove effective or safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. The clinical development of our product candidates is susceptible to the risk of failure inherent at any stage of development, including failure to demonstrate efficacy in a clinical trial or across a broad population of patients, the occurrence of severe or medically or commercially unacceptable adverse events, failure to comply with protocols or applicable regulatory requirements and determination by the FDA or any comparable non-U.S. regulatory authority that a drug product is not approvable. For example, although we believe our recently completed Phase 2 clinical trials of INOpulse for PAH and INOpulse for PH-COPD support advancement into a Phase 3 and a Phase 2b clinical trial, respectively, the primary endpoints for both INOpulse for PAH and INOpulse for PH-COPD were not statistically significant for any of the doses tested.

It is possible that even if one or more of our product candidates has a beneficial effect, that effect will not be detected during clinical evaluation as a result of one or more of a variety of factors, including the size, duration, design, measurements, conduct or analysis of our clinical trials. Conversely, as a result of the same factors, our clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any. Similarly, in our clinical trials we may fail to detect toxicity of or intolerability caused by our product candidates, or mistakenly believe that our product candidates are toxic or not well tolerated when that is not in fact the case. Also, the exclusion criteria we define may not sufficiently rule out patients who are at a higher risk of being harmed by the treatment. For example, our exclusion criteria for pre-existing left heart dysfunction in our recently completed Phase 2 INOpulse clinical trials may not rule out patients who may experience an adverse event related to left ventricular function due to exposure to nitric oxide. In addition, patients who are not excluded for reactive pulmonary vasculature when exposed to nitric oxide may still experience pulmonary hypertension.

The outcome of pre-clinical studies and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results, particularly when earlier trials are small, open-label or non-placebo-controlled trials and in trials that have different endpoints than earlier trials. For example, we are relying on the results from a 32-patient Phase 2 PH-COPD trial, conducted in Austria, as part of our clinical development program of INOpulse for PH-COPD, and we may not be able to replicate the results of this trial in a larger trial or in a trial that uses a clinical endpoint rather than the anatomical endpoints used in the 32-patient trial. Similarly, for BCM, we are using the results of the 27-patient pilot trial conducted by BioLineRx Ltd. that used anatomical changes to measure efficacy and did not have a control group as support for our larger ongoing clinical trial, which may not achieve the same results as the BioLineRx Ltd. trial. Many companies in the biotechnology, pharmaceutical and medical device industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in earlier development, and we cannot be certain that we will not face such setbacks.

The design of a clinical trial can determine whether its results will support approval of a product, and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced or completed. We have limited experience in designing clinical trials and may be unable to

design and execute a clinical trial to support marketing approval. In addition, pre-clinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in pre-clinical studies and clinical trials have nonetheless failed to obtain marketing approval for the product candidates. Even if we believe that the results of clinical trials for our product candidates warrant marketing approval, the FDA or comparable non-U.S. regulatory authorities may disagree and may not grant marketing approval of our product candidates.

In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the clinical trial protocols and the rate of dropout among clinical trial participants. Any Phase 3 or other clinical trials that we may conduct may not demonstrate the efficacy and safety necessary to obtain regulatory approval to market our product candidates.

INOpulse is a sophisticated electro-mechanical device comprised of components that may fail or deteriorate over time or with improper use. If we experience problems with, failure of, or delays in obtaining any INOpulse components, our business could be materially adversely harmed.

Because INOpulse is a sophisticated electro-mechanical device, the parts which comprise the device are subject to sudden failure or to wear and tear, which may result in decreased function or failure of those parts over time. Although we perform scheduled, preventive maintenance on our drug delivery system to limit device failures, and additional maintenance as needed whenever a user reports a device malfunction, components of our devices may fail. In addition, although we have designed INOpulse to be simple and easy to use and will provide user manuals and other training materials, users of INOpulse may use the devices improperly, which could cause the devices to fail or otherwise not work properly.

There are several components in INOpulse that are custom designed or assembled for us. We are dependent on a single company to supply us with some of these components. While we believe there are alternative suppliers from which we could purchase most of these components, there is a risk that a single-source supplier could fail to deliver adequate supply, or could suffer a business interruption that could affect our supply of these components.

We obtain some of the components for INOpulse through individual purchase orders executed on an as needed basis rather than pursuant to long-term supply agreements. Our business, financial condition or results of operations could be adversely affected if any of our principal third-party suppliers or manufacturers experience production problems, lack of capacity or transportation disruptions or otherwise cease producing such components.

We are transitioning our INOpulse delivery system to a next generation device that was not utilized in our recently completed INOpulse Phase 2 clinical trials. Failure by the FDA or other regulatory authority to support the transition and bridging strategy for our transition to the new device could increase our development costs and/or delay commencement of our future clinical trials of INOpulse.

Our recently completed INOpulse Phase 2 clinical trials utilized the first generation INOpulse DS device. We are near completion of a second generation INOpulse Mark2 device, or the Mark2, and we plan to transition our INOpulse delivery system from INOpulse DS to the Mark2 for any future INOpulse clinical trials. To facilitate the transition from our existing INOpulse DS device to the Mark2 in our clinical program, we plan to conduct comparability testing of nitric oxide dosing with the Mark2 as compared to the INOpulse DS device. This testing will include a comparison of critical parameters, including pulse width and nitric oxide output. We will also assess whether the Mark2 will meet the performance specifications of the INOpulse DS device in addition to Mark2-specific requirements. In addition, we are developing a bridging test report that we expect to include in the regulatory package

that we anticipate submitting to the FDA during the first quarter of 2015 to gain approval for the device transition. We discussed our strategy with the FDA during a meeting in May 2013, and we believe that, assuming the Mark2 meets the specified comparability parameters, this testing will be sufficient to gain FDA approval to use the Mark2 in future clinical trials, as planned. The FDA may not agree that our data support transition to this new device, in which case we may be required to provide additional data, perform a revised bridging assessment or repeat the Phase 2 clinical trial, any of which could increase our development costs and/or delay or prevent commencement of these future clinical trials. In addition, even if the FDA accepts our transition plan, use of the Mark2 in future clinical trials could produce results that are different than those we would expect based on the results from the Phase 2 clinical trial using the INOpulse DS device.

We intend to conduct, and may in the future conduct, clinical trials for certain of our product candidates at sites outside the United States, and the FDA may not accept data from trials conducted in such locations.

We have conducted, and may in the future choose to conduct, one or more of our clinical trials outside the United States. For example, our Phase 2 clinical trial of INOpulse for PAH included sites in Canada and our clinical trial of BCM includes sites in Europe, Canada, Australia and Israel.

Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. For example, the clinical trial must be well designed and conducted and performed by qualified investigators in accordance with good clinical practices, or GCP, in the case of drug trials, or the Declaration of Helsinki or the laws and regulations of the country in which the research is conducted, whichever affords greater protection to the human subjects, in the case of device trials. The trial population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. Generally, the patient population for any clinical trials conducted outside of the United States must be representative of the population for whom we intend to seek approval in the United States. In addition, while these clinical trials are subject to the applicable local laws, FDA acceptance of the data will be dependent upon its determination that the trials also complied with all applicable U.S. laws and regulations. There can be no assurance that the FDA will accept data from trials conducted outside of the United States. If the FDA does not accept the data from our Phase 2 clinical trial of INOpulse for PAH in Canada or our clinical trial of BCM in Europe, Canada, Australia or Israel, or any future trial that we conduct outside the United States, it would likely result in the need for additional trials, which would be costly and time-consuming and delay or permanently halt our development of INOpulse for PAH and BCM or any future product candidates.

In addition, the conduct of clinical trials outside the United States could have a significant impact on us. Risks inherent in conducting international clinical trials include:

- foreign regulatory requirements that could restrict or limit our ability to conduct our clinical trials;
- administrative burdens of conducting clinical trials under multiple foreign regulatory schema;
- foreign exchange fluctuations; and
- diminished protection of intellectual property in some countries.

If clinical trials of our product candidates fail to demonstrate safety and efficacy of our product candidates to the satisfaction of the FDA and comparable non-U.S. regulators, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of these product candidates.

We are not permitted to commercialize, market, promote or sell any product candidate in the United States without obtaining marketing approval from the FDA. Comparable non-U.S. regulatory authorities, such as the EMA, impose similar restrictions. We may never receive such approvals. We must complete extensive pre-clinical studies and clinical trials to demonstrate the safety and efficacy of our product candidates in humans before we will be able to obtain these approvals.

Clinical testing is expensive, difficult to design and implement, can take many years to complete and is inherently uncertain as to outcome. We have not previously submitted an NDA to the FDA or similar drug approval filings to comparable non-U.S. regulatory authorities for any of our product candidates.

Any inability to successfully complete pre-clinical and clinical development could result in additional costs to us and impair our ability to generate revenues from product sales. In addition, if (1) we are required to conduct additional clinical trials or other testing of our product candidates beyond the trials and testing that we contemplate, (2) we are unable to successfully complete clinical trials of our product candidates or other testing, (3) the results of these trials or tests are unfavorable, uncertain or are only modestly favorable, such as in our Phase 2 clinical trials of INOpulse for PAH and INOpulse for PH-COPD, or (4) there are unacceptable safety concerns associated with our product candidates, we, in addition to incurring additional costs, may:

- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval at all;
- obtain approval for indications or patient populations that are not as broad as we intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or significant safety warnings, including boxed warnings;
- be subject to additional post-marketing testing or other requirements; or
- be required to remove the product from the market after obtaining marketing approval.

For example, the FDA has granted us an investigational device exemption, or IDE, for our ongoing clinical trial of BCM, which we refer to as our PRESERVATION I trial, which currently limits at 60 the number of patients we can enroll in the United States. This limitation is due to the novelty of BCM and the lack of prior data on administration to human patients of four milliliters of BCM that we are using in the trial because we did not conduct a pilot study of BCM with the four milliliter volume. Due to the lack of a pilot study or other data supporting the safety or efficacy of four milliliters of BCM in human patients, the FDA may require that, prior to approval, we conduct additional trials of BCM or that we provide additional data to support the safety and/or efficacy of four milliliters of BCM in human patients.

In addition, the FDA has asked us to conduct a study to test the environmental impact of using INOpulse at home. When inhaled nitric oxide is administered through INOpulse, a small portion of the nitric oxide will be exhaled or otherwise emitted and could react with oxygen in room air to form nitrogen dioxide, which is an environmental pollutant. The study will measure the nitrogen dioxide in the room air with use of INOpulse under actual or simulated patient use conditions. If the FDA or other regulatory authority requires us to conduct additional testing or determines that an unacceptable amount of nitrogen dioxide is formed through the use of INOpulse, we may be required to alter the

design of INOpulse, which may not be possible, and the clinical development timeline for INOpulse may be delayed or prove to be more costly than we currently anticipate.

If we experience any of a number of possible unforeseen events in connection with clinical trials of our product candidates, potential marketing approval or commercialization of our product candidates could be delayed or prevented.

We may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent marketing approval of our product candidates, including:

- clinical trials of our product candidates may produce unfavorable or inconclusive results;
- we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, patient enrollment in these clinical trials may be slower than we anticipate or participants may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors, including those manufacturing our product candidates or components or ingredients thereof or conducting clinical trials on our behalf, may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner or at all;
- regulators or institutional review boards may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may experience delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- patients who enroll in a clinical trial may misrepresent their eligibility to do so or may otherwise not comply with the clinical trial protocol, resulting in the need to withdraw such patients from the clinical trial, increase the needed enrollment size for the clinical trial or extend the clinical trial's duration;
- we may have to suspend or terminate clinical trials of our product candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks, undesirable side effects or other unexpected characteristics of a product candidate;
- regulators or institutional review boards may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or their respective standards of conduct, a finding that the participants are being exposed to unacceptable health risks, undesirable side effects or other unexpected characteristics of the product candidate or findings of undesirable effects caused by a chemically or mechanistically similar drug or drug candidate;
- the FDA or comparable non-U.S. regulatory authorities may disagree with our clinical trial design or our interpretation of data from pre-clinical studies and clinical trials;
- the FDA or comparable non-U.S. regulatory authorities may find regulatory non-compliance with the manufacturing processes or facilities of third-party manufacturers with which we enter into agreements for clinical and commercial supplies;

- the supply or quality of raw materials or manufactured product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient, inadequate or not available at an acceptable cost, or we may experience interruptions in supply; and
- the approval policies or regulations of the FDA or comparable non-U.S. regulatory authorities may significantly change in a manner rendering our clinical data insufficient to obtain marketing approval.

Product development costs for us will increase if we experience delays in testing or pursuing marketing approvals and we may be required to obtain additional funds to complete clinical trials and prepare for possible commercialization of our product candidates. We do not know whether any pre-clinical studies or clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. For example, although we recently completed a Phase 2 clinical trial for INOpulse for PH-COPD, we are currently evaluating our options for further Phase 2 development in this indication. Significant pre-clinical study or clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do and impair our ability to successfully commercialize our product candidates and may harm our business and results of operations. In addition, many of the factors that cause, or lead to, clinical trial delays may ultimately lead to the denial of marketing approval of any of our product candidates.

If we experience delays or difficulties in the enrollment of patients in clinical trials, we may not achieve our clinical development on our anticipated timeline, or at all, and our receipt of necessary regulatory approvals could be delayed or prevented.

We may not be able to initiate or continue clinical trials for our INOpulse or BCM product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in clinical trials. Patient enrollment is a significant factor in the timing of clinical trials, and is affected by many factors, including:

- the size and nature of the patient population;
- the severity of the disease under investigation;
- the proximity of patients to clinical sites;
- the eligibility criteria for the trial;
- the design of the clinical trial;
- limitations placed on enrollment by regulatory authorities;
- efforts to facilitate timely enrollment;
- competing clinical trials; and
- clinicians' and patients' perceptions as to the potential advantages and risks of the product candidate being studied in relation to other available therapies, including any new product candidates that may be approved for the indications we are investigating.

For example, we may experience difficulty enrolling our clinical trials, including, but not limited to, any future clinical trials of INOpulse for PAH, which is an orphan disease due to the small number of patients who suffer from PAH, or any future clinical trials of INOpulse for PH-COPD because such trials may require that patients meet the restrictive enrollment criteria, such as having been diagnosed with both COPD and pulmonary hypertension, be undergoing treatment with long-term oxygen therapy and not having significant left ventricular dysfunction.

In addition, with respect to our PRESERVATION I trial, the FDA has limited us to enrolling a maximum of 60 patients in the United States. This limitation is due to the novelty of BCM and the lack of prior data on the administration to human patients of four milliliters of BCM that we are using in the trial because we did not conduct a pilot study of BCM with this dose. We will need to obtain the FDA's approval of any expansion of this U.S. enrollment cap, and such approval would likely be based on our submission of data to the FDA supporting the safety of four milliliters of BCM in human patients, if any. The Israeli Ministry of Health is also requiring that we submit to it additional safety data once 70 patients are enrolled in Israel.

Our inability to enroll a sufficient number of patients for our clinical trials could result in significant delays or may require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates, delay or halt the development of and approval processes for our product candidates and jeopardize our ability to achieve our clinical development timeline and goals, including the dates by which we will commence, complete and receive results from clinical trials. Enrollment delays may also delay or jeopardize our ability to commence sales and generate revenues from our product candidates. Any of the foregoing could cause the value of our company to decline and limit our ability to obtain additional financing, if needed.

We may not obtain orphan drug exclusivity, or we may not receive the full benefit of orphan drug exclusivity even if we obtain such exclusivity.

Regulatory authorities in some jurisdictions, including the United States and European Union, may designate drugs and biologics for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug or biologic intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals in the United States who have been diagnosed as having the disease or condition at the time of the submission of the request for orphan drug designation. The FDA has granted orphan drug designation to our nitric oxide program for the treatment of PAH. Accordingly, the first company to receive FDA approval for nitric oxide for the treatment of PAH will obtain seven years of marketing exclusivity, during which time the FDA may not approve another product containing nitric oxide as its active ingredient for the treatment of PAH, unless such product is shown to be clinically superior.

Even though we have obtained orphan drug designation for our nitric oxide program to treat PAH, and even if we obtain orphan drug designation for our product candidates in other indications or for our future product candidates, due to the uncertainties associated with developing pharmaceutical products, we may not be the first to obtain marketing approval for any particular orphan indication, or we may not obtain approval for an indication for which we have obtained orphan drug designation. Further, even if we obtain orphan drug exclusivity for a product candidate, that exclusivity may not protect the product effectively from competition because different drugs can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug for the same condition if the FDA concludes that the later drug is safer, more effective or makes a major contribution to patient care. Orphan drug designation neither shortens the development time or regulatory review time of a drug, nor gives the drug any advantage in the regulatory review or approval process. Orphan drug exclusivity may be lost if the FDA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition.

Serious adverse events or undesirable side effects or other unexpected properties of our product candidates may be identified during development that could delay or prevent the product candidate's marketing approval.

Serious adverse events or undesirable side effects caused by, or other unexpected properties of, our product candidates could cause us, an institutional review board or regulatory authorities to interrupt, delay or halt clinical trials of one or more of our product candidates and could result in a more restrictive label or the delay or denial of marketing approval by the FDA or comparable non-U.S. regulatory authorities. If any of our product candidates is associated with serious adverse events or undesirable side effects or has properties that are unexpected, we may need to abandon development or limit development of that product candidate to certain uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. Many drugs or devices that initially showed promise in clinical or earlier stage testing have later been found to cause undesirable or unexpected side effects that prevented further development of the drug or device.

For example, in our recently completed Phase 2 clinical trial for INOpulse for PAH, serious adverse events were reported for four patients in the 25 mcg/kg ideal body weight/hour, or mcg, low-dose active treatment arm, including bacteremia, myelodysplastic syndrome, increased shortness of breath and dyspnea, one of which was assessed as possibly related to trial therapy. In the 75 mcg high-dose active treatment arm, nine patients had serious adverse events. The most common serious adverse events reported were syncope and bronchitis/tracheobronchitis, one of which was assessed as possibly related to trial therapy. Discontinuation of trial therapy due to adverse events occurred for two patients in the 75 mcg arm and one subject in the 25 mcg arm. Additional or more serious adverse events, undesirable side effects or other unexpected properties of INOpulse for PAH or our other product candidates could arise or become known either during further clinical development. If such an event occurs during development, clinical trials for our product candidates could be suspended or terminated and the FDA or comparable foreign regulatory authorities could order us or our collaborators to cease further development, require us to conduct additional clinical trials or other tests or studies or deny approval of the applicable product candidate. Further, pending discussions with regulatory authorities, we may be required to conduct a drug-drug interaction study of INOpulse for PH-COPD. We expect the FDA to require us primarily to study interactions with long-acting beta agonists, which is the only class of COPD drug that has been identified as having potential adverse cardiac side effects, to confirm that pulsed inhaled nitric oxide does not increase systemic bio-availability of inhaled beta agonists. If the results of such a study indicate increased bioavailability that we are not able to address to the satisfaction of the FDA, marketing approval of INOpulse for PH-COPD, if any, may be limited to patients who do not use long-acting beta agonists.

Additionally, INOpulse is an extension of the technology that is used in hospitals to deliver inhaled nitric oxide to neonates with a form of pulmonary hypertension called persistent pulmonary hypertension of the newborn. Persistent pulmonary hypertension is an FDA-approved use of inhaled nitric oxide, which is currently marketed by Ikaria as INOmax. Because INOpulse draws on the established efficacy and safety of INOmax, if any serious adverse events or undesirable side effects or other unexpected properties of INOmax or other inhaled nitric oxide delivery systems developed by Ikaria are identified, INOpulse may be adversely affected and we may be required to interrupt, delay or halt our INOpulse clinical trials.

We may not be successful in our efforts to identify or discover additional potential product candidates.

A significant portion of the research that we are conducting involves the development of innovative approaches to the pulsed delivery of nitric oxide. Our drug-device discovery efforts may not be successful in creating drugs or devices that have commercial value or therapeutic utility. Our research programs may initially show promise in creating potential product candidates, yet fail to yield viable product candidates for clinical development for a number of reasons, including that potential

product candidates may, on further study, be shown to have harmful side effects or other characteristics that indicate that they are unlikely to be product candidates that will receive marketing approval and achieve market acceptance. Currently, we are dependent on Ikaria for our business development functions pursuant to the TSA and lack the capability to bring such functions in-house. Accordingly, if Ikaria does not perform such business development functions effectively, our business and prospects may be materially and adversely affected.

Our research programs to identify new product candidates will require substantial technical, financial and human resources. We may be unsuccessful in our efforts to identify new potential product candidates. In addition, we may focus our efforts and resources on one or more potential product candidates that ultimately prove to be unsuccessful.

Pursuant to the terms of our license agreement with Ikaria, we only have the right to develop and commercialize pulsed nitric oxide in PAH, PH-COPD and PH-IPF; Ikaria retains the right to develop and commercialize inhaled nitric oxide products, including pulsed products, in all other indications. Additionally, we are limited in the scope of potential product candidates that we can identify or discover due to non-competition agreements that we entered into with Ikaria. Pursuant to these agreements, we and each of our subsidiaries agreed not to engage, anywhere in the world, in any manner, directly or indirectly, until the earlier of five years after the effective date of such non-competition agreement or the date on which Ikaria and all of its subsidiaries are no longer engaged in such business, in:

- the development, manufacture, commercialization, promotion, sale, import, export, servicing, repair, training, storage, distribution, transportation, licensing, or other handling or disposition of any product or service (including, without limitation, any product or service that utilizes, contains or includes nitric oxide for inhalation, a device intended to deliver nitric oxide or a service that delivers or supports the delivery of nitric oxide), bundled or unbundled, for or used in connection with (a) the diagnosis, prevention or treatment, in both adult and/or pediatric populations, and whether in- or out-patient, of: (i) hypoxic respiratory failure associated with pulmonary hypertension, (ii) pulmonary hypertensive episodes and right heart failure associated with cardiovascular surgery, (iii) bronchopulmonary dysplasia, (iv) the management of ventilation-perfusion mismatch in acute lung injury, (v) the management of ventilation-perfusion mismatch in acute respiratory distress syndrome, (vi) the management of pulmonary hypertension episodes and right heart failure in congestive heart failure, (vii) pulmonary edema from high altitude sickness, (viii) the management of pulmonary hypertension episodes and right heart failure in pulmonary or cardiac surgery, (ix) the management of pulmonary hypertension episodes and right heart failure in organ transplant, (x) sickle cell vaso-occlusive crisis, (xi) hypoxia associated with pneumonia or (xii) ischemia-reperfusion injury or (b) the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital; or
- any and all development, manufacture, commercialization, promotion, sale, import, export, storage, distribution, transportation, licensing, or other handling or disposition of any terlipressin or any other product within the pressin family, (a) intended to treat (i) hepatorenal syndrome in any form, (ii) bleeding esophageal varices or (iii) septic shock or (b) for or in connection with the management of low blood pressure.

In the event that we or one of our subsidiaries materially breach the provisions of the non-competition agreements and do not cure such breach within 30 days after receiving written notice thereof from Ikaria, Ikaria will have the right to terminate the license agreement.

If we are unable to identify suitable additional compounds for pre-clinical and clinical development, or at all, our ability to develop product candidates and obtain product revenues in future periods could be compromised, which could result in significant harm to our financial position and adversely impact our stock price.

If any of our product candidates receives marketing approval and we, or others, later discover that the product is less effective than previously believed or causes undesirable side effects that were not previously identified, our ability to market the product could be compromised.

Clinical trials of our product candidates are conducted in carefully defined subsets of patients who have agreed to enter into clinical trials. Consequently, it is possible that our clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any, or alternatively fail to identify undesirable side effects. If, following approval of a product candidate, we, or others, discover that the drug is less effective than previously believed or causes undesirable side effects that were not previously identified, any of the following undesirable events could occur:

- regulatory authorities may withdraw their approval of the product or seize the product;
- we may be required to recall the product or change the way the product is administered;
- additional restrictions may be imposed on the marketing of, or the manufacturing processes for, the particular product;
- we may be subject to fines, injunctions or the imposition of civil or criminal penalties;
- regulatory authorities may require the addition of labeling statements, such as a "black box" warning or a contraindication;
- we may be required to create a handout, sometimes referred to as a Medication Guide, outlining the risks of the previously unidentified side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- our reputation may suffer.

Any of these events could have a material and adverse effect on our operations and business and could adversely impact our stock price.

Even if one of our product candidates receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success, and the market opportunity for the product candidate may be smaller than we estimate.

We have never commercialized a product. Even if one of our product candidates is approved by the appropriate regulatory authorities for marketing and sale, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. For example, physicians are often reluctant to switch their patients from existing therapies even when new and potentially more effective or convenient treatments enter the market. Further, patients often acclimate to the therapy that they are currently taking and do not want to switch unless their physicians recommend switching products or they are required to switch therapies due to lack of reimbursement for existing therapies.

Efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may not be successful. If any of our product candidates is approved but does not achieve an adequate level of market acceptance, we may not generate significant revenues and we may not become profitable. The degree of market acceptance of, and potential market opportunity for, our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and safety of the product;
- the potential advantages of the product compared to alternative treatments;

- the prevalence and severity of any side effects;
- the clinical indications for which the product is approved;
- whether the product is designated under physician treatment guidelines as a first-line therapy or as a second- or third-line therapy;
- limitations or warnings, including distribution or use restrictions, contained in the product's approved labeling;
- our ability to offer the product for sale at competitive prices;
- our ability to establish and maintain pricing sufficient to realize a meaningful return on our investment;
- our ability to prevent use of our INOpulse for PH-COPD device by PAH patients due to expected pricing differences;
- the product's convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try, and of physicians to prescribe, the product;
- the strength of sales, marketing and distribution support;
- the approval of other new products for the same indications;
- changes in the standard of care for the targeted indications for the product;
- the timing of market introduction of our approved products as well as competitive products and other therapies;
- availability and amount of reimbursement from government payors, managed care plans and other third-party payors;
- adverse publicity about the product or favorable publicity about competitive products; and
- potential product liability claims.

The potential market opportunities for our product candidates are difficult to estimate precisely. Our estimates of the potential market opportunities, including our estimates with respect to pricing and reimbursement, are predicated on many assumptions, including industry knowledge and publications, third-party research reports and other surveys. While we believe that our internal assumptions are reasonable, these assumptions involve the exercise of significant judgment on the part of our management, are inherently uncertain and the reasonableness of these assumptions has not been assessed by an independent source. If any of the assumptions proves to be inaccurate, the actual markets for our product candidates could be smaller than our estimates of the potential market opportunities.

If we are unable to establish sales, marketing and distribution capabilities or enter into acceptable sales, marketing and distribution arrangements with third parties, we may not be successful in commercializing any product candidates that we develop, if and when those product candidates are approved.

We do not have a sales, marketing or distribution infrastructure and have limited experience in the sale, marketing and distribution of pharmaceutical products. To achieve commercial success for any approved product, we must either develop a sales and marketing organization or outsource these functions to third parties. We expect to build a commercial infrastructure to allow us to market and sell certain of our product candidates when approved, if any, using a specialty sales force in the United States, and we may choose to establish commercialization capabilities in select countries outside the United States. The development of sales, marketing and distribution capabilities will require substantial

resources, will be time-consuming and could delay any product launch. We expect that we will commence the development of these capabilities prior to receiving approval of any of our product candidates. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing and distribution capabilities is delayed or does not occur for any reason, we could have prematurely or unnecessarily incurred these commercialization costs. Such a delay may be costly, and our investment could be lost if we cannot retain or reposition our sales and marketing personnel. In addition, we may not be able to hire or retain a sales force in the United States that is sufficient in size or has adequate expertise in the medical markets that we plan to target. If we are unable to establish or retain a sales force and marketing and distribution capabilities, our operating results may be adversely affected. If a potential partner has development or commercialization expertise that we believe is particularly relevant to one of our product candidates, then we may seek to collaborate with that potential partner even if we believe we could otherwise develop and commercialize the product independently.

We may partner with third parties to commercialize our product candidates in certain countries outside the United States. As a result of entering into arrangements with third parties to perform sales, marketing and distribution services, our product revenues or the profitability of these product revenues may be lower, perhaps substantially lower, than if we were to directly market and sell products in those markets. Furthermore, we may be unsuccessful in entering into the necessary arrangements with third parties or may be unable to do so on terms that are favorable to us. In addition, we may have little or no control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our product candidates effectively.

If we do not establish sales and marketing capabilities, either on our own or in collaboration with third parties, we will not be successful in commercializing any of our product candidates that receive marketing approval.

Even if we are able to commercialize any product candidate that we develop, the product may become subject to unfavorable pricing regulations, third-party payor reimbursement practices or healthcare reform initiatives that could harm our business.

The commercial success of our product candidates will depend substantially, both in the United States and abroad, on the extent to which the costs of our product candidates will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors. If reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish and maintain pricing sufficient to realize a meaningful return on our investment.

There is significant uncertainty related to third-party payor coverage and reimbursement of newly approved drugs and devices. Marketing approvals, pricing and reimbursement for new drug and device products vary widely from country to country. Some countries require approval of the sale price of a drug or device before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some non-U.S. markets, pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay commercial launch of the product, possibly for lengthy time periods, which may negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval.

Our ability to commercialize our product candidates will depend in part on the extent to which coverage and reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will cover and establish reimbursement levels. The healthcare industry is acutely focused on cost containment, both in the United States and elsewhere. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications, which could affect our ability to sell our product candidates profitably. These payors may not view our products, if any, as cost-effective, and coverage and reimbursement may not be available to our customers, or may not be sufficient to allow our products, if any, to be marketed on a competitive basis. Cost-control initiatives could cause us to decrease the price we might establish for products, which could result in lower than anticipated product revenues. If the prices for our products, if any, decrease or if governmental and other third-party payors do not provide adequate coverage or reimbursement, our prospects for revenue and profitability will suffer. Approval of a product does not guarantee sufficient reimbursement to commercialize. For example, assuming positive results, approval of CE marking for BCM in the European Union may be achieved with our ongoing clinical trial but, based on current reimbursement practices in the European Union, this data may not be sufficient to gain sufficient reimbursement for us to invest in commercialization activities.

There may also be delays in obtaining coverage and reimbursement for newly approved products, and coverage may be more limited than the indications for which the product is approved by the FDA or comparable non-U.S. regulatory authorities. Moreover, eligibility for reimbursement does not imply that any product will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Reimbursement rates may vary, by way of example, according to the use of the product and the clinical setting in which it is used. Reimbursement rates may also be based on reimbursement levels already set for lower cost products or may be incorporated into existing payments for other services.

In addition, increasingly, third-party payors are requiring higher levels of evidence of the benefits and clinical outcomes of new technologies and are challenging the prices charged. We cannot be sure that coverage will be available for any product candidate that we commercialize and, if available, that the reimbursement rates will be adequate. Further, the net reimbursement for drug products may be subject to additional reductions if there are changes to laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. An inability to promptly obtain coverage and adequate payment rates from both government-funded and private payors for any our product candidates for which we obtain marketing approval could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

We anticipate that reimbursement of BCM will be based on the patient's diagnosis related group, or DRG, for patients who are covered by Medicare or Medicaid, or through similar reimbursement programs for patients to who are covered by private third-party payors. Within the DRG system, patients are classified by similar diagnoses, which are mapped from the International Statistical Classification of Diseases and Related Health Problems, or ICD, a medical classification list provided by the World Health Organization. The version of ICD that is currently in use with respect to DRG classifications is ICD-9. However, an updated version, ICD-10, has been adopted. We expect that DRG classifications will be required to be mapped against ICD-10 by October 2015 and, as a result, we believe that the DRG classifications will be mapped from ICD-10 rather than ICD-9 at the time we commercialize BCM, if ever, which would result in favorable reimbursement. However, if ICD-9 continues to be used for DRG classification mapping by hospitals or Medicare or Medicaid or other payors, or our expectations with respect to the applicable DRG classification prove incorrect, reimbursement for BCM may prove less favorable or inadequate. In addition, even if ICD-10 is adopted for reimbursement assessments, the mapping to the DRGs, or the amount reimbursed for the

DRGs, may change, all of which could adversely affect the ability of our customers to gain sufficient reimbursement, and therefore, the adoption of, or price we could charge for, BCM.

If the FDA or comparable non-U.S. regulatory authorities approve generic versions of any of our products that receive marketing approval, or such authorities do not grant our products appropriate periods of data exclusivity before approving generic versions of our products, the sales of our products could be adversely affected.

Once an NDA is approved, the product covered thereby becomes a "reference listed drug" in the FDA's publication, "Approved Drug Products with Therapeutic Equivalence Evaluations." Manufacturers may seek approval of generic versions of reference listed drugs through submission of abbreviated new drug applications, or ANDAs, in the United States, or through a similar process in foreign jurisdictions. In support of an ANDA, a generic manufacturer need not conduct clinical studies. Rather, the applicant generally must show that its product has the same active ingredient(s), dosage form, strength, route of administration and conditions of use or labeling as the reference listed drug and that the generic version is bioequivalent to the reference listed drug, meaning it is absorbed in the body at the same rate and to the same extent. Generic products may be significantly less costly to bring to market than the reference listed drug and companies that produce generic products are generally able to offer them at lower prices. Thus, following the introduction of a generic drug, a significant percentage of the sales of any branded product or reference listed drug may be typically lost to the generic product.

The FDA may not approve an ANDA for a generic product until any applicable period of non-patent exclusivity for the reference listed drug has expired. Manufacturers may seek to launch these generic products following the expiration of the applicable marketing exclusivity period, even if we still have patent protection for our product.

Competition that our products may face from generic versions of our products could materially and adversely impact our future revenue, profitability and cash flows and substantially limit our ability to obtain a return on the investments we have made in those product candidates.

Product liability lawsuits against us could divert our resources, cause us to incur substantial liabilities and limit commercialization of any products that we may develop.

We face an inherent risk of product liability claims as a result of the clinical testing of our product candidates despite obtaining appropriate informed consents from our clinical trial participants. We will face an even greater risk if we commercially sell any product that we may develop. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. For example:

- improper use or failure of INOpulse may result in rebound pulmonary hypertension, which can be fatal in some patients;
- rebound pulmonary hypertension may also occur if both the primary and back-up devices fail before we can replace them, if the built-in back-up with a device does not work properly or if the patient does not carry or have access to his or her back-up device; and
- rebound pulmonary hypertension can also occur in patients who were not previously considered at risk for this reaction and who may not have been provided an adequate back-up device.

Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to

limit commercialization of our product candidates. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for products that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend resulting litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue;
- reduced resources of our management to pursue our business strategy; and
- the inability to commercialize any products that we may develop.

Although we maintain general liability insurance of \$1.0 million in the aggregate, umbrella insurance in the amount of \$10.0 million in the aggregate and clinical trial liability insurance of \$20.0 million in the aggregate, this insurance may not fully cover potential liabilities that we may incur. The cost of any product liability litigation or other proceeding, even if resolved in our favor, could be substantial. We will need to increase our insurance coverage if and when we begin the commercial sale of any product candidate that receives marketing approval. In addition, insurance coverage is becoming increasingly expensive. If we are unable to obtain or maintain sufficient insurance coverage at an acceptable cost or to otherwise protect against potential product liability claims, it could prevent or inhibit the development and commercial production and sale of our product candidates, which could adversely affect our business, financial condition, results of operations and prospects.

Our INOpulse devices use lithium-ion battery cells, which have been observed to catch fire or vent smoke and flame, and these events may raise concerns about the batteries we use.

The battery pack used in our INOpulse devices makes use of lithium-ion cells. On rare occasions, lithium-ion cells can rapidly release the energy they contain by venting smoke and flames in a manner that can ignite nearby materials. Highly publicized incidents of laptop computers and cell phones bursting into flames have focused consumer attention on the safety of these cells. There can be no assurance that the battery packs we use would not fail, which could lead to property damage, personal injury or death, and may subject us to lawsuits. We may also have to recall our products, if any, which would be time consuming and expensive. Also, negative perceptions in the healthcare and patient communities regarding the suitability of lithium-ion cells for medical applications or any future incident involving lithium-ion cells could seriously harm our business, even in the absence of an incident involving us.

Risks Related to Our Dependence on Third Parties

The intellectual property underlying INOpulse is exclusively licensed from Ikaria. If Ikaria terminates the license agreement, or fails to prosecute, maintain or enforce the underlying patents, our business will be materially harmed.

We have licensed the intellectual property underlying INOpulse from Ikaria. Despite our best efforts, Ikaria may conclude that we have breached a material term of the license agreement and, as a result, seek to terminate the agreement. In the event the license agreement is terminated, we will lose our ability to market INOpulse, and, upon Ikaria's written request, we will be required to transfer any regulatory approvals that we have obtained for INOpulse to Ikaria.

The license agreement prohibits us from sublicensing to any competitor of Ikaria any intellectual property licensed to us by Ikaria. In addition, we are required to ensure that all of our products, if any, are used solely for the chronic treatment of PAH, PH-COPD and PH-IPF and to enter into written

agreements with any customers that contain restrictions on the use of our products and termination rights in the event such restrictions are violated.

Ikaria has the initial right, but not the obligation, to prosecute and maintain all patents that are licensed to us pursuant to the license agreement. While we have certain step-in rights to assume control if Ikaria declines to file, prosecute or maintain certain licensed patents that are core to our business, in the event Ikaria reasonably determines that our actions could materially impair its business operations or intellectual property rights, Ikaria may prohibit us from taking such actions. In addition, Ikaria has the initial right, but not the obligation, to initiate a legal action against a third party with respect to any actual or suspected infringement of patent rights licensed to us pursuant to the license agreement. We have the right to initiate legal action against a third party infringer of licensed patents that are core to our business in the event Ikaria declines to take action with respect to such infringement, however, if Ikaria determines that our pursuit of any such action could materially impair its business operations or intellectual property rights, Ikaria may prohibit us from taking any such action.

The license agreement terminates, on an INOpulse product-by-INOpulse product basis, at such time as we are no longer actively and continuously engaged in the development or commercialization of such product. In addition, Ikaria may terminate the license agreement if, among other things, (1) we breach or fail to comply with any material term or condition required to be performed or complied with by us and do not cure such breach or failure within 30 days after receiving written notice of such breach from Ikaria, (2) we or any of our affiliates breaches any of our agreements not to compete with Ikaria, (3) we or any of our affiliates challenges the validity or enforceability of the licensed patents or (4) we or any person that is a successor to our license rights markets a generic nitric oxide product that is competitive with Ikaria's INOmax product. Upon termination of the license agreement with respect to any INOpulse product candidate, we will lose our ability to market such INOpulse product candidate, and upon, Ikaria's written request, be required to transfer any and all regulatory approvals relating to such INOpulse product candidate to Ikaria.

We rely, and expect to continue to rely, on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials.

We currently rely on third-party clinical research organizations, or CROs, to conduct our clinical trials. We expect to continue to rely on third parties, such as CROs, clinical data management organizations, medical institutions and clinical investigators, to conduct our clinical trials. Our agreements with these third parties generally allow the third party to terminate the agreement at any time. If we are required to enter into alternative arrangements because of any such termination, the introduction of our product candidates to market could be delayed.

Our reliance on these third parties for research and development activities will reduce our control over these activities but will not relieve us of our responsibilities. For example, we design our clinical trials and will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with GCPs for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within specified timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, marketing approvals

for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates.

We also expect to rely on other third parties to store and distribute drug and device supplies for our clinical trials. Any performance failure on the part of our distributors could delay clinical development or marketing approval of our product candidates or commercialization of our products, producing additional losses and depriving us of potential product revenue.

We rely on Ikaria for our supply of nitric oxide for the clinical trials of INOpulse. Ikaria is the sole supplier of nitric oxide. Ikaria's inability to continue manufacturing adequate supplies of nitric oxide, or its refusal to supply us with commercial quantities of nitric oxide on commercially reasonable terms, or at all, could result in a disruption in the supply of, or impair our ability to market, INOpulse.

We have entered into a drug clinical supply agreement with Ikaria, pursuant to which Ikaria will manufacture and supply our requirements for nitric oxide for inhalation and corresponding placebo for use in clinical trials of INOpulse. Ikaria manufactures pharmaceutical-grade nitric oxide at its facility in Port Allen, Louisiana, which is the only FDA-inspected site for manufacturing pharmaceutical-grade nitric oxide in the world. Ikaria's Port Allen facility is subject to the risks of a natural disaster or other business disruption. We maintain under controlled storage conditions a two- to three-month supply of clinical trial drug product, but there can be no assurance that we would be able to meet our requirements for INOpulse if there were a catastrophic event or failure of Ikaria's manufacturing system. Because Ikaria's Port Allen facility is the only FDA-inspected site that can manufacture INOpulse and because the manufacture of a pharmaceutical gas requires specialized equipment and expertise, there are few, if any, third-party manufacturers to which we could contract this work in a short period of time. Therefore, any disruption in Ikaria's Port Allen facility, or the failure by Ikaria for any other reason to provide us with nitric oxide, could materially and adversely affect supplies of INOpulse and our ongoing and planned clinical trials. In addition, we do not currently have any arrangements with Ikaria to provide us with commercial quantities of nitric oxide. If we are unable to arrange for Ikaria to provide such quantities on commercially reasonable terms, or at all, we may not be able to successfully produce and market INOpulse or may be delayed in doing so.

We rely on third-party suppliers and manufacturers to produce and deliver clinical devices and supplies as well as for the servicing of these devices for our INOpulse product candidate, and may also do so for other product candidates. Any failure by a third-party supplier or manufacturer to produce or deliver supplies for us or to provide necessary servicing may delay or impair our ability to complete our clinical trials.

We currently rely, and expect to continue to rely, on third parties for supply of the device, cannula and certain other supplies for our INOpulse product candidate. These suppliers are, and any future third-party suppliers with whom we enter into agreements may be, our sole suppliers of these devices or any of our other current or future devices used in the INOpulse program. These suppliers are commonly referred to as single-source suppliers. If our suppliers fail to deliver materials and provide services needed for the production of the INOpulse device and related supplies or for our other product candidates in a timely and sufficient manner, if they fail to comply with applicable regulations, or if we do not qualify alternate suppliers, clinical development or regulatory approval of our product candidates or commercialization of our products could be delayed, increasing our costs to complete clinical development and to obtain regulatory approval, which could deprive us of potential additional product revenue.

Our device clinical supply agreement with Ikaria to manufacture new nitric oxide delivery devices terminates in February 2015. In addition, we currently outsource the servicing and remanufacture of the INOpulse devices being used in our ongoing clinical trials pursuant to the terms of a services agreement with Ikaria which expires in February 2016. Although we are currently negotiating and intend to enter into a new agreement with a third party for the manufacture, supply and servicing of the Mark2 nitric oxide delivery devices, if we are unable to enter into such agreement by the end of the

first quarter of 2015 in order that production work may begin for the devices needed for our clinical trials planned in the second half of 2015, or if we fail to do so on commercially reasonable terms, our clinical trials and ability to commercialize our product candidates could be materially and adversely affected.

We rely on third-party suppliers and manufacturers to produce and deliver clinical drug supplies for our BCM product candidate and may also do so for other product candidates. Any failure by a third-party supplier or manufacturer to produce or deliver supplies for us may delay or impair our ability to complete our clinical trials.

We currently rely, and expect to continue to rely, on third parties for supply of the ingredients for our BCM product candidate. These suppliers are, and any future third-party suppliers with whom we enter into agreements may be, our sole suppliers of BCM or any of our other current or future product candidates. These suppliers are commonly referred to as single-source suppliers. If our suppliers fail to deliver materials and provide services needed for the production of BCM or our other product candidates in a timely and sufficient manner, if they fail to comply with applicable regulations, or if we do not qualify alternate suppliers, clinical development or regulatory approval of our product candidates or commercialization of our products could be delayed, increasing our costs to complete clinical development and to obtain regulatory approval, which could deprive us of potential additional product revenue.

In addition, we currently outsource the manufacture of BCM for use in clinical trials pursuant to the terms of a manufacturing and supply agreement with a third-party which expires in April 2017. We plan to enter into a manufacturing and supply agreement for BCM with a new third-party manufacturer prior to April 2017. If we fail to enter into a new manufacturing and supply agreement for BCM with a third-party prior to the expiration of our existing manufacturing and supply agreement or if such new agreement is on less favorable terms, our ability to complete our clinical trials for BCM may be impaired.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including reliance on the third party for regulatory compliance and quality assurance, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control (including a failure to synthesize and manufacture our product candidates in accordance with our product specifications) and the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or damaging to us. In addition, the FDA and other regulatory authorities require that our product candidates be manufactured according to current Good Manufacturing Practices, or cGMP, and similar foreign standards. Any failure by our third-party manufacturers to comply with cGMP or failure to scale up manufacturing processes, including any failure to deliver sufficient quantities of product candidates in a timely manner, could lead to a delay in, or failure to obtain, regulatory approval of any of our product candidates. In addition, such failure could be the basis for action by the FDA or other regulatory authorities to withdraw approvals for product candidates previously granted to us and for other regulatory action, including recall or seizure, fines, imposition of operating restrictions, total or partial suspension of production or injunctions.

We rely on our manufacturers to purchase the materials necessary to produce our product candidates for our clinical trials from third-party suppliers. There are a small number of suppliers for certain capital equipment and raw materials that are used to manufacture our product candidates. Such suppliers may not sell these raw materials to our manufacturers at the times we need them or on commercially reasonable terms. We do not have any control over the process or timing of the acquisition of these raw materials by our manufacturers. Any significant delay in the supply of a product candidate or the raw material components thereof for an ongoing clinical trial due to the need to replace a third-party manufacturer could considerably delay completion or increase the costs of our clinical trials, product testing and potential regulatory approval of our product candidates. If our

manufacturers or we are unable to purchase these raw materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply, which would impair our ability to generate revenues from the sale of our product candidates.

We intend to rely on third parties to produce commercial supplies of any approved product candidates. Any failure by a third-party supplier or manufacturer to produce or deliver supplies for us may delay or impair our ability to commercialize our product candidates.

To date, our product candidates have been manufactured in small quantities for pre-clinical studies and clinical trials. If one or more of our product candidates are approved by the FDA or comparable regulatory authorities in other countries for commercial sale, we will need to manufacture such product candidate in larger quantities. We do not currently have any arrangements with Ikaria or another third-party manufacturer to provide commercial quantities of our product candidates. If we are unable to arrange for such a third-party manufacturing source, or fail to do so on commercially reasonable terms, we may not be able to successfully produce and market our product candidates or may be delayed in doing so.

If we successfully commercialize any of our product candidates, we may be required to establish or access large-scale commercial manufacturing capabilities. We do not own or operate manufacturing facilities for the production of clinical or commercial quantities of our product candidates, and we currently have no plans to build our own clinical or commercial scale manufacturing capabilities.

Our BCM product candidate currently in development is exclusively licensed from BioLineRx Ltd., and we may enter into additional agreements to in-license technology from third parties. If BioLineRx Ltd. or other future licensors terminate the applicable license, or fail to maintain or enforce the underlying patents, our competitive position and market share will be harmed.

We have an exclusive worldwide license for our BCM product candidate, subject to certain retained rights of the licensor, from BioLineRx Ltd. and its subsidiary, who we collectively refer to as BioLine. Under the terms of the license agreement, we are obligated to use commercially reasonable efforts to develop and commercialize at least one product containing BCM. BioLine has the right to terminate its license agreement with us for an uncured material breach by us, upon which our exclusive license for BCM will terminate.

We have also exclusively licensed INOpulse, for certain indications and settings, and subject to certain retained rights of the licensor, from Ikaria. See "Certain Relationships and Related Person Transactions—Relationship with Ikaria" for a summary of our exclusive cross-license, technology transfer and regulatory matters agreement with Ikaria.

We may enter into additional license agreements as part of the development of our business in the future. Such licensors, if any, may be responsible for prosecution of certain patent applications and maintenance of certain patents. Such licensors may not successfully prosecute such patent applications or maintain such patents, which we have licensed and on which our business depends. Our licensors may fail to pursue litigation against third-party infringers, may fail to prove infringement, or may fail to defend against counterclaims of patent invalidity or unenforceability. If these in-licenses are terminated, or if the underlying patents fail to provide the intended market exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products identical to ours. This could have a material adverse effect on our competitive business position and our business prospects.

We may have received better terms from unaffiliated third parties than the terms we received in our agreements with Ikaria.

The agreements related to the Spin-Out, including the separation and distribution agreement, TSA, license agreement, drug clinical supply agreement, device clinical supply agreement, agreements not to compete and the other agreements, were negotiated in the context of our separation from Ikaria while

we were still part of Ikaria and, accordingly, may not reflect terms that would have resulted from arm's-length negotiations among unaffiliated third parties. The terms of the agreements we negotiated in the context of our separation related to, among other things, allocation of assets, liabilities, rights, indemnifications and other obligations among Ikaria and us. We may have received better terms from third parties because third parties may have competed with each other to win our business. Some of our board members are also members of the Ikaria board. See "Certain Relationships and Related Person Transactions—Relationship with Ikaria."

Third parties may seek to hold us responsible for liabilities of Ikaria that we did not assume in our agreements.

In connection with our separation from Ikaria, Ikaria has generally agreed to retain all liabilities that did not historically arise from our business. Third parties may seek to hold us responsible for Ikaria's retained liabilities. Under our agreements with Ikaria, Ikaria has agreed to indemnify us for claims and losses relating to these retained liabilities. However, if those liabilities are significant and we are ultimately liable for them, we cannot assure you that we will be able to recover the full amount of our losses from Ikaria.

Any disputes that arise between us and Ikaria with respect to our past and ongoing relationships could harm our business operations.

Disputes may arise between Ikaria and us in a number of areas relating to our past and ongoing relationships, including:

- intellectual property, technology and business matters, including failure to make required technology transfers and failure to comply with non-compete provisions applicable to Ikaria and us;
- labor, tax, employee benefit, indemnification and other matters arising from our separation from Ikaria;
- distribution and supply obligations;
- employee retention and recruiting;
- business combinations involving us;
- the nature, quality and pricing of transitional services Ikaria has agreed to provide us; and
- business opportunities that may be attractive to both Ikaria and us.

We may not be able to resolve any potential conflicts, and even if we do, the resolution may be less favorable than if we were dealing with an unaffiliated party.

We may seek to enter into collaborations with third parties for the development and commercialization of our product candidates. If we fail to enter into such collaborations, or such collaborations are not successful, we may not be able to capitalize on the market potential of our product candidates.

We may seek third-party collaborators for development and commercialization of our product candidates. Our likely collaborators for any marketing, distribution, development, licensing or broader collaboration arrangements include large and mid-size pharmaceutical and medical device companies, regional and national biotechnology companies and pharmaceutical companies. We are not currently party to any such arrangement. However, if we do enter into any such arrangements with any third parties in the future, we will likely have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of our product candidates. Our ability to generate revenues from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements.

Collaborations involving our product candidates would pose the following risks to us:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors such as an acquisition that diverts resources or creates competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- collaborators with marketing and distribution rights to one or more of our products may not commit sufficient resources to the marketing and distribution of such product or products;
- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- disputes may arise between the collaborators and us that result in the delay or termination of the research, development or commercialization of our products or product candidates or that result in costly litigation or arbitration that diverts management attention and resources; and
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates.

Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all. If a collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program could be delayed, diminished or terminated.

If we are not able to establish collaborations, we may have to alter our development and commercialization plans.

Our drug and device development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. For some of our product candidates, we may decide to collaborate with biotechnology and pharmaceutical companies for the development and potential commercialization of those product candidates.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market

conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. The terms of our current or future license agreements may restrict our ability to enter into agreements on certain terms with future collaborators. For example, our license agreement with Ikaria prohibits us from granting a sublicense under any of the intellectual property licensed to us under such license agreement to any of our affiliates or any third party, in each case, that directly or indirectly competes with the Ikaria nitric oxide business, and any future license agreements may contain similar restrictions. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market and generate product revenue.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for our technology and products or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and products may be impaired.

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our proprietary technology and products. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel technologies and product candidates. The patents we have licensed from Ikaria relating to INOpulse's feature of providing delivery of nitric oxide to ensure a consistent dose over time expire as late as 2027 in the United States and as late as 2026 in certain other countries, as well as a patent with respect to the triple-lumen cannula that allows for safer and more accurate dosing of pulsed inhaled nitric oxide, which expires in 2033. The patents we have licensed from BioLine relating to our BCM product candidate expire as late as 2029 in the United States, with a possible patent term extension to 2032 to 2034, and 2024 in certain other countries.

The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, pursuant to our license agreement with Ikaria, we do not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering the INOpulse technology that we license from Ikaria, except in the event that Ikaria declines to prosecute or maintain certain licensed patents that are core to our business, elects to allow any of such patents to lapse or elects to abandon any such patents, in which case we would have step-in rights to assume control of the prosecution and/or maintenance of such patents, subject to Ikaria's right to prohibit us from taking such actions if it reasonably determines that such actions could materially impair its business, operations or intellectual property rights. Similarly, under the terms of any future agreements that we may enter into with other third parties, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering the technology that is licensed to us under such agreements. Therefore,

these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. In addition, the laws of non-U.S. countries may not protect our rights to the same extent as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than U.S. law does. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, and in some cases not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our owned or licensed patents or pending patent applications, or that we or our licensors were the first to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not issue as patents that protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our owned or licensed issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. The Leahy-Smith Act includes provisions that affect the way patent applications are prosecuted and affect patent litigation. The U.S. Patent and Trademark Office, or USPTO, recently developed new regulations and procedures to govern administration of the Leahy-Smith Act. Many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our owned or licensed patent applications and the enforcement or defense of our owned or licensed issued patents, all of which could have a material adverse effect on our business and financial condition.

Moreover, we may be subject to third-party preissuance submissions of prior art to the USPTO, or become involved in opposition, derivation, reexamination, *inter partes* review, post-grant review or interference proceedings challenging our owned or licensed patent rights or the patent rights of others. For example, Notices of Opposition to two European patents covering BCM that we licensed from BioLine have been filed with the European Patent Office. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Even if our owned and licensed patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us, or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner. We may not receive patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Act, that we expect our rights during the extension period may be more limited than the full scope of the patent, making it easier for our competitors to develop and market non-infringing technologies or products.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate, or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property, which could be expensive, time consuming and unsuccessful.

Competitors may infringe our owned or licensed patents or other intellectual property. To counter infringement or unauthorized use, we may be required to file or participate in infringement claims, which can be expensive and time consuming. Any claims we or our licensors assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents. In addition, in a patent infringement proceeding, a court may decide that a patent of ours or our licensor is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly or refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our owned or licensed patents at risk of being invalidated or interpreted narrowly.

Under the terms of our license agreement with Ikaria, in the event a third party is suspected of infringing any patent rights licensed to us by Ikaria, Ikaria has the initial right, but not the obligation, to initiate a legal action against such third party. In the event that Ikaria declines to take any action with respect to an alleged infringement of certain licensed patents that are core to our business, we have the right, in certain circumstances, to initiate a legal action against such third party, provided that, if Ikaria reasonably determines that our pursuit of any action with respect to infringement of any of such core patents could materially impair Ikaria's business operations or intellectual property rights, Ikaria may require us to not undertake or to cease any such action. Our inability to initiate a legal action against a third party suspected of infringing intellectual property rights important to our business may have a material adverse effect on our competitive business position and our business prospects.

If we fail to comply with our obligations under license agreements, we could lose rights that are important to our business.

We are party to a license agreement with BioLine relating to our BCM product candidate that imposes, and we may enter into additional license agreements that may impose, various diligence, milestone payment, royalty and other obligations on us. Under our existing license agreement with BioLine, we are obligated to pay royalties on the net sales of product candidates or related technologies to the extent they are covered by the agreement. We also have diligence and development obligations under this agreement. Moreover, under our license agreement with Ikaria, we have granted Ikaria a sole and exclusive worldwide license to any intellectual property rights that we control for use in Ikaria's nitric oxide business, are required to ensure that all of our products, if any, are used solely for the chronic treatment of PAH, PH-COPD and PH-IPF and to enter into written agreements with any customers that contain restrictions on the use of our products and termination rights in the event such restrictions are violated, and have agreed to pay 100% of the reasonable and documented costs incurred by Ikaria for the prosecution and maintenance of certain licensed patents that are core to our business and 10% of such costs incurred by Ikaria for all other licensed patents. If we fail to comply with our obligations under current or future license agreements, our counterparties may have the right

to terminate these agreements, in which event we might not be able to develop, manufacture or market any product that is covered by the agreement or face other penalties under the agreement. Such an occurrence could materially adversely affect the value of the product candidate being developed under any such agreement.

For example, BioLine recently indicated to us that it believed that we had breached our license agreement in several ways. We were able to reach agreement with BioLine and resolve the dispute through an amendment to the license agreement that includes a release of claims by BioLine. However, had we not been able to reach resolution and had BioLine brought and prevailed in a lawsuit against us, one of the potential remedies could have been the termination of the license agreement and our consequent loss of rights to BCM. Termination of our license agreement with BioLine, or any future license agreements we may enter into, or reduction or elimination of our rights under such agreements may result in our having to negotiate new or reinstated agreements with less favorable terms, or cause us to lose our rights under these agreements, including our rights to important intellectual property or technology.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing the proprietary rights of third parties. There is considerable intellectual property litigation in the pharmaceutical, biotechnology and medical device industries. We may become party to, or be threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our products and technology, including interference or derivation proceedings before the USPTO. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future.

If we are found to infringe a third party's intellectual property rights, we could be required to obtain a license from such third party to continue developing and marketing our products and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

We may be subject to claims by third parties asserting that we or our employees have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Many of our employees were previously employed at other pharmaceutical, biotechnology or medical device companies, including our competitors or potential competitors. Although we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. Litigation may be necessary to defend against these claims.

In addition, while it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to

us, we may be unsuccessful in timely obtaining such an agreement with each party who in fact develops intellectual property that we regard as our own. Even if timely obtained, such agreements may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property.

If we fail in prosecuting or defending any such claims, we may lose valuable intellectual property rights or personnel, in addition to paying monetary damages. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to management.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could compromise our ability to compete in the marketplace.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to seeking patents for some of our technology and product candidates, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. Even if we are successful in prosecuting such claims, any remedy awarded may be insufficient to fully compensate us for the improper disclosure or misappropriation. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- Others may be able to develop and commercialize treatments that are similar to our product candidates but that are not covered by the claims of the patents that we own or have exclusively licensed.
- We or our licensors might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed.
- We or our licensors might not have been the first to file patent applications covering certain of our inventions.
- Others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights.
- It is possible that our pending patent applications will not lead to issued patents.
- Issued patents that we own or have exclusively licensed may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors.
- Our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets.
- We may not develop additional proprietary technologies that are patentable.
- The patents of others may have an adverse effect on our business.
- Another party may be granted orphan exclusivity for an indication that we are seeking before us or may be granted orphan exclusivity for one of our products for another indication.

Risks Related to Regulatory Approval of Our Product Candidates and Other Legal Compliance Matters

Even if we complete the necessary clinical trials, the marketing approval process is expensive, time consuming and uncertain and may prevent us from obtaining approvals for the commercialization of some or all of our product candidates. If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize our product candidates, and our ability to generate revenue will be materially impaired.

Our product candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by the EMA and similar regulatory authorities outside the United States. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. Our product candidates are in the early stages of development and are subject to the risks of failure inherent in drug and device development. We have not received approval to market any of our product candidates from regulatory authorities in any jurisdiction. We have only limited experience in conducting and managing the clinical trials, and in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party CROs to assist us in this process. Securing marketing approval requires the submission of extensive pre-clinical and clinical data and supporting information to regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. Securing marketing approval also requires the submission of information

about the product manufacturing process to, and inspection of manufacturing facilities by, the regulatory authorities. Our product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. Regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional pre-clinical, clinical or other studies. In addition, varying interpretations of the data obtained from pre-clinical and clinical testing could delay, limit or prevent marketing approval of a product candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable. If we experience delays in obtaining approval or if we fail to obtain approval of our product candidates, the commercial prospects for our product candidates may be harmed and our ability to generate revenues will be materially impaired.

Our failure to obtain marketing approval in foreign jurisdictions would prevent our product candidates from being marketed abroad, and any approval we are granted for our product candidates in the United States would not assure approval of product candidates in foreign jurisdictions.

In order to market and sell our products in the European Union and many other jurisdictions, we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. We may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may not be able to file for marketing approvals and may not receive necessary approvals to commercialize our products in any market.

Even if we obtain marketing approval for our product candidates, the terms of approvals and ongoing regulation of our products may limit how we manufacture and market our products and compliance with such requirements may involve substantial resources, which could materially impair our ability to generate revenue.

Even if marketing approval of a product candidate is granted, an approved product and its manufacturer and marketer are subject to ongoing review and extensive regulation, including the requirement to implement a risk evaluation and mitigation strategy or to conduct costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the product. We must also comply with requirements concerning advertising and promotion for any of our product candidates for which we obtain marketing approval. Promotional communications with respect to prescription drugs are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved labeling. Thus, we will not be able to promote any products we develop for indications or uses for which they are not approved. In addition, manufacturers of approved products and those manufacturers' facilities are required to ensure that quality control and manufacturing

procedures conform to cGMP, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation and reporting requirements. We and our contract manufacturers could be subject to periodic unannounced inspections by the FDA and other regulatory authorities to monitor and ensure compliance with cGMP.

Accordingly, assuming we receive marketing approval for one or more of our product candidates, we and our contract manufacturers will continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance and quality control. If we are not able to comply with post-approval regulatory requirements, we could have the marketing approvals for our products withdrawn by regulatory authorities and our ability to market any future products could be limited, which could adversely affect our ability to achieve or sustain profitability. Thus, the cost of compliance with post-approval regulations may have a negative effect on our operating results and financial condition.

Any product candidate for which we obtain marketing approval will be subject to strict enforcement of post-marketing requirements and we could be subject to substantial penalties, including withdrawal of our product from the market, if we fail to comply with all regulatory requirements or if we experience unanticipated problems with our products, when and if any of them are approved.

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include, but are not limited to, restrictions governing promotion of an approved product, submissions of safety and other post-marketing information and reports, registration and listing requirements, cGMP requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, and requirements regarding the distribution of samples to physicians and recordkeeping.

The FDA and other federal and state agencies, including the Department of Justice, closely regulate compliance with all requirements governing prescription drug and device products, including requirements pertaining to marketing and promotion of drugs and devices in accordance with the provisions of the approved labeling and manufacturing of products in accordance with cGMP requirements. Violations of such requirements may lead to investigations alleging violations of the Food, Drug, and Cosmetic Act and other statutes, including the False Claims Act and other federal and state health care fraud and abuse laws as well as state consumer protection laws. Our failure to comply with all regulatory requirements, and later discovery of previously unknown adverse events or other problems with our products, manufacturers or manufacturing processes, may yield various results, including:

- litigation involving patients taking our products;
- restrictions on such products, manufacturers or manufacturing processes;
- restrictions on the labeling or marketing of a product;
- restrictions on product distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- untitled or warning letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;

- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- damage to relationships with any potential collaborators;
- unfavorable press coverage and damage to our reputation;
- refusal to permit the import or export of our products;
- product seizure; or
- injunctions or the imposition of civil or criminal penalties.

Non-compliance by us or any future collaborator with regulatory requirements regarding safety monitoring or pharmacovigilance, and with requirements related to the development of products for the pediatric population, can also result in significant financial penalties. Similarly, failure to comply with regulatory requirements regarding the protection of personal information can also lead to significant penalties and sanctions.

Our relationships with customers and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute any products for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations, include the following:

- the federal Anti-Kickback Statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under a federal healthcare program such as Medicare and Medicaid;
- the federal False Claims Act imposes criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for, among other things, knowingly presenting, or causing to be presented false or fraudulent claims for payment by a federal government program, or making a false statement or record material to payment of a false claim or avoiding, decreasing or concealing an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and its implementing regulations, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;

- the federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;
- the federal transparency requirements under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the PPACA, requires applicable manufacturers of covered drugs, devices, biologics and medical supplies to report to the Department of Health and Human Services information related to payments and other transfers of value to physicians and teaching hospitals and physician ownership and investment interests; and
- analogous state laws and regulations such as state anti-kickback and false claims laws and analogous non-U.S. fraud and abuse laws and regulations, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures. Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government and may require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures. State and non-U.S. laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

Laws and regulations governing any international operations we may have in the future may preclude us from developing, manufacturing and selling certain product candidates and products outside of the United States and require us to develop and implement costly compliance programs.

If we expand our operations outside of the United States, we must dedicate additional resources to comply with numerous laws and regulations in each jurisdiction in which we plan to operate. The Foreign Corrupt Practices Act, or the FCPA, prohibits any U.S. individual or business from paying, offering, authorizing payment or offering anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of such third party in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the company, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the medical device industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Various laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. If we expand our presence outside of the United States, it will require us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing or selling certain product candidates and products outside of the United States, which could limit our growth potential and increase our development costs.

The failure to comply with laws governing international business practices may result in substantial civil and criminal penalties and suspension or debarment from government contracting. The Securities and Exchange Commission also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.

Currently, we do not operate any research and development or production facilities, including laboratory, development or manufacturing facilities. However, if we decided to operate our own research and development and production facilities, we would be subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Such operations may involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations may also produce hazardous waste products. Even if we contract with third parties for the disposal of these materials and wastes, we would not be able to eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use or disposal of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations.

Although we would increase our level of workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not expect to maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our possible future storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Risks Related to Employee Matters and Managing Growth

Our future success depends on our ability to retain key executives and to attract, retain and motivate qualified personnel.

We are dependent on the scientific, business development and clinical expertise of our management team, including Jonathan Peacock, our chief executive officer, Manesh Naidu, our chief business officer, Reinilde Heyrman, our chief clinical development officer, and Martin Meglasson, our chief scientific officer. We recently hired our chief executive officer. Leadership transitions can be inherently difficult to manage and may cause some disruptions in our business.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. Any of our employees may terminate their employment with us at any time. The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. We do not maintain "key person" insurance for any of our executives or other employees. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize products. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical, biotechnology and medical device companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with FDA regulations, to provide accurate information to the FDA, to comply with federal and state healthcare fraud and abuse laws and regulations, to report financial information or data accurately, to disclose unauthorized activities to us or to comply with our Code of Business Conduct and Ethics. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, false claims, inappropriate promotion, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. The precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

In addition, during the course of our operations, our directors, executives and employees may have access to material, non-public information regarding our business, our results of operations or potential transactions we are considering. We may not be able to prevent a director, executive or employee from violating our insider trading policies and trading in our common stock on the basis of, or while having access to, material, non-public information. If a director, executive or employee was to be investigated,

or an action was to be brought against a director, executive or employee for insider trading, it could have a negative impact on our reputation and our stock price. Such a claim, with or without merit, could also result in substantial expenditures of time and money, and divert attention of our management team from other tasks important to the success of our business.

We expect to expand our development and regulatory capabilities and potentially implement sales, marketing and distribution capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

As of December 31, 2014, we had 48 full-time employees, of which 41 employees were engaged in research and development. We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of development, regulatory affairs and, if any of our product candidates receives marketing approval, sales, marketing and distribution. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

Risks Related to This Offering and Ownership of Our Common Stock

Our principal stockholders will continue to have substantial control over us after this offering, which could limit your ability to influence the outcome of key transactions, including any change of control.

Upon the completion of this offering, we anticipate that our largest stockholder, investment funds affiliated with New Mountain Capital, or the New Mountain Entities, will own, in the aggregate, approximately 31.8% of our outstanding common stock (30.3% if the underwriters exercise their option to purchase additional shares in full), and our second largest stockholder, Linde North America, Inc., an indirect wholly-owned subsidiary of Linde AG, or Linde, will own approximately 10.7% of our outstanding common stock (10.2% if the underwriters exercise their option to purchase additional shares in full). In addition, we expect that the New Mountain Entities and Linde, together with investment funds affiliated with ARCH Ventures and Venrock, which we sometimes refer to collectively as our principal stockholders, will own, in the aggregate, approximately 55.1% of our outstanding shares of common stock (52.5% if the underwriters exercise their option to purchase additional shares in full).

Our principal stockholders have indicated an interest in purchasing an aggregate of up to approximately \$20 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these stockholders may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase in this offering. It also is possible that these stockholders could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or not to sell any shares to these stockholders. Accordingly, the foregoing discussion does not reflect any purchases by these potential purchasers.

Following the completion of this offering, pursuant to the terms of a stockholders agreement, the New Mountain Entities will be entitled to designate one director for nomination to our board of directors and to designate one director to the board of directors (or equivalent governing body) of each of our subsidiaries and to appoint the lead director of our board of directors, in each case, for so long as the New Mountain Entities or certain of their respective assignees beneficially own (i) 50% or more of the sum of (a) the aggregate number of shares of our common stock that they collectively own

immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering and (ii) 15% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). Following the completion of this offering, pursuant to the terms of a stockholders agreement, Linde will be entitled to designate one director to our board of directors and to designate one director to the board of directors (or equivalent governing body) of each of our subsidiaries, in each case, for so long as Linde and/or certain of its assignees beneficially own (i) 50% or more of the sum of (a) the aggregate number of shares of our common stock that they collectively own immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering and (ii) 10% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). See "Certain Relationships and Related Person Transactions—Stockholders Agreements."

The New Mountain Entities will also have certain other rights conferred by the stockholders agreement. See "Certain Relationships and Related Person Transactions—Stockholders Agreements." The New Mountain Entities will be able to exert significant influence over matters requiring board approval. In addition, their consent will be required for certain matters requiring approval by our stockholders, including the compensation and hiring and firing of our chief executive officer, business combinations, issuance of shares of our capital stock and incurrence of debt. These stockholder approval rights will terminate when the New Mountain Entities own either (i) less than 50% of the sum of (a) the number of shares of our common stock that they collectively own immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering or (ii) less than 15% of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q).

The New Mountain Entities and Linde may have interests that differ from your interests, and they may vote in ways with which you disagree and that may be adverse to your interests. The concentration of ownership of our capital stock may have the effect of delaying, preventing or deterring a change of control of our company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and may adversely affect the market price of our common stock.

We do not know whether a market will develop for our common stock or what the market price of our common stock will be and as a result it may be difficult for you to sell your shares of our common stock.

Before this offering, there was no public trading market for our common stock. If a market for our common stock does not develop or is not sustained, it may be difficult for you to sell your shares of common stock at an attractive price or at all. We cannot predict the prices at which our common stock will trade. It is possible that in one or more future periods our results of operations may be below the expectations of public market analysts and investors and, as a result of these and other factors, the price of our common stock may fall.

The market price of our common stock may be volatile, which could result in substantial losses for investors purchasing shares in this offering.

The initial public offering price for our common stock will be determined through negotiations with the underwriters. This initial public offering price may vary from the market price of our common stock after the offering. Some of the factors that may cause the market price of our common stock to fluctuate include:

- actual or anticipated results from and any delays in our clinical trials, including our expected and ongoing clinical trials of our INOpulse and BCM product candidates, as well as results of

regulatory input on our clinical trial programs and regulatory reviews relating to the approval of our product candidates;

- the results of our efforts to discover, develop, acquire or in-license additional product candidates or products;
- failure or discontinuation of any of our clinical development programs;
- the level of expenses related to any of our product candidates or clinical development programs;
- commencement or termination of any collaboration or licensing arrangement;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures and capital commitments;
- additions or departures of key scientific or management personnel;
- variations in our financial results or those of companies that are perceived to be similar to us;
- new products, product candidates or new uses for existing products introduced or announced by our competitors, and the timing of these introductions or announcements;
- results of clinical trials of product candidates of our competitors;
- general economic and market conditions and other factors that may be unrelated to our operating performance or the operating performance of our competitors, including changes in market valuations of similar companies;
- regulatory or legal developments in the United States and other countries;
- changes in the structure of healthcare payment systems;
- conditions or trends in the pharmaceutical, biotechnology and medical device industries;
- actual or anticipated changes in earnings estimates, development timelines or recommendations by securities analysts;
- announcement or expectation of additional financing efforts;
- sales of common stock by us or our stockholders in the future, as well as the overall trading volume of our common stock; and
- the other factors described in this "Risk Factors" section.

In addition, the stock market in general and the market for pharmaceutical, biotechnology and medical device companies in particular have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in companies' stock prices, securities class-action litigation has often been instituted against such companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management's attention and resources, which could materially and adversely affect our business and financial condition.

A significant portion of our total outstanding shares may be sold into the public market in the near future, which could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. After this offering, we will have outstanding shares of common stock based on the number of shares outstanding as of December 31, 2014, assuming

no exercise by the underwriters of their option to purchase additional shares. This includes the _____ shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates or existing stockholders. The remaining _____ shares are currently restricted as a result of securities laws or lock-up agreements but will become eligible to be sold at various times after the offering. Moreover, after this offering, holders of an aggregate of 5,060,607 shares of our common stock will have rights, subject to specified conditions, to require us to file registration statements covering their shares or, along with holders of an additional 1,819,357 shares of our common stock, to include their shares in registration statements that we may file for ourselves or other stockholders. We also intend to register all shares of common stock that we may issue under our equity compensation plans. Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates and the lock-up agreements described in the "Underwriting" section of this prospectus.

You will incur immediate and substantial dilution as a result of this offering.

If you purchase common stock in this offering, you will incur immediate and substantial dilution of \$7.63 per share, representing the difference between the assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, and our pro forma net tangible book value per share after giving effect to this offering. Moreover, we issued options in the past to acquire common stock at prices significantly below the assumed initial public offering price. As of December 31, 2014, there were 1,086,255 shares of common stock subject to outstanding options with a weighted average exercise price of \$10.00 per share. To the extent that these outstanding options are ultimately exercised, you will incur further dilution.

We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and may remain an emerging growth company for up to five years. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- providing only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of reduced reporting burdens in this prospectus. In particular, in this prospectus, we have provided only two years of audited financial statements and have not included all of the executive compensation related information that would be required if we were not an emerging growth company. We cannot predict whether investors will find our common stock less attractive if we rely on these

exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, the JOBS Act also provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives.

As a public company, and particularly after we are no longer an "emerging growth company," we will incur significant legal, accounting and other expenses that we did not incur as a private company. We expect that we will need to hire additional accounting, finance and other personnel in connection with our becoming, and our efforts to comply with the requirements of being, a public company, and our management and other personnel will need to devote a substantial amount of time towards maintaining compliance with these requirements. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the Securities and Exchange Commission and NASDAQ have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance. Overall, we estimate that our incremental costs resulting from operating as a public company may be between \$2.0 million and \$4.0 million per year, which costs are in addition to our expected incremental costs resulting from operating as a stand-alone company.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. We became a stand-alone company in February 2014 following the Spin-Out and, as such, have a very limited operating history. Accordingly, many of the internal controls over financial reporting have only recently been implemented and therefore have not been tested. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

We do not expect to pay any dividends for the foreseeable future. Investors in this offering may never obtain a return on their investment.

You should not rely on an investment in our common stock to provide dividend income. We do not anticipate that we will pay any dividends to holders of our common stock in the foreseeable future. Instead, we plan to retain any earnings to maintain and expand our existing operations. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment. As a result, investors seeking cash dividends should not purchase our common stock.

Our restated certificate of incorporation provides that the doctrine of "corporate opportunity" will not apply to any of our stockholders or directors, except in limited circumstances, which may adversely affect our business or prospects.

Our restated certificate of incorporation provides that the doctrine of "corporate opportunity" will not apply to any of our stockholders or directors, other than any stockholder or director that is an employee of ours. The doctrine of corporate opportunity generally provides that a corporate fiduciary may not develop an opportunity using corporate resources, acquire an interest adverse to that of the corporation or acquire property that is reasonably incident to the present or prospective business of the corporation or in which the corporation has a present or expectancy interest, unless that opportunity is first presented to the corporation and the corporation chooses not to pursue that opportunity. The doctrine of corporate opportunity is intended to preclude officers or directors from personally benefiting from opportunities that belong to the corporation. We have renounced any prospective corporate opportunity so that our stockholders and directors (other than those that are employees of ours) and their respective representatives have no duty to communicate or present corporate opportunities to us, including any opportunity that becomes known to Ikaria and its directors, and have the right to either hold any corporate opportunity for its (and its representatives') own account and benefit or to recommend, assign or otherwise transfer such corporate opportunity to persons other than us, including to Ikaria. As a result, our stockholders, directors and their respective affiliates will not be prohibited from investing in competing businesses or doing business with our customers. Therefore, we may be in competition with our stockholders, directors or their respective affiliates, and we may not have knowledge of, or be able to pursue, a transaction that could potentially be beneficial to us. Accordingly, we may lose a corporate opportunity or suffer competitive harm, which could negatively impact our business or prospects.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

We cannot specify with certainty the particular uses of the net proceeds we will receive from this offering. Our management will have broad discretion in the application of the net proceeds, including for any of the purposes described in "Use of Proceeds." Accordingly, you will have to rely upon the judgment of our management with respect to the use of the proceeds, with only limited information concerning management's specific intentions. Our management may spend a portion or all of the net proceeds from this offering in ways that our stockholders may not desire or that may not yield a favorable return. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

Provisions in our certificate of incorporation, our bylaws or Delaware law might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the trading price of our common stock.

Provisions of our certificate of incorporation, our bylaws or Delaware law may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares of our common

stock. These provisions may also prevent or frustrate attempts by our stockholders to change the composition of our board of directors or to replace or remove our management. These provisions include:

- limitations on the removal of directors;
- a classified board of directors so that not all members of our board are elected at one time;
- advance notice requirements for stockholder proposals and nominations;
- limitations on the ability of stockholders to call and bring business before special meetings and to take action by written consent in lieu of a meeting;
- limitations on the liability of, and the provision of indemnification to, our director and officers; and
- the ability of our board of directors to authorize the issuance of blank check preferred stock, which could be issued with voting, liquidation, dividend and other rights similar to our common stock.

In addition, we are subject to Section 203 of the Delaware General Corporation Law, which prohibits a publicly-held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person which together with its affiliates owns, or within the last three years has owned, 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner.

The existence of the foregoing provisions and anti-takeover measures could limit the price that investors might be willing to pay in the future for shares of our common stock. They could also deter potential acquirers of our company, thereby reducing the likelihood that you could receive a premium for your common stock in an acquisition.

Our certificate of incorporation will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our certificate of incorporation will provide that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine. This provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find this provision in our certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price or trading volume of our stock could decline.

The trading market for our common stock will rely in part on the research and reports that industry or financial analysts publish about us or our business. We do not currently have and may never obtain research coverage by industry or financial analysts. If no or few analysts commence coverage of us, the trading price of our stock would likely decrease. Even if we do obtain analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price or trading volume to decline.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS AND INDUSTRY DATA

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this prospectus, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "might," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus include, among other things, statements about:

- the timing of the ongoing and expected clinical trials of our INOpulse and BCM product candidates, including statements regarding the timing of completion of the trials and the respective periods during which the results of the trials will become available;
- the timing of and our ability to obtain marketing approval of our product candidates, and the ability of our INOpulse and BCM product candidates to meet existing or future regulatory standards;
- our ability to operate, and the implementation of our business strategy, as a stand-alone company;
- our ability to comply with government laws and regulations;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our estimates regarding the potential market opportunity for our product candidates;
- the timing of or our ability to enter into partnerships to market and commercialize our product candidates;
- the rate and degree of market acceptance of any product candidate for which we receive marketing approval;
- our intellectual property position;
- our expectations related to the use of proceeds from this offering;
- our estimates regarding expenses, future revenues, capital requirements and needs for additional funding and our ability to obtain additional funding;
- the success of competing treatments; and
- our competitive position.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly in the "Risk Factors" section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements contained in this prospectus are made as of the date of this prospectus, and we do not assume any obligation to update any forward-looking statements, except as required by applicable law.

This prospectus includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of 4,000,000 shares of our common stock in this offering will be approximately \$52.6 million, assuming an initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise in full their option to purchase additional shares, we estimate that the net proceeds from this offering will be approximately \$61.0 million.

A \$1.00 increase (decrease) in the assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by \$3.7 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions.

We currently estimate that we will use the net proceeds from this offering as follows:

- approximately \$45 million to fund our planned Phase 3 clinical development of INOpulse for PAH; and
- the remainder for working capital and other general corporate purposes.

This expected use of the net proceeds from this offering and our existing cash, cash equivalents and restricted cash represents our intentions based upon our current plans and business conditions. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development and commercialization efforts, the status of and results from clinical trials, as well as any collaborations that we may enter into with third parties for our product candidates, and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

As of September 30, 2014, we had cash and cash equivalents of \$30.6 million and restricted cash of \$13.1 million. Based on our planned use of the net proceeds from this offering described above, we estimate that such funds, together with our cash, cash equivalents and restricted cash, will be sufficient to enable us to complete our ongoing clinical trial for BCM, to fund the first trial in our planned Phase 3 clinical development of INOpulse for PAH and to fund our planned operating expenses and capital expenditure requirements at least into mid-2016. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. We do not expect that the net proceeds from this offering and our existing cash, cash equivalents and restricted cash will be sufficient to enable us to fund the completion of development and commercialization of any of our product candidates.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities.

DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. We do not intend to pay cash dividends in respect of our common stock in the foreseeable future.

CORPORATE CONVERSION

We are currently a Delaware limited liability company. Prior to the effectiveness of the registration statement of which this prospectus forms a part, we will complete transactions pursuant to which we will convert into a Delaware corporation and change our name to Bellerophon Therapeutics, Inc. In addition, entities affiliated with certain of our principal stockholders will be merged with and into us. In this prospectus, we refer to all of the transactions related to our conversion to a corporation and the mergers described above as the Corporate Conversion. To consummate the Corporate Conversion, we will file a certificate of conversion with the Secretary of State of the State of Delaware. In connection with the Corporate Conversion:

- holders of our outstanding voting units will receive one share of voting common stock for each voting unit held immediately prior to the Corporate Conversion;
- holders of our outstanding non-voting units will receive one share of non-voting common stock for each non-voting unit held immediately prior to the Corporate Conversion; and
- options to purchase our non-voting units will become options to purchase one non-voting share of our common stock for each unit underlying such options immediately prior to the Corporate Conversion, at the same aggregate exercise price in effect prior to the Corporate Conversion.

Assuming the Corporate Conversion became effective as of December 31, 2014:

- 7,524,196 outstanding voting units of Bellerophon Therapeutics LLC would have converted into an aggregate of 7,524,196 shares of our voting common stock;
- 381,130 outstanding non-voting units of Bellerophon Therapeutics LLC would have converted into an aggregate of 381,130 shares of our non-voting common stock; and
- outstanding options to purchase 1,086,255 non-voting units of Bellerophon Therapeutics LLC would have become options to purchase an aggregate of 1,086,255 shares of our non-voting common stock, with exercise prices ranging from \$0.26 to \$17.92.

For the convenience of the reader, the foregoing information gives effect to a one-for-12.5257 reverse unit split of our outstanding units that became effective on February 2, 2015.

In connection with the Corporate Conversion, Bellerophon Therapeutics, Inc. will continue to hold all assets of Bellerophon Therapeutics LLC and will assume all of its liabilities and obligations. Bellerophon Therapeutics, Inc. will be governed by a certificate of incorporation filed with the Delaware Secretary of State and bylaws. On the effective date of the Corporate Conversion, the members of the board of directors of Bellerophon Therapeutics LLC will become members of the board of directors of Bellerophon Therapeutics, Inc. and the officers of Bellerophon Therapeutics LLC will become the officers of Bellerophon Therapeutics, Inc.

For the convenience of the reader, except as context otherwise requires, all information included in this prospectus is presented giving effect to the Corporate Conversion.

CAPITALIZATION

The following table sets forth our cash and cash equivalents, restricted cash and capitalization as of September 30, 2014:

- on an actual basis;
- on a pro forma basis to give effect to the Corporate Conversion; and
- on a pro forma as adjusted basis to give further effect to (i) our issuance and sale of _____ shares of our common stock in this offering at an assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us and (ii) the conversion of all of our outstanding shares of non-voting common stock into shares of voting common stock.

You should read this table together with our financial statements and the related notes appearing at the end of this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus.

(in thousands, except share and per share amounts)	September 30, 2014		
	Actual (unaudited)	Pro Forma (unaudited)	Pro Forma As Adjusted (unaudited)
Cash and cash equivalents(1)	\$ 30,605	\$ 30,605	\$ 83,205
Restricted cash(2)	13,127	13,127	13,127
Members'/stockholders' equity:			
Members' equity(3)	76,550	—	—
Additional paid-in capital	—	76,471	129,031
Common stock, \$0.01 par value per share; no shares authorized, issued or outstanding, actual; 125,000,000 shares authorized, 7,905,326 shares issued and outstanding, pro forma; and 125,000,000 shares authorized, 11,905,326 shares issued and outstanding, pro forma as adjusted	—	79	119
Preferred stock, \$0.01 par value per share; no shares authorized, issued or outstanding, actual; 5,000,000 shares authorized, no shares issued or outstanding, pro forma and pro forma as adjusted	—	—	—
Accumulated deficit	(41,450)	(41,450)	(41,450)
Total members'/stockholders' equity	35,100	35,100	87,700
Total capitalization	\$ 35,100	\$ 35,100	\$ 87,700

- (1) Pro forma and pro forma as adjusted information does not reflect changes to our cash and cash equivalents after September 30, 2014, including the \$0.92 million we are entitled to pursuant to the services agreement with Ikaria, which became effective as of January 1, 2015.
- (2) Represents cash deposited in escrow to pay amounts owed under the transition services agreement with Ikaria.
- (3) Represents voting units (no par value per unit; 94,273,819 units authorized, and 7,524,196 units issued and outstanding, actual; and no units authorized, issued or outstanding, pro forma and pro forma as adjusted) and non-voting units (no par value per unit; 19,416,481 units authorized and 372,947 units issued and outstanding, actual; and no units authorized, issued or outstanding, pro forma and pro forma as adjusted).

A \$1.00 increase (decrease) in the assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, additional paid-in capital and total capitalization by \$3.7 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the public offering price per share of our common stock and the pro forma net tangible book value per share of our common stock after this offering.

Our historical net tangible book value as of September 30, 2014 was \$35.1 million, or \$4.44 per share of our common stock. Historical net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the number of shares of our common stock outstanding, after giving effect to the Corporate Conversion.

After giving effect to our issuance and sale of 4,000,000 shares of our common stock in this offering at an assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma net tangible book value as of September 30, 2014 would have been \$87.7 million, or \$7.37 per share, in each case giving effect to the Corporate Conversion. This represents an immediate increase in pro forma net tangible book value per share of \$2.93 to existing stockholders and immediate dilution of \$7.63 in pro forma net tangible book value per share to new investors purchasing common stock in this offering. Dilution per share to new investors is determined by subtracting pro forma net tangible book value per share after this offering from the initial public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share	\$ 15.00
Historical net tangible book value per share as of September 30, 2014	\$ 4.44
Pro forma net tangible book value per share as of September 30, 2014	4.44
Increase in net tangible book value per share attributable to new investors	2.93
Pro forma as adjusted net tangible book value per share after giving effect to this offering	7.37
Dilution per share to new investors purchasing shares in this offering	<u>\$ 7.63</u>

A \$1.00 increase (decrease) in the assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase (decrease) our pro forma net tangible book value by \$3.7 million, our pro forma net tangible book value per share after this offering by \$0.31, and the dilution per share to new investors by \$0.69, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions.

If the underwriters exercise their option to purchase additional shares or if any additional shares are issued in connection with outstanding options, you will experience further dilution.

The following table summarizes, on a pro forma basis as of September 30, 2014, the total number of shares purchased from us, the total consideration paid, or to be paid, and the average price per share paid, or to be paid, by existing stockholders and by new investors in this offering at an assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set

forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration (Amounts in millions)		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders	7,905,326	66.40%	\$ —	0%	\$ —
New investors	4,000,000	33.60	60.0	100	15.00
Total	11,905,326	100%	60.0	100%	

A \$1.00 increase (decrease) in the assumed initial public offering price of \$15.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase (decrease) the total consideration paid by new investors by \$4.0 million and would have no effect on the percentage of total consideration paid by new investors, which would remain 100%, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same.

If the underwriters exercise in full their option to purchase additional shares, the following will occur:

- the percentage of shares of our common stock held by existing stockholders will decrease to approximately 63% of the total number of shares of our common stock outstanding after this offering; and
- the number of shares of our common stock held by new investors will increase to 4,600,000, or approximately 37% of the total number of shares of our common stock outstanding after this offering.

Our principal stockholders have indicated an interest in purchasing an aggregate of up to approximately \$20 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these stockholders may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It also is possible that these stockholders could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or not to sell any shares to these stockholders. Accordingly, the foregoing discussion and tables do not reflect any potential purchases by these stockholders or their affiliated entities.

SELECTED FINANCIAL INFORMATION

The following selected financial information for the years ended December 31, 2013 and 2012 has been derived from our audited financial statements as of and for the years ended December 31, 2013 and 2012 included elsewhere in this prospectus. The following summary financial information as of September 30, 2014 and for the nine months ended September 30, 2014 and 2013 has been derived from our unaudited condensed consolidated financial statements included elsewhere in this prospectus. The selected financial information below should be read in conjunction with our historical and pro forma financial statements and the related notes included elsewhere in this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus.

Our financial statements for periods prior to the Spin-Out, which occurred on February 12, 2014, include allocations of costs from certain shared functions provided to us by Ikaria, including general corporate and shared services expenses. These allocations were made based on either specific identification or the proportionate percentage of employee time or headcount to the respective total Ikaria employee time or headcount, as applicable, and have been included in our financial statements for periods prior to February 12, 2014.

The financial statements included in this prospectus may not necessarily reflect our financial position, results of operations and cash flows as if we had operated as a stand-alone company during all of the periods presented. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period, and our interim period results are not necessarily indicative of results to be expected for a full fiscal year or any other interim period.

(in thousands, except per share data)	Nine Months Ended September 30		Year Ended December 31,	
	2014	2013	2013	2012
	(unaudited)			
Statement of Operations and Comprehensive Loss Information				
Operating expenses:				
Research and development	\$ 36,368	\$ 39,068	\$ 52,985	\$ 38,727
General and administrative	10,537	6,155	9,013	7,185
Other operating expense	—	—	—	315
Net loss and comprehensive loss	<u>\$ (46,905)</u>	<u>\$ (45,223)</u>	<u>\$ (61,998)</u>	<u>\$ (46,227)</u>
Net loss per unit:				
Basic and diluted(1)	\$ (5.94)			

(in thousands)	As of September 30, 2014 (unaudited)	As of December 31,	
		2013	2012
Balance Sheet Information			
Cash and cash equivalents	\$ 30,605	—	—
Restricted cash(2)	13,127	—	—
Working capital (deficit)	27,906	(12,440)	(10,892)
Total assets	48,634	3,636	3,349
Allocated portion of Ikaria special dividend bonus payable	—	4,273	2,865
Other non-current liabilities	—	1,108	389
Total long term liabilities	—	5,381	3,254
Members' equity / invested (deficit)	35,100	(15,737)	(11,116)

- (1) The weighted average units outstanding for basic and diluted net loss per unit for the nine months ended September 30, 2014 is 7,898,041. No net loss per unit information is presented for periods prior to the Spin-Out.
- (2) Represents cash deposited into escrow to pay amounts owed under the transition services agreement with Ikaria.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and the related notes appearing in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. You should read the "Risk Factors" section of this prospectus for a discussion of important factors that could cause our actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

Business

We are a clinical-stage therapeutics company focused on developing innovative products at the intersection of drugs and devices that address significant unmet medical needs in the treatment of cardiopulmonary and cardiac diseases. We have two programs in advanced clinical development. The first program, INOpulse, is based on our proprietary pulsatile nitric oxide delivery device. We are currently developing two product candidates under our INOpulse program: one for the treatment of pulmonary arterial hypertension, or PAH, for which we intend to commence Phase 3 clinical trials in the second half of 2015, and the other for the treatment of pulmonary hypertension associated with chronic obstructive pulmonary disease, or PH COPD, which is in Phase 2 development. Our second program is bioabsorbable cardiac matrix, or BCM, which is currently in a placebo-controlled clinical trial designed to support CE mark registration in the European Union. We completed enrollment of this trial in December 2014, with 303 patients having completed the treatment procedure, and we expect to report top line results in mid-2015. Assuming positive results from this trial, we intend to conduct a pivotal pre-market approval trial of BCM beginning in the first half of 2016, which will be designed to support registration in the United States. We are developing BCM for the prevention of cardiac remodeling, which often leads to congestive heart failure following an ST-segment elevated myocardial infarction, or STEMI.

We have devoted substantially all of our resources to our drug discovery and development efforts, including conducting clinical trials for our product candidates, protecting our intellectual property and the general and administrative support of these operations. We have devoted significant time and resources to developing and optimizing our drug delivery system, INOpulse, which operates through the administration of nitric oxide as brief, controlled pulses that are timed to occur at the beginning of a breath. In addition, we have incurred significant costs to scale up manufacturing for BCM from pre-clinical studies to clinical trials.

To date, we have generated no revenue from product sales. We expect that it will be several years before we commercialize a product candidate, if ever.

Separation and Spin-Out from Ikaria

Prior to February 2014, we were a wholly-owned subsidiary of Ikaria. As part of an internal reorganization of Ikaria in October 2013, Ikaria transferred to us exclusive worldwide rights, with no royalty obligations, to develop and commercialize pulsed nitric oxide in PAH, PH-COPD and pulmonary hypertension associated with idiopathic pulmonary fibrosis, or PH-IPF. Following the internal reorganization, in February 2014, Ikaria distributed all of our then outstanding units to its stockholders through the payment of a special dividend on a pro rata basis based on each stockholder's ownership of Ikaria capital stock, which we refer to as the Spin-Out, and as a result we became a stand-alone company.

For purposes of our financial statements, our inception date is August 26, 2009, which is the date that BCM was licensed to us by BioLineRx Ltd. and its subsidiary, which we refer to collectively as BioLine. Our operations since that date have included organization and staffing, business planning, in-licensing technology, developing product candidates in clinical programs, evaluating potential future product candidates, as well as undertaking pre-clinical studies and clinical trials of our product candidates.

We are in the process of developing and implementing plans to replace services currently provided to us by Ikaria under our transition services agreement, which we refer to as the TSA, and our services agreement, which we refer to as the 2015 Services Agreement. These services include, among others, accounting and financial management support, human resources support, drug and device safety services, biometrics support, information technology services and manufacturing and device servicing support. We expect the costs related to replacing the services currently provided by Ikaria under the TSA will be approximately the same as the \$772,000 per month that we are currently paying under the TSA, and we expect the costs related to replacing the services currently provided by Ikaria under the 2015 Services Agreement will be approximately the same as the amounts we are paying under the 2015 Services Agreement. However, although we believe our estimates are reasonable based on the information we have to date, certain significant components of our estimates are preliminary and subject to change.

Accounting for the Separation and Spin-Out

Our historical financial statements for periods prior to February 12, 2014, the date of the Spin-Out, included in this prospectus and discussed in this Management's Discussion and Analysis of Financial Condition and Results of Operations were derived from the audited historical financial statements and accounting records of Ikaria and include allocations for direct costs and indirect costs attributable to the research and development segment of Ikaria. In particular, for periods prior to February 12, 2014, our financial statements include expense allocations for (1) certain corporate functions historically provided by Ikaria, including finance, audit, legal, information technology and human resources services, (2) research and development expenses and (3) stock-based compensation. These allocations are based on either specific identification or allocation methods such as time and wage studies, headcount or other measures determined by us. Management believes that the statements of operations for periods prior to the Spin-Out include a reasonable allocation of costs and expenses incurred by Ikaria from which we benefited. See Note 1 to the audited financial statements and Note 2 to the unaudited condensed consolidated financial statements, in each case included elsewhere in this prospectus.

Our historical balance sheets as of December 31, 2013 and 2012 include assets and liabilities of Ikaria that were identified as specifically attributable to our INOpulse and BCM product candidates and those that were allocated from Ikaria to us based on an estimate of the benefit derived by us from the underlying asset or liability. Ikaria historically used a centralized approach to cash management and financing of its operations. Cash transfers to us have been accounted for as a capital contribution from Ikaria. See Note 2 to the unaudited condensed consolidated financial statements included elsewhere in this prospectus.

Due to this presentation, the financial information included in this prospectus does not reflect what our financial position, results of operations and cash flows will be in the future or what our financial position, results of operations and cash flows would have been in the past had we been a public, stand-alone company during the periods presented.

Financial Position and Outlook

Since inception, we have never been profitable and have incurred significant operating losses. Our net losses were \$46.9 million and \$45.2 million for the nine months ended September 30, 2014 and 2013, respectively, and \$62.0 million and \$46.2 million for the years ended December 31, 2013 and 2012, respectively. To date, our sole source of funding has been investments in us by our former parent company, Ikaria.

We expect to continue to incur significant expenses and operating losses for the foreseeable future as we continue the development and clinical trials of, and seek regulatory approval for, our product candidates. If we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses. We do not currently have the infrastructure for the sale, marketing, manufacture and distribution of any products. To develop a commercial infrastructure, we will have to invest financial and management resources, some of which would have to be deployed prior to having any certainty of marketing approval.

We have entered into license agreements with Ikaria and BioLine pursuant to which we obtained rights to our product candidates. In the future, we may enter into additional licensing agreements for new product candidates or strategic or co-promotion agreements with partners for the development and/or commercialization of product candidates in the United States or other countries.

Following consummation of this offering, we expect to incur additional costs associated with operating as a public company. Unless and until we generate sufficient revenue to be profitable, we will seek to fund our operations primarily through public or private equity or debt financings or other means, which may include strategic partnerships with third parties in the United States or other countries with respect to certain or all of our programs. Other additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed could have a material adverse effect on our business, results of operations, financial condition, cash flows and future prospects.

Financial Operations Overview

Revenue

To date, we have not generated any revenue from product sales and do not expect to generate any revenue from product sales for the next several years, if ever. In the future, we may generate revenue from a combination of product sales, license fees and milestone payments in connection with strategic partnerships, and royalties from the sale of products developed under licenses of our intellectual property. Our ability to generate revenue and become profitable depends primarily on our ability to successfully develop and commercialize or partner our INOpulse and/or BCM product candidates, each of which is currently in clinical development, as well as any product candidates we may advance in the future. We expect that any revenue we may generate will fluctuate from quarter to quarter as a result of the timing and amount of any payments we may receive under future partnerships, if any, and from sales of any products we successfully develop and commercialize. If we fail to complete the development of any of our product candidates currently in clinical development or any future product candidates in a timely manner, or to obtain regulatory approval for such product candidates, our ability to generate future revenue, and our business, results of operations, financial condition and cash flows and future prospects would be materially adversely affected.

Research and Development Expenses

Research and development expenses consist of costs incurred in connection with the discovery and development of our product candidates, including upfront and development milestone payments, related to in-licensed product candidates and technologies.

In order to fairly present our historical information, prior to the Spin-Out, certain departmental expenses from Ikaria have been allocated to us. The allocations were applied to us for the purpose of presenting our company as a stand-alone entity. Direct and indirect costs for periods prior to the Spin-Out related to the INOpulse and BCM clinical programs have been allocated to us. All allocations were based on actual costs incurred. For purposes of allocating non-project specific expenses, each Ikaria department head provided information as to the percentage of employee time incurred on our behalf.

Research and development expenses primarily consist of:

- employee-related expenses, including salary, benefits and allocated stock-based compensation expense;
- expenses incurred under agreements with contract research organizations, investigative sites that conduct our clinical trials and consultants that conduct a portion of our pre-clinical studies;
- expenses relating to vendors in connection with research and development activities;
- the cost of acquiring and manufacturing clinical trial materials;
- facilities, depreciation of fixed assets and other allocated expenses;
- lab supplies, reagents, active pharmaceutical ingredients and other direct and indirect costs in support of our pre-clinical and clinical activities;
- device development and drug manufacturing engineering;
- license fees related to in-licensed products and technology; and
- costs associated with non-clinical activities and regulatory approvals.

We expense research and development costs as incurred.

Conducting a significant amount of research and development is central to our business model. Product candidates in late stages of clinical development generally have higher development costs than those in earlier stages of clinical development primarily due to the increased size and duration of late-stage clinical trials. We plan to increase our research and development expenses for the foreseeable future as we seek to continue multiple clinical trials for our INOpulse and BCM programs, including to potentially advance INOpulse for PH-IPF, and seek to identify additional early-stage product candidates.

We track external research and development expenses and personnel expenses on a program-by-program basis. We use our employee and infrastructure resources, including regulatory affairs, quality, biometrics support and program management, across our two clinical development programs and have included these expenses in research and development infrastructure. Research and development laboratory and depreciation expenses are also not allocated to a specific program and are included in research and development infrastructure. Engineering activities related to INOpulse and the manufacture of cylinders related to INOpulse are included in INOpulse engineering. Below is a

summary of our research and development expenses for the years ended December 31, 2013 and 2012 and the period from our inception through September 30, 2014.

(in thousands)	Year Ended December 31,		Period from
	2013	2012	August 26, 2009 (inception) to September 30, 2014
Research and development expenses			
BCM	\$ 17,266	\$ 14,609	\$ 76,948
PAH	8,099	8,544	26,317
PH-COPD	8,420	1,767	13,735
Clinical programs	33,785	24,290	117,000
Research and development infrastructure	14,000	10,387	45,167
INOpulse engineering	5,200	3,420	22,088
Total research and development expenses	<u>\$ 52,985</u>	<u>\$ 38,727</u>	<u>\$ 184,255</u>

INOpulse for PAH

We completed a randomized, placebo-controlled, double-blind Phase 2 clinical trial of INOpulse for PAH in October 2014. The goal of the trial is to determine the safety, tolerability and efficacy of two different doses of INOpulse for PAH. We believe the results of this trial provide sufficient indication of clinical benefit and safety to continue development of INOpulse for PAH in pivotal Phase 3 clinical trials. We had an End of Phase 2 meeting with the FDA on January 8, 2015. Based on feedback from the FDA at this meeting, we are moving forward with Phase 3 development and plan to conduct two adequate and well-controlled confirmatory Phase 3 clinical trials, either sequentially or in parallel. We intend to finalize the clinical trial design following additional discussions with the FDA as well as with other regulatory authorities, including with the EMA.

INOpulse for PH-COPD

We completed a randomized, placebo-controlled, double-blind, dose-confirmation Phase 2 clinical trial of INOpulse for PH-COPD in July 2014. We have received results from this trial, and we are currently evaluating our trial design for a Phase 2b clinical trial and plan to finalize our protocol following discussions with regulatory authorities in the United States and the European Union.

BCM

We initiated a clinical trial of BCM, which we refer to as our PRESERVATION I trial, in December 2011 and enrolled the first patient in April 2012. This trial is a CE mark registration trial in the European Union and, if the results are positive, we intend to conduct a pivotal trial designed to support registration in the United States. We completed enrollment of this trial in December 2014, with 303 patients having completed the treatment procedure at almost 90 clinical sites in Europe, Australia, North America and Israel. We expect to report top line results in mid-2015.

Research and Development Infrastructure

We invest in regulatory, quality, pharmacovigilance and program management activities, which are expensed as incurred. These activities primarily support our INOpulse and BCM clinical development programs.

INOpulse Engineering and Manufacturing

We have invested a significant amount of funds in INOpulse, which is configured to be highly portable and compatible with available modes of long-term oxygen therapy via nasal cannula delivery. Our Phase 2 clinical trials of INOpulse for PAH and INOpulse for PH-COPD utilized the first generation INOpulse DS device. We are near completion of a second generation INOpulse Mark2 device, which we refer to as the Mark2, as well as a custom triple-lumen cannula, each of which we believe will significantly improve several characteristics of our INOpulse delivery system but will require prototype manufacturing and bench top testing, as well as verification and validation. We have also invested in design and engineering technology, through Ikaria, for the manufacture of our drug cartridges. We currently rely on Ikaria for manufacturing of our INOpulse devices and drug cartridges. Our current device manufacturing agreement with Ikaria terminates in February 2015. We plan to either negotiate a new agreement with Ikaria following termination of the device manufacturing agreement or enter into an arrangement with a third-party manufacturer. In addition to manufacturing our INOpulse delivery system, Ikaria is conducting substantial engineering and stability testing work with respect to the INOpulse devices on our behalf pursuant to the TSA.

It is difficult to determine with certainty the duration and completion costs of our current or any future pre-clinical programs and any of our current or future clinical trials for our INOpulse and BCM programs and any future product candidates we may advance, or if, when or to what extent we will generate revenue from the commercialization and sale of any of our product candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our product candidates. The duration, costs and timing of clinical trials and development of our product candidates will depend on a variety of factors, including the uncertainties of any future clinical trials and pre-clinical studies, uncertainties in clinical trial enrollment rate and significant and changing government regulation. In addition, the probability of success for each product candidate will depend on numerous factors, including competition, manufacturing capability and commercial viability. A change in the outcome of any of these variables with respect to the development of a product candidate could change significantly the costs and timing associated with the development of that product candidate. For example, if the FDA or other regulatory authority were to require us to conduct clinical trials beyond those that we currently anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time with respect to the development of that product candidate. We will determine which programs to pursue and how much to fund each program in response to the scientific and clinical success of each product candidate, as well as an assessment of each product candidate's commercial potential, including the likelihood of regulatory approval on a timely basis.

General and Administrative Expenses

General and administrative expenses consist principally of salaries and costs related to executive, finance, business development, marketing, legal and human resources functions, either through direct expenses or the TSA. Other general and administrative expenses include patent filing, patent prosecution, professional fees for legal, insurance, consulting, information technology and auditing and tax services not otherwise included in research and development expenses.

We anticipate that our general and administrative expenses will increase in the future for the following reasons, among others:

- we expect to incur increased general and administrative expenses to support ourselves as a stand-alone company, such as investing in a new general ledger system and new telecommunications services;

- we expect to incur, prior to the termination of the TSA and the 2015 Services Agreement, expenses in preparation for replacing services that are currently provided by Ikaria pursuant to the TSA and the 2015 Services Agreement, which will likely include dedicated accounting and human resources functions and certain information technology services;
- we expect to incur increased general and administrative expenses to support our research and development activities, which we expect will expand as we continue to pursue the development of our product candidates;
- we expect our general and administrative expenses will increase as a result of increased payroll, expanded infrastructure, higher consulting, legal, accounting and investor relations costs, director compensation and director and officer insurance premiums associated with being a public company; and
- we may begin to incur expenses related to sales and marketing of our product candidates in anticipation of commercial launch before we receive regulatory approval of a product candidate.

Results of Operations

Comparison of Nine Months Ended September 30, 2014 and 2013

The following table summarizes our results of operations for the nine months ended September 30, 2014 and 2013, together with the changes in these items in dollars and as a percentage.

(Dollar amounts in thousands)	Nine Months Ended September 30,		\$ Change	% Change
	2014	2013		
Research and development expenses:				
BCM	\$ 10,007	\$ 12,403	\$ (2,396)	(19)%
PAH	8,315	5,809	2,506	43
PH-COPD	3,066	6,546	(3,480)	(53)
Clinical programs	21,388	24,758	(3,370)	(14)
Research and development infrastructure	9,395	10,173	(778)	(8)
INOpulse engineering	5,585	4,137	1,448	35
Total research and development expenses	36,368	39,068	(2,700)	(7)
General and administrative	10,537	6,155	4,382	71
Total operating expenses	46,905	45,223	1,682	4
Net loss and comprehensive loss	\$ (46,905)	\$ (45,223)	\$ (1,682)	4%

Total Operating Expenses. Total operating expenses for the nine months ended September 30, 2014 were \$46.9 million compared to \$45.2 million for the nine months ended September 30, 2013, an increase of \$1.7 million, or 4%. This increase was primarily due to increases in general and administrative expenses, research and development expenses pertaining to INOpulse for PAH, and INOpulse engineering and manufacturing, partially offset by reductions in research and development expenses pertaining to our BCM clinical program and INOpulse for PH-COPD and research and development infrastructure expenses.

Research and Development Expenses. Total research and development expenses for the nine months ended September 30, 2014 were \$36.4 million compared to \$39.1 million for the nine months ended

September 30, 2013, a decrease of \$2.7 million, or 7%. Total research and development expenses consisted of the following:

- BCM research and development expenses for the nine months ended September 30, 2014 were \$10.0 million compared to \$12.4 million for the nine months ended September 30, 2013, a decrease of \$2.4 million, or 19%. The decrease primarily resulted from the effect of certain non-recurring manufacturing costs in the 2013 period, as well as a decrease in the pre-clinical activities that we conducted with respect to BCM during the nine months ended September 30, 2014. This decrease was partially offset by an increase in clinical trial costs as a result of an increase in patient enrollments in the nine months ended September 30, 2014 as compared to the prior year period. Inception to date enrollment in the PRESERVATION I trial increased to 275 patients as of September 30, 2014 from 99 patients as of September 30, 2013.
- PAH research and development expenses for the nine months ended September 30, 2014 were \$8.3 million compared to \$5.8 million for the nine months ended September 30, 2013, an increase of \$2.5 million, or 43%. The increase was primarily due to higher clinical trial expenses in the nine months ended September 30, 2014, driven by higher patient enrollment costs as compared to the prior year period.
- PH-COPD research and development expenses for the nine months ended September 30, 2014 were \$3.1 million compared to \$6.6 million for the nine months ended September 30, 2013, a decrease of \$3.5 million, or 53%. The decrease primarily resulted from lower dosing trial costs as a result of the completion of our Phase 2 clinical trial.
- Research and development infrastructure expenses for the nine months ended September 30, 2014 were \$9.4 million compared to \$10.2 million for the nine months ended September 30, 2013, a decrease of \$0.8 million, or 8%. The decrease was primarily the result of reductions in headcount in connection with managing staffing needs to support our INOpulse and BCM clinical programs.
- INOpulse engineering expenses for the nine months ended September 30, 2014 were \$5.6 million compared to \$4.1 million for the nine months ended September 30, 2013, an increase of \$1.5 million, or 35%. The increase was primarily due to increases in development costs as we transitioned from the INOpulse DS device to the Mark2.

General and Administrative Expenses. General and administrative expenses for the nine months ended September 30, 2014 were \$10.5 million compared to \$6.2 million for the nine months ended September 30, 2013, an increase of \$4.4 million, or 71%. The increase was primarily due to the incremental costs of operating as a stand-alone entity, including professional service fees, executive search costs, a period over period increase in retention bonuses and information technology expenditures.

Comparison of Years Ended December 31, 2013 and 2012

The following table summarizes our results of operations for the years ended December 31, 2013 and 2012, together with the changes in these items in dollars and as a percentage.

(Dollar amounts in thousands)	Year Ended December 31,		\$ Change	% Change
	2013	2012		
Research and development expenses:				
BCM	\$ 17,266	\$ 14,609	\$ 2,657	18%
PAH	8,099	8,544	(445)	(5)
PH-COPD	8,420	1,767	6,653	377
Clinical programs	33,785	24,920	8,865	36
Research and development infrastructure	14,000	10,387	3,613	35
INOpulse engineering	5,200	3,420	1,780	52
Total research and development expenses	52,985	38,727	14,258	37
General and administrative	9,013	7,185	1,828	25
Other operating expenses	—	315	(315)	(100)
Total operating expenses	61,998	46,227	15,771	34
Net loss and comprehensive loss	\$ (61,998)	\$ (46,227)	\$ (15,771)	34%

Total Operating Expenses. Total operating expenses for the year ended December 31, 2013 were \$62.0 million compared to \$46.2 million for the year ended December 31, 2012, an increase of \$15.8 million, or 34%. This increase was primarily due to an increase in research and development expenses pertaining to our BCM and INOpulse for PH-COPD clinical programs, research and development infrastructure, INOpulse engineering and manufacturing, and general and administrative expenses.

Research and Development Expenses. Total research and development expenses for the year ended December 31, 2013 were \$53.0 million compared to \$38.7 million for the year ended December 31, 2012, an increase of \$14.3 million, or 37%. Total research and development expenses consisted of the following:

- BCM research and development expenses for the year ended December 31, 2013 were \$17.3 million compared to \$14.6 million for the year ended December 31, 2012, an increase of \$2.7 million, or 18%. The increase was primarily due to increased enrollment in our PRESERVATION I trial to 120 patients in 2013 from 19 patients in 2012.
- PAH research and development expenses for the year ended December 31, 2013 were \$8.1 million compared to \$8.5 million for the year ended December 31, 2012, a decrease of \$0.4 million, or 5%. The decrease was primarily due to a smaller number of devices being manufactured for our INOpulse for PAH trial in 2013 as compared to 2012, partially offset by increased patient enrollment in the Phase 2 clinical trial of INOpulse for PAH to 47 patients in 2013 from ten patients in 2012.
- PH-COPD research and development expenses for the year ended December 31, 2013 were \$8.4 million compared to \$1.8 million for the year ended December 31, 2012, an increase of \$6.7 million, or 377%. The increase resulted from commencement of the first part of the Phase 2 clinical trial of INOpulse for PH-COPD in 2013.
- Research and development infrastructure expenses for the year ended December 31, 2013 were \$14.0 million compared to \$10.4 million for the year ended December 31, 2012, an increase of \$3.6 million, or 35%. The increase was primarily due to a higher level of professional and

consulting fees to support our INOpulse and BCM clinical programs, including those related to program risk analysis, regulatory, biometrics and drug and device safety in 2013.

- INOpulse engineering expenses for the year ended December 31, 2013 were \$5.2 million compared to \$3.4 million for the year ended December 31, 2012, an increase of \$1.8 million, or 52%. The increase was primarily due to increased engineering activity related to the INOpulse devices in 2013.

General and Administrative Expenses. General and administrative expenses for the year ended December 31, 2013 were \$9.0 million compared to \$7.2 million for the year ended December 31, 2012, an increase of \$1.8 million, or 25%. The increase was primarily due to allocated finance costs.

Other Operating Expenses. In 2012, we incurred a \$0.3 million restructuring charge recorded for the impairment of fixed assets related to the closure of the research and development facility in Seattle, Washington, as we moved research and development operations to our facilities in North Brunswick, New Jersey.

Liquidity and Capital Resources

Since our inception, we have incurred net losses and negative cash flows from our operations. We incurred net losses of \$46.9 million and \$45.2 million for the nine months ended September 30, 2014 and 2013, respectively, and \$62.0 million and \$46.2 million for the years ended December 31, 2013 and 2012, respectively. Our operating activities used \$58.2 million and \$44.7 million of cash during the nine months ended September 30, 2014 and 2013, respectively, and \$57.2 million and \$36.2 million of cash during the years ended December 31, 2013 and 2012, respectively. As of September 30, 2014, all of the cash used in our operating activities was contributed to us by our former parent company, Ikaria.

In addition, we had working capital of \$27.9 million and \$43.7 million of cash, cash equivalents and restricted cash as of September 30, 2014, which we expect to be sufficient to fund our operating needs at least through March 31, 2015. The inability to obtain additional financing through a public offering or other alternatives could adversely affect our short- and long-term ability to achieve our intended business objectives. This uncertainty raises substantial doubt as to our ability to continue as a going concern. The financial statements do not include any adjustment that might be necessary if we were unable to continue as a going concern.

Cash Flows

The following table summarizes our cash flows for the nine months ended September 30, 2014 and 2013 and the years ended December 31, 2013 and 2012:

(in thousands)	Nine Months Ended September 30,		Year Ended December 31,	
	2014	2013	2013	2012
	(unaudited)			
Net cash (used in) provided by:				
Operating activities	\$ (58,171)	(44,714)	\$ (57,231)	\$ (36,224)
Investing activities	—	(1,077)	(727)	(3,478)
Financing activities	88,776	45,791	57,958	39,702
Net increase in cash and cash equivalents	<u>\$ 30,605</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

Net Cash Used in Operating Activities

Cash used in operating activities for the nine months ended September 30, 2014 was \$58.2 million compared to \$44.7 million for the nine months ended September 30, 2013, an increase of \$13.5 million,

or 30%. The increase in cash used in operating activities was primarily due to the deposit of escrowed cash in connection with the TSA. Cash used in operating activities for the year ended December 31, 2013 was \$57.2 million compared to \$36.2 million for the year ended December 31, 2012, an increase of \$21.0 million, or 58%. The increase was driven by clinical development expenses attributable to activity in the INOpulse and BCM clinical programs.

Net Cash Used in Investing Activities

Cash used in investing activities for the nine months ended September 30, 2014 was \$0, compared to \$1.1 million of cash used in investing activities for the nine months ended September 30, 2013. Cash used in investing activities for the year ended December 31, 2013 was \$0.7 million compared to \$3.5 million for the year ended December 31, 2012, a decrease of \$2.8 million, or 79%. The decrease in cash used in investing activities for the year ended December 31, 2013 compared to the year ended December 31, 2012 was primarily the result of a reduction in capital expenditures due to the timing of device investments to support our clinical trials.

Net Cash Provided by Financing Activities

Cash provided by financing activities for the nine months ended September 30, 2014 was \$88.8 million compared to \$45.8 million for the nine months ended September 30, 2013, an increase of \$43.0 million, or 94%. The increase was primarily due to a cash contribution of \$80.0 million from Ikaria in connection with the Spin-Out. Cash provided by financing activities for the year ended December 31, 2013 was \$58.0 million compared to \$39.7 million for the year ended December 31, 2012, an increase of \$18.3 million, or 46%. The increase was primarily due to the increased net investment by Ikaria in 2013 that is discussed in Note 9 of the notes to our historical audited financial statements appearing elsewhere in this prospectus.

Plan of Operations and Future Funding Requirements

Our primary uses of capital are, and we expect will continue to be, compensation and related expenses, third-party clinical research and development services, contract manufacturing services, laboratory and related supplies, clinical costs, legal and other regulatory expenses and general overhead costs.

We expect that the anticipated net proceeds from this offering, together with our cash, cash equivalents and restricted cash, will be sufficient to enable us to complete our ongoing clinical trial for BCM, to fund the first trial in our planned Phase 3 clinical development of INOpulse for PAH and to fund our planned operating expenses and capital expenditure requirements at least the into mid-2016. We have based these estimates on assumptions that may prove to be wrong, and we may exhaust our capital resources sooner than we expect. In addition, the process of testing product candidates in clinical trials is costly, and the timing of progress in clinical trials is uncertain. Because our product candidates are in clinical development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts that will be necessary to successfully complete the development and commercialization of our product candidates or whether, or when, we may achieve profitability. Our future capital requirements will depend on many factors, including:

- the timing, progress and results of our ongoing and planned clinical trials of INOpulse for PAH, INOpulse for PH-COPD and BCM;
- our ability to manufacture sufficient supply of our product candidates and the costs thereof;
- discussions with regulatory agencies regarding the design and conduct of our clinical trials and the costs, timing and outcome of regulatory review of our product candidates;

- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution for any of our product candidates for which we receive marketing approval;
- the number and development requirements of any other product candidates we pursue;
- our ability to enter into collaborative agreements and achieve milestones under those agreements;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- our expenses as a stand-alone company; and
- the extent to which we acquire or in-license other products and technologies.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity and debt offerings, existing working capital and funding from potential future collaboration arrangements. To the extent that we raise additional capital through the future sale of equity or debt, the ownership interest of our existing stockholders will be diluted, and the terms of such securities may include liquidation or other preferences that adversely affect the rights of our existing stockholders. If we raise additional funds through strategic partnerships in the future, we may have to relinquish valuable rights to our technologies, future revenue streams or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Contractual Obligations and Commitments

The following is a summary of our long-term contractual cash obligations as of December 31, 2013 (in thousands):

Contractual Obligations	Payments Due by Period (\$)				
	Total	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years
Operating Lease Obligations(1)	28	28	—	—	—

- (1) Operating lease obligations reflect our obligation to make payments in connection with a lease for our operating facilities. The amounts in the table do not include (i) approximately \$110,000 of milestone rent payable upon the closing of this offering or (ii) our rent obligation of \$113,400 through March 15, 2015 under a lease that we signed subsequent to December 31, 2013.

Under the TSA, Ikaria provides certain administrative and other services to us for a period of 24 months following February 9, 2014, unless terminated earlier. Ikaria also provides us with the use of office space and research laboratory facilities at Ikaria's headquarters located in Hampton, New Jersey. In exchange for the services provided by Ikaria pursuant to the TSA, we pay to Ikaria a service fee in the amount of \$772,000 per month and reimburse Ikaria for any out-of-pocket expenses, any taxes imposed on Ikaria in connection with the provision of services under the TSA and Ikaria's costs and expenses incurred in connection with the performance of any extraordinary services. The monthly service fee is payable by us regardless of the frequency or quantity of services actually utilized by us, and our obligation to pay such monthly service fee for 24 months will survive any early termination of

the TSA. At the time of the Spin-Out, we deposited the sum of \$18.5 million, representing the aggregate of the \$772,000 monthly service fees payable by us under the TSA, in escrow to guarantee payment of the monthly service fees.

Under the 2015 Services Agreement, which expires in February 2016, Ikaria provides to us certain information technology and device servicing services. In exchange for the services provided by Ikaria pursuant to the 2015 Services Agreement, we will pay to Ikaria fees that total, in the aggregate, approximately \$215,000, subject to the termination of the 2015 Services Agreement.

Milestone and royalty payments associated with our license agreement with BioLine have not been included in the above table of contractual obligations as we cannot reasonably estimate if or when they will occur. Under the terms of the license agreement, if we achieve certain clinical and regulatory events specified in the license agreement, we will be obligated to pay milestone payments to BioLine, which could total, in the aggregate, up to \$115.5 million, and if we achieve certain commercialization targets specified in the license agreement, we will be obligated to pay additional milestone payments to BioLine, which could total, in the aggregate, up to \$150.0 million. In addition, we will be obligated to pay BioLine a specified percentage of any upfront consideration we receive for sublicensing BCM, as well as royalties at a percentage in the low double digits below 20% on net sales, if any, of any approved product containing BCM, subject to offsets for specified payments to third parties made in connection with such product. Further, we have agreed to reimburse BioLine for certain legal fees in the amount of \$250,000 following completion of this offering.

In the course of our normal business operations, we also enter into agreements with contract service providers and others to assist in the performance of our research and development and manufacturing activities. We can elect to discontinue the work under these contracts and purchase orders at any time with notice, and such contracts and purchase orders do not contain minimum purchase obligations.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable Securities and Exchange Commission rules.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to research and development expense, impairment of long-lived assets, stock-based compensation and income taxes. We base our estimates on historical experience, known trends and events and various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in Note 2 of the notes to our audited financial statements appearing elsewhere in this prospectus, we believe the following accounting policies to be most critical to the judgments and estimates used in the preparation of our financial statements.

Research and Development Expense

Research and development costs are expensed as incurred. These expenses include the costs of our proprietary research and development efforts, as well as costs incurred in connection with certain licensing arrangements. Upfront and milestone payments made to third parties in connection with research and development collaborations are expensed as incurred up to the point of regulatory approval. Payments made to third parties upon or subsequent to regulatory approval are capitalized and amortized over the remaining useful life of the related product. We also expense the cost of purchased technology and equipment in the period of purchase if we believe that the technology or equipment has not demonstrated technological feasibility and does not have an alternative future use. Nonrefundable advance payments for goods or services that will be used or rendered for future research and development activities are deferred and are recognized as research and development expense as the related goods are delivered or the related services are performed.

As part of the process of preparing our financial statements, we are required to estimate our accrued research expenses. This process involves reviewing open contracts and purchase orders, communicating with applicable personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of actual cost. The majority of our service providers invoice us monthly in arrears for services performed. We make estimates of our accrued research and development expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us at that time. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary. Examples of estimated accrued research and development expenses include:

- fees paid to contract research organizations in connection with clinical trials;
- fees paid to investigative sites in connection with clinical trials;
- fees paid to contract manufacturers in connection with the production of clinical trial materials; and
- fees paid to vendors in connection with the pre-clinical development activities.

We base our expenses related to research and development and clinical trials on our estimates of the services received and efforts expended pursuant to contracts with multiple third parties, including research institutions and contract research organizations that conduct and manage clinical trials on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. Payments under some of these contracts depend on factors such as the successful enrollment of patients and the completion of clinical trial milestones. In accruing the research and development service fees, we consider the terms of each agreement, the time period over which the services will be performed and the level of effort required to complete the service. If the actual timing of the performance of the services or the level of effort varies from our estimate, we adjust the accrual accordingly. Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in us reporting amounts that are too high or too low in any particular period. Based on our level of accrued research and development expenses as of September 30, 2014, if our estimates are too high or too low by 5%, this may result in an adjustment to our accrued research and development expenses in future periods of approximately \$0.3 million.

Impairment of Long-Lived Assets

Long-lived assets, such as property, plant and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be

recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted expected future cash flows. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be sold are no longer depreciated and are reclassified outside of property, plant and equipment at the lower of the carrying amount or fair value less costs to sell.

Stock-Based Compensation

We issue, and prior to the Spin-Out Ikaria issued, stock-based awards to employees and non-employees in the form of stock options and restricted stock units, or RSUs. The stock-based compensation expense recorded for the periods presented in our audited financial statements, included elsewhere in this prospectus, represents an allocation of Ikaria's stock-based compensation expense for employees and non-employees whose time was attributed to our business prior to the Spin-Out and, as a result, has been allocated to us for accounting purposes.

Ikaria applied, and we apply, the fair value recognition provisions of the Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, Compensation-Stock Compensation, or ASC 718. ASC 718 requires all stock-based payments to employees, including grants of employee stock options and RSUs and modifications to existing stock options and RSUs, to be recognized in the statements of operations based on their fair values. Ikaria recognized, and we recognize, the compensation expense of stock-based awards on a straight-line basis over the vesting period of the award for employees and non-employees or sooner if the award is immediately vested. Compensation expense related to stock-based awards is subject to a number of estimates, including the estimated volatility and underlying fair value of our common stock, as well as the estimated life of the awards.

Ikaria estimated, and we estimate, the fair value of stock-based awards to employees and non-employees using the Black-Scholes-Merton option-pricing model, which requires the input of highly subjective assumptions, including (a) the fair value of the underlying stock, (b) the expected volatility of the underlying stock, (c) the expected term of the award, (d) the risk-free interest rate and (e) expected dividends. Due to the lack of a public market for the trading of Ikaria common stock and our equity securities and a lack of company-specific historical and implied volatility data for either company, we and Ikaria based our respective estimates of expected volatility on the historical volatility of a group of similar companies that are publicly traded. For the volatility analyses, we and Ikaria selected companies with comparable characteristics to our respective companies, including enterprise value, risk profile and position within the industry, and with historical share price information sufficient to meet the expected life of the stock-based awards. We and Ikaria computed the historical volatility data using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of our respective stock-based awards. We will apply this process for purposes of our future stock-based compensation expense until a sufficient amount of historical information regarding the volatility of our own stock price becomes available. Because we and Ikaria had minimal historical information to develop expectations about future exercise patterns for our respective stock option grants, in each case, the expected term is based on an average of the expected term of options granted by our respective publicly traded industry peers. The risk-free interest rates for periods within the expected life of the awards are based on the U.S. Treasury yield curve in effect during the period in which the awards were granted.

In addition, Ikaria was, and we are, required to estimate forfeitures at the time of grant, and revise those estimates in subsequent periods if actual forfeitures differ from estimates. Ikaria used, and we use, historical data to estimate pre-vesting forfeitures and record stock-based compensation expense only for those awards that are expected to vest. To the extent that actual forfeitures differ from estimates, the difference is recorded as a cumulative adjustment in the period the estimates were

revised. Stock-based compensation expense recognized in the financial statements is based on awards that are ultimately expected to vest.

For the periods presented, the weighted average grant date fair value of stock options granted to employees and directors of Ikaria and the weighted average assumptions used by Ikaria to estimate the grant date fair value of the options using the Black-Scholes-Merton option pricing model were:

	2013	2012
Weighted average grant date fair value	\$ 1.95	\$ 2.40
Valuation assumptions:		
Risk-free interest rate	0.90%	0.83%
Expected volatility	46.5%	47.6%
Expected term (in years)	5.00	5.00
Expected dividend yield	—	—

There were no Ikaria options issued during the period from January 1, 2014 through February 11, 2014.

Ikaria has historically granted its stock options at exercise prices not less than the fair value of its common stock. Ikaria was a private company with no active public market for its common stock. Therefore, its board of directors periodically determined for financial reporting purposes the estimated fair value of its common stock using valuations performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately Held Company Equity Securities Issued as Compensation*, also known as the Practice Aid.

The compensation expense for the restricted stock units is based on the grant date fair value of the restricted stock unit, which was based on the fair value of the underlying stock.

Prior to the Spin-Out, Ikaria adjusted its outstanding stock options to reflect the Spin-Out. In connection with such adjustment, we issued to certain employees and directors of ours or of Ikaria, as well as certain accredited investors, options to purchase an aggregate of 618,212 of our non-voting membership units, at a weighted average exercise price of \$7.24 per unit, which we refer to as the Bellerophon Options. The exercise price of each Bellerophon Option was determined by allocating the exercise price of each outstanding Ikaria stock option held by such individuals to Ikaria and us using a ratio of 85% and 15%, respectively, which reflected the relative value of each entity at the time of the Spin-Out. Each Bellerophon Option has the same expiration date as the corresponding Ikaria stock option. Prior to and in connection with the Spin-Out, we issued to certain employees and directors of ours or of Ikaria and certain accredited investors restricted stock units in respect of an aggregate of 372,947 of our non-voting membership units, which we refer to as the Bellerophon RSUs. In connection with the Spin-Out, the vesting of each Bellerophon Option and each Bellerophon RSU was fully accelerated.

Our stock-based compensation expense for periods prior to the Spin-Out represents our allocable portion of Ikaria's stock-based compensation expense for the applicable periods based on the allocation percentages of our cost centers, which were determined based on specific identification or the proportionate percentage of employee time or headcount to the respective total Ikaria employee time or headcount. Our allocable portion of Ikaria's stock-based compensation expense for the years ended December 31, 2013 and 2012, was approximately \$1.7 million and \$1.5 million, respectively. Our allocable portion of Ikaria's stock-based compensation expense for the nine months ended September 30, 2014 and 2013 was approximately \$0.3 million and \$1.5 million, respectively. Because these amounts relate to Ikaria stock-based awards, the amounts presented are not necessarily indicative of our future performance and do not necessarily reflect the stock-based compensation or compensation expense that we would have experienced as a stand-alone company for these periods.

In October 2011, Ikaria approved a special dividend plan, which provided for dividend equivalent rights for options, restricted stock units and other equity awards granted under its equity award plans. Pursuant to the special dividend plan, in the event that Ikaria's board of directors declared a dividend, each employee of Ikaria who held equity awards was eligible to receive a cash payment equal to the amount of the dividend per share, multiplied by the number of equity awards outstanding. The payment was payable as of the declaration date for vested options. For unvested options and unvested restricted stock units, payment was due upon vesting. As of December 31, 2013, the allocated portion of the special dividend bonus payable was \$6.1 million, of which \$1.8 million was reflected in other current liabilities and \$4.3 million was reflected in non-current liabilities. As of December 31, 2012, the allocated portion of the special dividend bonus payable was \$3.6 million, of which \$0.7 million was reflected in other current liabilities and \$2.9 million was reflected in non-current liabilities. The full amount of our allocated portion of the special dividend bonus payable was fully paid on our behalf by Ikaria prior to the Spin-Out.

On June 20, 2014, we granted options to purchase 514,266 of our non-voting units with an exercise price of \$13.28 per non-voting unit. As we are a private company with no active public market for our equity securities, the estimated fair value of one of our non-voting units as of June 20, 2014 was determined by our board of directors to be \$13.28. In making this determination, our board of directors used a contemporaneous valuation based on the income approach, performed in accordance with the guidance enumerated in the Practice Aid. For the income approach, we used the discounted cash flow method to estimate the present value of the future monetary benefits expected to flow to the owners of the business. The contemporaneous valuation also considered factors enumerated in Revenue Ruling 59-60, which serves as a general guideline for the valuation of closely held securities. In addition, we considered all objective and subjective factors that we believe to be relevant to such valuation, including our best estimate of our business condition, prospects and operating performance at the valuation date. Within the contemporaneous valuation performed, a range of factors and assumptions were used. The significant factors, many of them complex and highly subjective, included:

- estimates of our future cash flows and the appropriate discount rate;
- the nature and history of our business enterprise;
- the assessment of key value drivers for our business enterprise;
- the economic outlook in general and the condition and outlook of our industry in particular;
- the financial condition of our business and the book value of our equity interests;
- the likelihood of our achieving a liquidity event; and
- prior sales of equity interests of companies engaged in the same or similar lines of business that have their stocks actively traded in a free and open market.

Once a public trading market for our common stock has been established in connection with the closing of this offering, it will no longer be necessary for our board of directors to estimate the fair value of our common stock in connection with our accounting for granted stock options and/or restricted stock.

Income Taxes

During the periods presented prior to the Spin-Out, we did not file separate tax returns, as we were included in the tax groupings of other Ikaria entities within the respective entity's tax jurisdiction. As such, the income tax provision included in our financial statements for such periods has been calculated using the separate return method, as if we filed a separate tax return in each of our respective tax jurisdictions.

For financial reporting purposes, we have historically recorded no tax expense or benefit due to our operating loss position. A valuation allowance was established on net deferred tax assets as of periods prior to the Spin-Out because management believed that it was more likely than not that our net deferred tax assets will not be realized.

Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. When we became a stand-alone company at the date of the Spin-Out, deferred taxes are no longer recorded. We have elected to be treated as a partnership for tax purposes. Although we are a limited liability company, one of our subsidiaries is a C-corporation and is subject to state and federal income taxes.

We recognize the benefit of an uncertain tax position that we have taken or expect to take on income tax returns prepared under a separate return method if such tax position is more likely than not to be sustained on examination by the taxing authorities, based on the technical merits of the position. These tax benefits are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution. Unrecognized tax benefits related to net operating loss carryforwards or tax credit carryforwards are presented as a reduction to the related gross deferred tax asset. Unrecognized tax benefits for which a net operating loss carryforward or tax credit carryforward is not available are presented as a liability. A liability for unrecognized tax benefits is classified as non-current unless the liability is expected to be settled in cash within 12 months of the reporting date.

Certain deferred tax assets that arose as a result of Ikaria's past activities and resultant operating losses, such as federal and state net operating loss carryforwards, research and development credit carryforwards and acquired in-process research and development, do not constitute our assets and continued to reside with Ikaria subsequent to the date of the Spin-Out.

Recently Adopted Accounting Standards

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, or ASU 2014-09, Revenue from Contracts with Customers (Topic 606). ASU 2014-09 supersedes the revenue recognition requirements in Accounting Standards Update No. 2009-13, Revenue Recognition (Topic 605) and requires entities to recognize revenue in a way that depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period, and is to be applied either retrospectively to each prior reporting period presented or retrospectively with the cumulative effect recognized at the date of initial application. Early application is not permitted. Although the Company does not generate revenues currently, management is in the process of evaluating the potential impact from the adoption of this guidance.

In June 2014, the FASB issued Accounting Standards Update No. 2014-10, or ASU 2014-10, Development Stage Entities (Topic 915): Elimination of Certain Financial Reporting Requirements, Including an Amendment to Variable Interest Entities Guidance in Topic 810, Consolidation. ASU 2014-10 eliminates the distinction of a development stage entity as well as certain related disclosure requirements, including the elimination of inception-to-date information on the statements of operations, members' equity and cash flows. For public business entities, the amendments in ASU 2014-10 are effective prospectively for annual reporting periods beginning after December 15, 2014, and interim periods within those annual periods, and for other entities, the amendments are effective for annual reporting periods beginning after December 15, 2014, and interim reporting periods beginning

after December 15, 2015. Early application is permitted. We have adopted ASU 2014-10 for the reporting period ended September 30, 2014.

In June 2014, the FASB issued Accounting Standards Update No. 2014-12 "Compensation—Stock Compensation (Topic 718): Accounting for Share-Based Payments When the Terms of an Award Provide That a Performance Target Could Be Achieved after the Requisite Service Period," or ASU 2014-12. ASU 2014-12 clarifies the proper method of accounting for share-based payments when the terms of an award provide that a performance target could be achieved after the requisite service period. ASU 2014-12 requires that a performance target that affects vesting and that could be achieved after the requisite service period be treated as a performance condition. The performance target should not be reflected in estimating the grant-date fair value of the award. Compensation cost should be recognized in the period in which it becomes probable that the performance target will be achieved and should represent the compensation cost attributable to the period(s) for which the requisite service has already been rendered. The amendments in ASU 2014-12 are effective for annual periods and interim periods within those annual periods beginning after December 15, 2015. Earlier adoption is permitted. We will adopt this guidance if and when we issue share-based awards with performance targets.

In August 2014, the FASB issued Accounting Standards Update No. 2014-15—"Presentation of Financial Statements—Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern," or ASU No. 2014-15. ASU No. 2014-15 should reduce diversity in the timing and content of footnote disclosures. ASU No. 2014-15 requires management to assess an entity's ability to continue as a going concern by incorporating and expanding upon certain principles that are currently in U.S. auditing standards. Specifically, it (1) provides a definition of the term substantial doubt, (2) requires an evaluation every reporting period including interim periods, (3) provides principles for considering the mitigating effect of management's plans, (4) requires certain disclosures when substantial doubt is alleviated as a result of consideration of management's plans, (5) requires an express statement and other disclosures when substantial doubt is not alleviated, and (6) requires an assessment for a period of one year after the date that the financial statements are issued (or available to be issued). The amendments in ASU No. 2014-15 are effective for the annual period ending after December 15, 2016, and for annual periods and interim periods thereafter. Early application is permitted. We are currently evaluating the impact the adoption of ASU No. 2014-15 will have on our financial statements.

Quantitative and Qualitative Disclosure About Market Risk

We are exposed to market risk related to changes in interest rates. As of September 30, 2014, we had cash, cash equivalents and restricted cash of approximately \$43.7 million, consisting primarily of demand deposits with U.S. banking institutions. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments are in cash and cash equivalents. Due to the short-term duration of our deposits and the low risk profile of our investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of our deposits.

JOBS Act

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;

- reduced disclosure about our executive compensation arrangements;
- exemption from the non-binding advisory votes on executive compensation, including golden parachute arrangements; and
- exemption from the auditor attestation requirement in the assessment of our internal controls over financial reporting.

Generally, we may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company if we have more than \$1.0 billion in annual revenue, we have more than \$700.0 million in market value of our stock held by non-affiliates or we issue more than \$1.0 billion of non-convertible debt over a three-year period. We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of certain reduced reporting burdens in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

BUSINESS

Overview

We are a clinical-stage therapeutics company focused on developing innovative products at the intersection of drugs and devices that address significant unmet medical needs in the treatment of cardiopulmonary and cardiac diseases. We have two programs in advanced clinical development. The first program, INOpulse, is based on our proprietary pulsatile nitric oxide delivery device. We are currently developing two product candidates under our INOpulse program: one for the treatment of pulmonary arterial hypertension, or PAH, for which we intend to commence Phase 3 clinical trials in the second half of 2015, and the other for the treatment of pulmonary hypertension associated with chronic obstructive pulmonary disease, or PH-COPD, which is in Phase 2 development. Our second program is bioabsorbable cardiac matrix, or BCM, which is currently in a placebo-controlled clinical trial designed to support CE mark registration in the European Union. We completed enrollment of this trial in December 2014, with 303 patients having completed the treatment procedure, and we expect to report top line results in mid-2015. Assuming positive results, we intend to conduct a pivotal pre-market approval trial of BCM beginning in the first half of 2016, which will be designed to support registration in the United States. We are developing BCM for the prevention of cardiac remodeling, which often leads to congestive heart failure following an ST-segment elevated myocardial infarction, or STEMI.

Our Product Candidates

The following table summarizes key information about our development programs and product candidates. We have worldwide commercialization rights to all of our product candidates.

PROGRAM	INDICATION		PHASE 1	PHASE 2	PHASE 3	UPCOMING MILESTONE
INOpulse	PAH					• Phase 3 clinical trial expected to start in second half of 2015
	PH-COPD					• Phase 2b clinical trial expected to start in second half of 2015
PROGRAM	INDICATION	REGION	PILOT	FEASIBILITY	PIVOTAL	UPCOMING MILESTONE
BCM*	Prevention of Congestive Heart Failure	EU				• Trial results expected mid-2015
		US				

* We are currently conducting a single clinical trial for BCM that, assuming positive results, we plan to use as a CE mark registration trial in the European Union and following which we would conduct a second, larger clinical trial to support registration in the United States.

From the inception of our business through September 30, 2014, \$184.3 million was invested in our development programs. To date, our sole source of funding has been investments in us by our former parent company, Ikaria.

INOpulse

Our INOpulse program is an extension of the technology used in hospitals to deliver continuous-flow inhaled nitric oxide. Use of inhaled nitric oxide is approved by the U.S. Food and Drug Administration, or the FDA, and certain other regulatory authorities to treat persistent pulmonary hypertension of the newborn. Ikaria, Inc., or Ikaria, has marketed continuous-flow inhaled nitric oxide as INOmax for hospital use in this indication since approval in 1999. In October 2013,

Ikaria transferred to us exclusive worldwide rights to develop and commercialize pulsed nitric oxide in PAH, PH-COPD and pulmonary hypertension associated with idiopathic pulmonary fibrosis, or PH-IPF, with no royalty obligations. Our INOpulse program is built on scientific and technical expertise developed for the therapeutic delivery of inhaled nitric oxide. In 2010, Ikaria filed an investigational new drug application, or IND, for INOpulse for the treatment of patients with PAH, which is a form of pulmonary hypertension that is closely related to persistent pulmonary hypertension of the newborn. In 2012, Ikaria filed a second IND for INOpulse for the treatment of patients with PH-COPD. These INDs were included in the assets that were transferred to us by Ikaria.

Nitric oxide is naturally produced and released by the lining of the blood vessel and results in vascular smooth muscle relaxation, an important factor in regulating blood pressure. As the muscles of the blood vessels relax, this allows the heart to increase blood flow to tissues and organs of the body, including the lung. When administered through inhalation, nitric oxide acts to selectively reduce pulmonary arterial pressure in the lung with minimal effects on blood pressure outside of the lungs, an important safety consideration.

Inhaled nitric oxide is widely used in the hospital setting for the treatment of a variety of conditions and, as reported by Ikaria, over 450,000 patients have been treated with inhaled nitric oxide worldwide since its first such use. However, chronic outpatient use of this therapy has previously been limited by a lack of a safe and compact delivery system for outpatient use. We have designed our INOpulse device, which is the means by which inhaled nitric oxide is delivered to the patient, to be portable, which enables use by ambulatory patients on a daily basis inside or outside their homes. Our INOpulse device has a proprietary mechanism that delivers brief, targeted pulses of nitric oxide timed to occur at the beginning of a breath for delivery to the well-ventilated alveoli of the lungs, which minimizes the amount of drug required for treatment. We estimate this, and the higher concentration of nitric oxide we use, reduces the volume of drug delivered to approximately 5% of the volume required for equivalent alveolar absorption using standard continuous flow delivery systems, and also reduces the amount of nitric oxide, as well as its by-product nitrogen dioxide, that is exhaled and released into the patient's environment. INOpulse is designed to automatically adjust nitric oxide delivery based on a patient's breathing pattern to deliver a constant and appropriate dose of the inhaled nitric oxide over time, independent of the patient's activity level, thus ensuring more consistent dosing of the nitric oxide to the alveoli of the lungs.

In our recently completed INOpulse clinical trials, we used the first generation INOpulse device, which we refer to as the INOpulse DS device. In future clinical trials, we intend to use our second generation device, which we refer to as the Mark2. The Mark2 has approximately the same dimensions as a paperback book and weighs approximately 2.5 pounds. The Mark2 has a simple and intuitive user interface and a battery life of approximately 24 hours when recharged, which takes approximately four hours and can be done while the patient sleeps. Based on the doses we have evaluated in our clinical trials, we expect that the cartridge will need to be replaced once a day. In addition, we have developed a triple-lumen nasal cannula, which forms part of the Mark2 and enables more accurate dosing of nitric oxide and minimizes infiltration of oxygen, which can react with nitric oxide to form nitrogen dioxide. Our triple-lumen nasal cannula consists of a thin, plastic tube that is divided into three channels from end-to-end, including at the prongs that are placed in the patient's nostrils, with one channel delivering inhaled nitric oxide, a second for breath detection and a third available for oxygen delivery. INOpulse is designed to be compatible with many long-term oxygen therapy systems. In the usability research we conducted, all eight patients with experience with the INOpulse DS device responded positively to the Mark2, and several of these patients indicated that the ability to take the Mark2 outside the home would likely reduce concerns with maintaining compliance.

Our technology is based on patents we have exclusively licensed from Ikaria for the treatment of PAH, PH-COPD and PH-IPF. These include patents with respect to the pulsed delivery of nitric oxide to ensure a consistent dose over time, which expire as late as 2027 in the United States and as late as

2026 in certain other countries, as well as with respect to the special triple-lumen cannula that allows for safer and more accurate dosing of pulsed nitric oxide, which expires in 2033. We have also licensed several other patent applications from Ikaria for certain of the innovations included in the Mark2 and certain of the resulting patents, if issued, would expire as late as 2033.

INOpulse for PAH

We are developing INOpulse for the treatment of PAH to address a significant and unmet medical need in an orphan disease, which is a disease that affects fewer than 200,000 individuals in the United States. This program represents a potential first-in-class therapy for this indication. In October 2014, we completed a randomized, placebo-controlled, double-blind Phase 2 clinical trial of INOpulse for PAH. The data from this trial showed trends toward lower pulmonary vascular resistance in both active arms compared to placebo and a slight trend toward increased six-minute walk distance in the higher dose group. While neither result reached the threshold for statistical significance, additional exploratory analyses of patients who were compliant with therapy, assessed as being on therapy for greater than 12 hours per day, as well as a similar analysis of patients on long-term oxygen therapy, or LTOT, showed clinically meaningful and statistically significant improvements in both the primary endpoint of pulmonary vascular resistance and the key secondary endpoint of six-minute walk distance, relative to placebo, for patients on the higher dose. These two sub groups each comprised more than 50% of the total patients enrolled in the trial. Statistical significance for clinical trials means that, should the trial have a positive outcome, the results have a low probability of having occurred because of chance rather than from the efficacy of the product.

We believe the results of this trial provide sufficient indication of clinical benefit and safety to continue development of INOpulse for PAH in pivotal Phase 3 clinical trials. We had an End of Phase 2 meeting with the FDA on January 8, 2015. Based on feedback from the FDA at this meeting, we are moving forward with Phase 3 development and plan to conduct two adequate and well-controlled confirmatory Phase 3 clinical trials, either sequentially or in parallel. We intend to finalize the clinical trial design following additional discussions with the FDA as well as with other regulatory authorities, including with the EMA.

The FDA has granted orphan drug designation to our nitric oxide program for the treatment of PAH. If a product with an orphan drug designation is the first to receive FDA approval, the FDA will not approve another product for the same indication that uses the same active ingredient for seven years, unless the other product is shown to be clinically superior.

PAH is characterized by abnormal constriction of the arteries in the lung that increases the blood pressure in the lungs which, in turn, results in abnormal strain on the heart's right ventricle, eventually leading to heart failure. While prevalence data varies widely, we estimate there are a total of at least 35,000 patients currently diagnosed with and treated for PAH in the United States and European Union. Moreover, because PAH is rare and causes varied symptoms, we believe there is significant under-diagnosis of the condition at its early stages. There are several approved therapies for PAH, and we estimate, based on public product sales data, that 2012 combined global sales for these therapies were over \$4.0 billion. Most PAH patients are treated with multiple medications and many are on supportive therapy. We believe that approximately 20,000 patients have severe to very severe PAH and are treated with multiple therapies, including LTOT. Despite the availability of multiple therapies for this condition, PAH continues to be a life-threatening, progressive disorder. A French registry initiated in 2002 and a U.S. registry initiated in 2006 estimate that the median survival of patients with PAH is three and five years from initial diagnosis, respectively.

INOpulse for PH-COPD

We are also developing INOpulse for the treatment of PH-COPD. The data from an initial three-month, open-label chronic-use Phase 2 trial conducted by a third party, which we in-licensed, showed

that pulsed inhaled nitric oxide significantly reduced pulmonary arterial pressures in PH-COPD patients on LTOT and did so without causing hypoxemia, or an abnormally low level of oxygen in the blood, which is a significant concern for these patients. In June 2012, Ikaria submitted the data from this trial to the FDA as part of the IND package for INOpulse for PH-COPD. Based on discussions with the FDA, we believe this trial is an adequate Phase 2 trial. The FDA asked us to confirm the dose range and the safety related to hypoxemia in PH-COPD patients using the INOpulse device, prior to proceeding to large scale trials. Following this guidance, we conducted a Phase 2 acute dose ranging randomized placebo-controlled trial in 159 patients with the INOpulse DS device, with doses ranging from 3 mcg to 75 mcg. This trial, which we completed in July 2014, identified a dose range that showed similar reduction in pulmonary arterial pressure versus baseline when compared to the initial acute effects of pulsed inhaled nitric oxide in the original chronic-use trial. In addition, in our confirmatory trial, none of the INOpulse doses tested had an adverse effect on hypoxemia relative to placebo. While the reduction in pulmonary arterial pressure did not reach statistical significance versus placebo in this acute setting, which was the primary endpoint of the trial, we believe that the results have confirmed a dose range for this therapy that delivers a significant reduction in pulmonary arterial pressure versus baseline and does not cause hypoxemia in patients with PH-COPD. We are currently evaluating our trial design for chronic use in this population in a three-month Phase 2b trial and plan to finalize the protocol following discussions with regulatory authorities in the United States and European Union.

COPD is a disease characterized by progressive and persistent airflow limitations. Patients with more severe COPD frequently have hypoxemia and may be treated with LTOT. Despite treatment with oxygen, hypoxemia can progress and contribute to pulmonary hypertension. In 2010, Datamonitor estimated that over 1.4 million COPD patients in the United States were being treated with LTOT. Based on academic studies, we estimate that 50% of COPD patients on LTOT have pulmonary hypertension. PH-COPD patients have a lower median life expectancy and a higher rate of hospitalization than COPD patients with similar respiratory disease but without pulmonary hypertension. Currently, there are no approved therapies for treating PH-COPD, and the only generally accepted treatments are LTOT, pulmonary rehabilitation and lung transplant.

BCM

Our second program, BCM, is a medical device intended to prevent congestive heart failure following an ST-segment elevated myocardial infarction, or STEMI, which is a type of severe heart attack. Patients who suffer a STEMI are at an increased risk for congestive heart failure due to potential cardiac remodeling, which is a structural change in the size and shape of the heart that affects its ability to function normally.

BCM is delivered during a minimally invasive, commonly performed cardiac procedure called a percutaneous coronary intervention procedure. BCM is a formulated sterile solution of sodium alginate and calcium gluconate designed to be administered as a liquid through the coronary artery. When administered following a STEMI, BCM flows into damaged heart muscle where, in the presence of abnormally high extracellular calcium released by the damaged cells, it forms a protective hydrogel meshwork within the wall of the heart's left ventricle. Based on pre-clinical animal studies, we believe that BCM has the potential to act as a flexible scaffold to provide physical support to the ventricle wall in the early stages of recovery following a STEMI and prevent further structural damage while the heart muscle heals. In addition, in our pre-clinical animal studies, as calcium levels in the damaged area returned to normal, BCM dissolved and was excreted through normal kidney function.

In a 27-patient pilot clinical trial conducted in 2009, BCM was safely administered within seven days following a STEMI. Patients showed no deterioration from baseline of important measures of left ventricular function at one, three and six month measurements. Follow-up safety data for these patients, which was obtained four years after the completion of the pilot clinical trial, showed one death from T-cell lymphoma—likely a preexisting condition—and one hospitalization from congestive

heart failure. One patient was lost to follow-up in year four, but this patient had no device related adverse events through the three-year evaluation. These results were below the incidence of adverse events of approximately 25% to 30% we expected for patients following an acute myocardial infarction, or AMI, commonly known as a heart attack. This expectation was based on our review of publicly reported data from two long-term third-party studies of AMI patients.

We initiated a clinical trial of BCM in December 2011 and enrolled the first patient in April 2012. We completed enrollment of this trial in December 2014, with 303 patients having completed the treatment procedure at almost 90 clinical sites in Europe, Australia, North America and Israel. We expect to report top line results in mid-2015, following a six-month follow-up period for all patients. This trial is a CE mark registration trial in the European Union. If the results of this trial are positive, we expect it would form the basis for our application for CE marking in the European Union and we would expect to conduct a second, larger clinical trial to support approval in the United States through the premarket approval, or PMA, pathway.

In the United States, we are developing BCM under an investigational device exemption, or IDE. We sponsored an IDE application for our ongoing feasibility clinical trial of BCM to prevent ventricular remodeling and heart failure in patients who are at high risk for ventricular remodeling after an AMI and a successful percutaneous coronary intervention. The FDA has designated BCM as a Class III device. Class III devices are those which the FDA deems to pose the greatest risk, such as those that are life sustaining or life supporting. As a result, the FDA regulates Class III devices under the most rigorous device approval pathway, the PMA process. Device approval under the PMA pathway must be supported by extensive data, including from pre-clinical studies and clinical trials, that demonstrate the safety and efficacy of the device for its intended use. In August 2013, the FDA confirmed that no additional pre-clinical studies were required to support a PMA application. Assuming positive results from this trial, we intend to conduct a pivotal pre-market approval trial of BCM beginning in the first half of 2016, which will be designed to support registration in the United States.

We have an exclusive worldwide license to BCM from BioLineRx Ltd. and its subsidiary, or BioLine, including with respect to issued composition of matter patents on BCM that expire as late as 2029 in the United States, with a possible patent term extension to 2032 to 2034 depending on the timing of marketing approval and other factors, and 2024 in certain other countries. We licensed this product candidate in 2009, following completion of the 27-patient pilot clinical trial conducted by BioLineRx Ltd.

Data from the American Heart Association and the European Association for Percutaneous Cardiovascular Interventions suggests that a total of over 1,900,000 patients suffer a heart attack in the United States and European Union each year, with at least 750,000 of these patients having a STEMI. Following a STEMI, patients are at increased risk of developing cardiac remodeling and subsequent congestive heart failure, and data from long-term third-party studies suggest that the five-year post-AMI rate of congestive heart failure or death is approximately 35% to 40%.

Our Strategy

Our goal is to become a leader in developing and commercializing innovative products at the intersection of drugs and devices that address significant unmet medical needs in the treatment of cardiopulmonary and cardiac diseases. The key elements of our strategy to achieve this goal include:

- *Advance the clinical development of INOpulse.* One of our lead product candidates is INOpulse for PAH. Based on the results from our recently completed Phase 2 clinical trial in PAH, we intend to initiate a Phase 3 clinical trial for this indication in the second half of 2015. In addition, we believe the results of the PH-COPD clinical trials support continued Phase 2

development and we plan to evaluate our options for further development, including potentially through partnerships.

- *Advance the clinical development of BCM in the prevention of cardiac remodeling following a STEMI.* One of our other lead product candidates is BCM. Assuming positive results from our ongoing clinical trial, we expect to file for CE marking in the European Union in the second half of 2015 and to initiate a pivotal trial in early 2016 to support a PMA submission seeking marketing approval in the United States.
- *Leverage our historical core competencies to expand our pipeline.* We have years of institutional experience in the use of inhaled nitric oxide in treating pulmonary hypertension and in the development of drug-device combination product candidates. If we successfully advance INOpulse for the two product candidates we are currently developing, we expect to develop INOpulse for treatment of PH-IPF and, subject to obtaining additional license rights from Ikaria, potentially other outpatient pulmonary hypertension indications. Our longer-term vision is to identify and opportunistically in-license innovative therapies that are at the intersection of drugs and devices and to develop and commercialize these product candidates.
- *Build commercial infrastructure in select markets.* As we near completion of the development of our product candidates, we expect to build a commercial infrastructure to enable us to market and sell certain of our product candidates with a specialized sales force and to retain co-promotion or similar rights, when feasible, in indications requiring a larger commercial infrastructure. While we may partner with third parties to commercialize our product candidates in certain countries, we may also choose to establish commercialization capabilities in select countries outside the United States.

INOpulse

INOpulse Scientific Background

Nitric oxide is a naturally occurring molecule produced by many cells of the body. Researchers found that nitric oxide is produced and released by the lining of the blood vessel and plays a role in controlling muscle tone in blood vessels. In particular, nitric oxide results in vascular smooth muscle relaxation in blood vessels and thus is an important factor in regulating blood pressure. As the muscles of the blood vessels relax, blood flow increases, helping the heart to deliver more blood to the body. When administered by inhalation to patients with pulmonary hypertension, we expect inhaled nitric oxide to act in a similar manner to naturally produced nitric oxide.

The scientific journal *Science* named nitric oxide Molecule of the Year in 1992. Additionally, the three researchers who discovered the role of nitric oxide as a signaling molecule in the cardiovascular system earned the Nobel Prize for Physiology or Medicine in 1998.

In 1991, Dr. Warren Zapol and his associates at the Massachusetts General Hospital discovered that inhaling nitric oxide in gas form could reduce high blood pressure in the lungs, a condition known as pulmonary hypertension. Nitric oxide is a rapid and potent vasodilator, which means it dilates, or widens, blood vessels. When inhaled, it quickly dilates blood vessels in the lungs, which reduces blood pressure in the lungs, strain on the right ventricle and shunting of de-oxygenated blood away from the lungs. Because more blood can flow through the lungs, blood levels of oxygen improve. In addition, inhaled nitric oxide improves the efficiency of oxygen delivery, and because it is a gas, it goes only to the portions of the lung that are ventilated, or receiving air flow, and increases blood flow only in these areas. Thus, inhaled nitric oxide improves ventilation-perfusion matching, an important element of lung function involving the air that reaches the lungs, or ventilation, and the blood that reaches the lungs, or perfusion. Inhaled nitric oxide is quickly inactivated after contact with blood, and is selective for the lungs, meaning that it has minimal effects on blood pressure outside of the lungs, which is an important safety consideration.

In 1999, the FDA approved the use of inhaled nitric oxide for the short-term treatment of persistent pulmonary hypertension of the newborn. Based on this approval, and similar approvals from foreign regulatory authorities, continuous-flow inhaled nitric oxide, which is administered to ventilated patients by a dedicated in-hospital device, is marketed by Ikaria and its commercialization partners worldwide as INOmax (INOflo in Japan). Inhaled nitric oxide is widely used in the hospital setting for a variety of conditions and, as reported by Ikaria, over 450,000 patients have been treated with inhaled nitric oxide worldwide since its commercial launch. However, chronic outpatient use of this therapy has previously been limited by the lack of a safe and compact delivery system for outpatient use.

INOpulse Drug-Device Combination

Our INOpulse device has a proprietary mechanism that delivers brief, targeted pulses of nitric oxide, timed to occur at the beginning of a breath and targeted for delivery to the well-ventilated alveoli of the lungs. INOpulse is portable and therefore allows for treatment of ambulatory patients on a daily basis inside or outside their homes. INOpulse is designed to automatically adapt based on a patient's breathing pattern to deliver a constant dose of the drug over time, independent of the patient's activity level, thus ensuring predictable dosing in the alveoli of the lungs. We estimate that, because of the pulsed delivery and higher concentration of nitric oxide we use, the volume of drug delivered is reduced to approximately 5% of the volume required for equivalent alveolar absorption using standard continuous-flow delivery systems.

INOpulse is configured to be highly portable and compatible with available modes of long-term oxygen therapy via nasal cannula delivery. Our recently completed clinical trials of INOpulse for PAH and INOpulse for PH-COPD utilized the first generation INOpulse DS device, which is derived from an older hospital-based system. While this device is portable and appropriate for use at home, to make INOpulse acceptable to a broader range of patients and to improve its usability, we are near completion of the second generation device, which we refer to as the Mark2, which we plan to use in future clinical trials.

The Mark2 is approximately the size of a paperback book and weighs approximately 2.5 pounds. It has a simple user interface and a battery life of approximately 24 hours when recharged, which takes approximately four hours and can be done while the patient sleeps. Based on the doses we evaluated in our clinical trials, we expect the cartridge will need to be replaced once a day. The Mark2 incorporates our proprietary triple-lumen nasal cannula, safety systems and proprietary software algorithms. The triple-lumen nasal cannula enables more accurate dosing of inhaled nitric oxide and minimizes infiltration of oxygen, which can react with nitric oxide to form nitrogen dioxide. Our triple-lumen nasal cannula consists of a thin, plastic tube that is divided into three channels from end-to-end including at the prongs that are placed in the patient's nostrils, with one channel delivering inhaled nitric oxide, a second for breath detection and a third available for oxygen delivery. Our device is designed to be compatible with many long-term oxygen therapy systems.

The Mark2 has been well received by patients in the usability research we have conducted. In addition to the baseline testing on the original INOpulse DS device, we have conducted two rounds of testing with COPD and PAH patients to evaluate the user interface, loading mechanism, size, carrying bag and other features. In the usability research we have conducted, all eight patients with experience with the INOpulse DS device responded positively to the Mark2, and several of these patients indicated that the ability to take the Mark2 outside the home would likely reduce concerns with maintaining compliance.

Based on discussions with the FDA, we are required to show that the amount and timing of inhaled nitric oxide delivery is similar across INOpulse device generations. We have developed a regulatory bridging strategy to meet these requirements. To facilitate the transition from our existing INOpulse DS device to the Mark2 in our INOpulse clinical program, we plan to conduct comparability

testing of inhaled nitric oxide dosing with the Mark2 as compared to the INOpulse DS device. This testing will include a comparison of critical parameters, including pulse width and nitric oxide output. We will also assess whether the Mark2 will meet the performance specifications of the INOpulse DS device in addition to Mark2-specific requirements. In addition, we are developing a bridging test report that we expect to include in the regulatory package that we anticipate submitting to the FDA during the first quarter of 2015 to gain approval for the device transition. We discussed our bridging strategy with the FDA during a meeting in May 2013, and we believe that, assuming the Mark2 meets the specified comparability parameters, this testing will be sufficient to gain FDA approval to use the Mark2 in future clinical trials, as planned.

We have licensed from Ikaria several patents and patent applications for certain innovations in our INOpulse devices. These include patents with respect to the pulsed delivery of inhaled nitric oxide to ensure a consistent dose over time, which expire as late as 2027 in the United States and as late as 2026 in certain other countries, as well as a patent with respect to the triple-lumen cannula that allows for safer and more accurate dosing of pulsed inhaled nitric oxide, which expires in 2033. We have also licensed several other patent applications from Ikaria for certain of the innovations included in the Mark2 and certain of the resulting patents that, if issued, would expire as late as 2033.

In the European Union, where there is no formal drug-device designation, we expect INOpulse to be evaluated by the EMA as a drug with specific reference in the label to the device and cannula, which will require a separate CE mark from a Notified Body.

Introduction to Pulmonary Hypertension

Pulmonary hypertension is a disease characterized by constriction of the blood vessels in the lung, which causes blood pressure in the lung to rise and, in turn, increases the work required for the right ventricle of the heart to pump blood. The World Health Organization, or WHO, has endorsed a consensus classification for pulmonary hypertension that was updated most recently in 2013. The WHO classification has five broad pulmonary hypertension groups based on similarities in pathological and hemodynamic characteristics and therapeutic approaches. We are initially focusing development of INOpulse in indications included in WHO Groups 1 and 3 due to our view of the likelihood of success and the size and commercial viability of these markets. Group 1 pulmonary hypertension is comprised of patients with pulmonary arterial hypertension and is referred to as PAH. This Group combines conditions with a range of causes, all of which have a characteristic pattern of vascular remodeling. The constriction of the blood vessels and the resulting pressure on the heart is often the major reason for poor prognosis of PAH patients since they can be otherwise healthy. Most PAH-specific medications are vasodilators and work through one of the three key mechanistic pathways for vasoconstriction and vasodilation. We expect that, because inhaled nitric oxide is a vasodilator, patients in Group 1 will benefit from INOpulse. Group 3 pulmonary hypertension consists of pulmonary hypertension associated with lung disease or hypoxemia, which is an abnormally low level of oxygen in the blood. This Group includes patients with PH-COPD and PH-IPF, among others.

INOpulse for Pulmonary Arterial Hypertension

We are developing INOpulse for PAH to address a significant and unmet medical need in an orphan disease. This product candidate represents the development of a potential first-in-class therapy for this indication. Although current therapy for PAH provides some therapeutic benefit, there remains no cure, and approved therapies can have significant systemic side effects, such as hypotension and liver injury. INOpulse for PAH is designed to be a selective, short-acting pulmonary vasodilator and is being tested as an add-on therapy to existing PAH medications to evaluate its efficacy and side effect profile, in particular its ability to provide clinical benefit without adding to the systemic effects such as hypotension.

Disease Background and Market Opportunity

PAH is a life-threatening, progressive disorder characterized by abnormally high blood pressure, or hypertension, in the pulmonary artery, the blood vessel that carries blood from the heart to the lungs. PAH occurs when most of the very small arteries, or arterioles, throughout the lungs narrow in diameter, which increases the resistance to blood flow through the lungs. To overcome the increased resistance, pressure increases in the pulmonary artery and the right ventricle, which is the heart chamber that pumps blood into the pulmonary artery. In addition, PAH may cause changes to the blood vessel lining that hinder the natural production of nitric oxide. Signs and symptoms of PAH occur when this increased pressure in the right ventricle cannot fully overcome the elevated resistance.

There are a number of drugs approved for the treatment of PAH that work primarily by reducing pulmonary vascular resistance, which is the primary problem for these patients. However, despite the availability of multiple therapies for this condition, the mortality rate for PAH remains high, with estimates of median survival ranging from three to five years. Patients with PAH also report severe impairment of health-related quality of life, including poor general and emotional health and impaired physical functioning. The most common symptoms of PAH are shortness of breath during exertion and fainting spells. People with PAH may experience additional symptoms, particularly as the condition worsens, including dizziness, swelling of the ankles or legs, chest pain and a racing pulse. These impairments to health-related quality of life are comparable and sometimes more severe than those reported in patients with severely debilitating conditions such as spinal cord injury.

Since PAH is an orphan condition with poor diagnosis rates, published prevalence estimates for PAH vary widely. Based on epidemiological studies and current treatment rates, we estimate that there are a total of at least 35,000 patients currently diagnosed and treated for PAH in the United States and European Union. The average age of PAH patients at diagnosis is approximately 50 years, and approximately 80% of PAH patients are female. PAH is often diagnosed late in the disease progression with approximately 73% of these patients already having progressed to WHO functional Class III or IV at the time of diagnosis.

PAH is characterized by abnormal constriction of the arteries in the lung. PAH patients are generally treated with one or more of the four major classes of approved medications, which are prostacyclin and prostacyclin analogs, phosphodiesterase type-5 inhibitors, endothelin receptor antagonists and a soluble guanylate cyclase stimulator, all of which potentially result in vasodilatory systemic effects and, therefore, hypotension. Current guidelines recommend treatment with multiple medications in Class III and IV patients with progressive disease but suggest treatment be carefully managed by experienced physicians. Approximately 45% of PAH patients are treated with more than one class of medication at a given time. In addition, since hypoxemia can be a problem in these patients, it is often treated with long-term oxygen therapy in accordance with broadly supported treatment guidelines in the United States and European Union.

We are testing INOpulse for PAH as an add-on therapy for use in patients whose disease is progressing and who use additional medications. If it is approved, we expect INOpulse will provide the greatest benefit to patients who require pulmonary arterial pressure reductions beyond the reductions achieved with the medication they are already using and who are also at risk for systemic hypotension. Because of its localized effect and short-half life, we do not expect INOpulse will add to systemic blood pressure reductions of other PAH drugs. We believe that INOpulse is also likely to be preferentially prescribed for patients already on LTOT. Data from a U.S. and a French registry indicate that approximately 40% of patients are treated with oxygen at diagnosis for hypoxemia. Approximately 60% of the patients from our recently completed Phase 2 clinical trial were on LTOT. We believe that, as compared to patients who are not using a nasal cannula, patients who are accustomed to using a nasal cannula for delivery of oxygen are more likely to be prescribed and are more likely to be compliant with the use of INOpulse.

A 2013 report by CVS Caremark Specialty Analytics provided examples of PAH medications with annual prices ranging from approximately \$100,000 to \$150,000 per patient per year in the United States. We expect that, if approved, the price of INOpulse will be in the range of other established PAH medications.

Scientific Rationale for Use of INOpulse for PAH

Since the discovery of the significant role of nitric oxide in vasodilation, there has been an expectation in the scientific community that inhaled nitric oxide could be an effective therapy for PAH. According to the Cleveland Clinic Center for Continuing Education section on Pulmonary Hypertension, exogenous administration of nitric oxide by inhalation is probably the most effective and specific therapy for PAH, but cost and technical complexity of delivering inhaled nitric oxide have limited its use to the hospital. Although not approved for the treatment of PAH, data from an in-hospital survey conducted by Ikaria showed an estimated 1,000 to 2,000 INOmax uses in PAH patients in the United States each year, indicating that physicians already use nitric oxide in some PAH patients. The difficulty in delivering inhaled nitric oxide outside of the hospital results from the size of the device and cylinder and the need for a specialized delivery system with built-in safety systems.

We are developing nitric oxide for treatment of PAH because nitric oxide is a proven vasodilator, and PAH is primarily a disease of high pulmonary vascular resistance. PAH is associated with impaired release of nitric oxide and thus we believe chronic administration of inhaled nitric oxide may be viewed as an adjunctive or replacement therapy in patients with PAH. The use of inhaled nitric oxide in PAH has been proposed since the role of nitric oxide in this disease was identified. This drug has been tested in limited investigational studies conducted at academic institutions.

One clinical trial conducted at an academic center in Spain in 11 patients, seven of whom had severe PAH, and four of whom had severe Chronic Thromboembolic Pulmonary Hypertension, evaluated the use of pulsed inhaled nitric oxide in an ambulatory setting. In this open-label, single-arm trial with no placebo control, patients were given ambulatory pulsed inhaled nitric oxide therapy via a nasal cannula for up to one year, after being withdrawn from PAH-specific therapy. The nitric oxide pulse was delivered to the patient at the beginning of each inspiration at a flow rate that was individualized for such patient. The goal of this trial was to evaluate the efficacy and safety of long-term treatment with inhaled nitric oxide outside the hospital setting.

At the start of this trial, patients were evaluated for various measures including the distance they were able to walk in six minutes and WHO functional class. At baseline, most of these patients had significant impairment of six-minute walk distance, with the ability to walk an average of 125 meters, and poor WHO functional class status, with nine patients in Class IV and two patients in Class III. After one month of therapy, overall, patients improved based on WHO functional class, with six patients in Class III and five in Class II, and had improvements in six-minute walk distance of 128 meters on average. After six months of treatment, patients did not worsen clinically, however, between months six and 12, seven patients were given a phosphodiesterase type-5 inhibitor due to clinical worsening. One patient who initially did well with the added phosphodiesterase type-5 inhibitor therapy developed severe right heart failure at month eight and died, and another patient received a lung transplant at month nine. The remaining nine patients all had clinical status at month 12 similar to their one month evaluation, and improvements in functional class and six-minute walk distance for the group persisted over time.

We do not expect INOpulse to have systemic effects beyond the pulmonary vasculature because of the short half-life of nitric oxide combined with its targeted delivery to the alveoli. When nitric oxide is delivered as a pulse at the beginning of inhalation, it travels to the alveoli where it diffuses rapidly across the alveolar capillary membrane into the adjacent vascular smooth muscle of pulmonary vessels. This transport is similar to the natural transport of endogenous nitric oxide from the endothelial cells, where it is produced, to the vascular smooth muscle cells where it relaxes the muscle and causes

vasodilation of the pulmonary arteries. We believe this makes INOpulse unlikely to have intolerable side effects, such as systemic hypotension or drug-drug interactions. Given the need for PAH patients to be treated with multiple therapies and the potential for increased hypotension from each of the currently approved PAH therapies, we are developing INOpulse as an add-on or adjunctive therapy for PAH, where we believe it has the highest commercial potential.

Clinical Development Program

INOpulse for PAH is designated as a drug-device combination by the FDA and is being evaluated through the Division of Cardiovascular and Renal Products of the Center for Drug Evaluation and Research with consultation from the Center for Devices and Radiological Health. For our IND for PAH, we submitted data from animal studies in rats and sheep as well as the results of a Phase 1 trial of pulsed inhaled nitric oxide in healthy volunteers. In addition, we referenced additional data from Ikaria's new drug application, or NDA, in respect of INOmax. Based on this, the FDA has agreed that no further preclinical studies are required for clinical development of INOpulse for PAH.

In the European Union, where there is no formal drug-device designation, we expect that INOpulse for PAH will be evaluated by the EMA as a drug with specific reference in the label to the device and cannula, which will require a separate CE mark from a Notified Body.

Phase 2 Clinical Trial

We recently completed Part A of our ongoing Phase 2 clinical trial of INOpulse for PAH in the United States and Canada. Our key inclusion criteria for patients in this trial were that they:

- be diagnosed with pulmonary hypertension WHO Group I;
- be on at least one other PAH medication for at least 12 weeks prior to treatment with INOpulse; and
- demonstrate being able to walk between 100 and 450 meters within six minutes.

In addition, this trial excluded patients with evidence of significant left ventricular dysfunction.

The trial is being conducted in two parts, Part A and Part B. In October 2014, we completed Part A of this trial which was a randomized, placebo-controlled, double-blind clinical trial with patients randomized 1:1:1 to placebo or to one of two active doses, either 25 or 75 mcg/kg ideal body weight/hour, or mcg, for 16 weeks. Part B is an ongoing double-blind long-term extension of the initial trial with all patients on one of two doses of INOpulse for PAH to monitor the long-term safety and tolerability of the therapy. Eighty-one percent of the patients in Part A elected to enter the Part B long-term extension trial. The primary endpoint in this trial was a change in pulmonary vascular resistance from baseline at 16 weeks, which was the end of Part A. The target change in pulmonary vascular resistance was 190 dynes sec. cm⁻⁵, and the trial was powered for statistical significance at 130 dynes sec. cm⁻⁵. The main secondary endpoint was change in six-minute walk distance over the same period. A clinically meaningful change in six-minute walk distance is typically considered to be an increase of at least 30 to 35 meters. We expect to continue the ongoing Part B of this trial until the earliest of INOpulse for PAH being approved, clinical development of INOpulse for PAH being discontinued or our decision to discontinue Part B.

We typically use, and have used for this trial, a conventional method of assessing statistical significance known as a one-way analysis of variance, or ANOVA. In this method the threshold of statistical significance is reached when a measure known as the p-value is 0.05 or lower. Because we are using two doses, we are using a common adjustment to the significance threshold for the analysis in this trial, including the subgroup analysis, by requiring the p-value to be 0.025 or lower before it is considered significant. When the p-value is higher than this threshold it is considered that any

directional benefit seen in the clinical trial could be due to chance rather than being a true measure of the efficacy of the product tested.

We randomized 80 patients for Part A of the Phase 2 trial. The majority of the patients were female (79%), white (89%) and had idiopathic PAH (74%). The results from Part A of this trial, which are summarized in the table below, showed trends toward lower pulmonary vascular resistance in both the active arms compared to placebo and a slight trend toward increased six-minute walk distance in the higher dose group. However, neither result was statistically significant.

INOpulse for PAH—Phase 2 Part A Trial Results for All Patients

		Inhaled nitric oxide dose (mcg/kg ideal body weight/hour)		
Parameter		Placebo	25	75
Total number of patients randomized		26	27	27
Pulmonary Vascular Resistance (dynes sec. cm-5)	Number analyzed	24	23	24
	Baseline (mean)	601.5	665.8	662.9
	Change from Baseline (mean)	47.2	-54.1	-15.0
	p-value (ANOVA)	—	0.091	0.178
6-Minute Walk Distance (m)	Number analyzed	24	24	23
	Baseline (mean)	367.5	326.8	300.7
	Change from Baseline (mean)	7.5	4.7	22.8
	p-value (ANOVA)	—	0.851	0.314

In an analysis of baseline characteristics, patients randomized to placebo were younger and less sick than those on either of the active arms on many dimensions including baseline pulmonary vascular resistance, baseline six-minute walk distance, age, duration of disease and WHO severity class. In addition, fewer of the patients on placebo were on LTOT compared to either of the active arms with more patients on LTOT at the 75 mcg dose than on the 25 mcg dose.

INOpulse for PAH—Phase 2 Trial Baseline Demographics

	Placebo	Inhaled nitric oxide dose (mcg/kg ideal body weight/hour)	
		25	75
Number of patients	26	27	27
Age (years) (mean)	52.0	56.3	57.9
WHO Severity (number in Classes III and IV)	19	21	23
Disease duration (years) (mean)	5.5	6.2	6.0
Pulmonary Vascular Resistance (dynes sec.cm-5) (mean)	601.5	665.8	662.9
6-Minute Walk Distance (m) (mean)	367.5	326.8	300.7
Use of LTOT	46.2%	59.3%	77.8%

During evaluation of the data, we observed that adherence to therapy was widely variable. LTOT was a pre-specified parameter recorded at baseline, and patients using LTOT at baseline were more adherent to using the device, defined retrospectively as an average use of greater than 12 hours per day—specifically, patients using LTOT had a rate of 70% adherence as compared with 33% adherence in those patients not using LTOT. Based on this observation, we conducted non-scheduled, exploratory analyses by LTOT use and by compliance (defined as patients who had average daily use of 12 hours per day or more). Each of these subgroups comprised more than 50% of the total patients enrolled in the trial. The results of these analyses are summarized in the following table.

INOpulse for PAH—Phase 2 Part A Trial Compliance to Therapy

<u>Average hours of use per day</u>	Percent of patients		
	<u>All patients</u>	<u>On LTOT</u>	<u>Not on LTOT</u>
< 4 Hours	6.3%	4.1%	9.7%
4-8 Hours	20.0%	8.2%	38.7%
8-12 Hours	17.5%	16.3%	19.4%
12-16 Hours	22.5%	30.6%	9.7%
16-20 Hours	16.3%	22.4%	6.5%
³ 20 Hours	17.5%	18.4%	16.1%

Among LTOT users, there was a clinically meaningful and statistically significant improvement versus placebo in both pulmonary vascular resistance and six-minute walk distance in patients at the 75 mcg dose and there was a statistically significant improvement in pulmonary vascular resistance and a positive trend in change in six-minute walk distance in patients on the 25 mcg dose.

In the subgroup of compliant patients who used INOpulse for an average of greater than 12 hours per day, the results were very similar to those of the LTOT subgroup. This was expected since there is a significant overlap between the compliant patient and the LTOT group, with approximately 80% of compliant patients also treated with LTOT at baseline. In the compliant group, when compared to placebo, there was a positive trend for change in pulmonary vascular resistance and a clinically meaningful and statistically significant improvement in six-minute walk distance in the 75 mcg dose arm and there was a statistically significant improvement in pulmonary vascular resistance and a non-significant change in six-minute walk distance in the 25 mcg dose arm.

INOpulse for PAH—Phase 2 Part A Trial Results for Patient Subgroups

Pulmonary Vascular Resistance

Parameter/Population		Placebo	Inhaled nitric oxide dose (mcg/kg ideal body weight/hour)	
			25	75
Total number of patients randomized		26	27	27
On LTOT	Number analyzed	10	15	19
	Baseline (mean)	580.1	605.2	614.9
	Change from Baseline (mean)	125.5	-47.1	-17.5
	p-value (ANOVA)	—	0.018	0.024
³ 12 hours per day (Compliant)	Number analyzed	10	12	18
	Baseline (mean)	527.6	747.2	670.6
	Change from Baseline (mean)	146.5	-66.9	-5.1
	p-value (ANOVA)	—	0.023	0.027

Six-Minute Walk Distance

Parameter/Population		Placebo	Inhaled nitric oxide dose (mcg/kg ideal body weight/hour)	
			25	75
Total number of patients randomized		26	27	27
LTOT	Number analyzed	10	15	18
	Baseline (mean)	333.5	301.5	292.2
	Change from Baseline (mean)	-10.7	9.1	34.9
	p-value (ANOVA)	—	0.320	0.021
³ 12 hours per day (Compliant)	Number analyzed	10	12	16
	Baseline (mean)	330.0	316.3	294.5
	Change from Baseline (mean)	-10.1	8.5	37.0
	p-value (ANOVA)	—	0.374	0.021

INOpulse was relatively well-tolerated in Part A of this trial. Our Independent Data Safety Monitoring Board evaluated the safety analysis from Part A of the trial in November 2014 and recommended proceeding with Part B of the trial. Drug-related serious adverse events, or SAEs, occurred in no patients in the placebo group and one subject in each of the 25 mcg and 75 mcg groups.

INOpulse—Phase 2 Part A Trial Results for All Patients: Summary Safety Data

<u>Number of Patients</u>	<u>Placebo</u>	<u>Inhaled nitric oxide dose (mcg/kg ideal body weight/hour)</u>	
		<u>25</u>	<u>75</u>
Number of Patients	26	27	27
Total Adverse Events (AEs)	23	22	26
Drug related AEs	9	10	9
Total Serious Adverse Events (SAEs)	4	4	9
Drug related SAEs	0	1	1
Deaths	1	0	0
Discontinuation due to AEs	1	1	2

One patient in the placebo arm died during Part A of the trial. SAEs were reported for four patients in the placebo arm, including one each of: pneumonia/worsening PAH, catheter-related infection, ascites and left hip sciatica. Each of these were assessed by the investigator for the trial as unrelated. Four patients in the 25 mcg low-dose active treatment arm experienced SAEs, including bacteremia, myelodysplastic syndrome, increased shortness of breath and dyspnea, one of which was assessed as possibly related to trial therapy. The 75 mcg high-dose active treatment arm had nine patients with SAEs. The most common SAEs reported were syncope and bronchitis/tracheobronchitis, one of which was assessed as possibly related to trial therapy. Discontinuation of trial therapy due to adverse events, or AEs, occurred for two patients in the 75 mcg arm and one subject in each of the 25 mcg and placebo arms.

Pivotal Phase 3 Clinical Trials

We believe the results from Part A of our Phase 2 trial provide sufficient indication of clinical benefit and safety to continue development of INOpulse for PAH in pivotal Phase 3 clinical trials. We had an End of Phase 2 meeting with the FDA on January 8, 2015. Based on this discussion, we plan to conduct this Phase 3 program as two adequate and well-controlled confirmatory trials, and we will conduct these two trials either sequentially or in parallel. We currently intend to begin the Phase 3 program in the second half of 2015 and we estimate that, once initiated, each trial will take approximately three years to complete.

We expect one of the trials to have two arms—placebo and 75 mcg active dose—and the other to have three arms—placebo, 50 mcg active dose and 75 mcg active dose. Each arm is planned to have approximately 94 patients. Based on our discussions with the FDA, we expect that the primary endpoint of the trial will be change in six-minute walk distance evaluated at 18 weeks. In addition, we expect to have a secondary endpoint of time to clinical worsening, which we plan to analyze based on combined data from both trials to ensure adequate power for this assessment. We also plan to evaluate hemodynamic changes using right heart catheterization in a subset of patients.

We expect that enrollment for these trials will focus on patients with confirmed PAH who are treated with at least one approved PAH specific therapy and who are willing to be compliant on therapy for at least 16 hours a day. We plan to conduct both trials with a two week run-in period, prior to the start of clinical dosing, to enrich enrollment for patients who show a high degree of adherence (i.e., an average of at least 16 hours of use per day) during this run-in period. In addition, we intend to design randomization for these trials to ensure similar numbers of LTOT patients in each arm. We plan to use the Mark2 in these Phase 3 clinical trials. Results from our usability testing suggest that compliance with the Mark2 may be better than was the case with the first generation INOpulse DS device. We expect that the Phase 3 clinical trials will be multi-center multi-country trials with a focus on sites in North America and Europe.

We intend to finalize the clinical trial design following additional discussions with the FDA as well as with other regulatory authorities, including with the EMA.

INOpulse for PH-COPD

We are developing INOpulse for PH-COPD to address a significant unmet medical need that we believe is often overlooked in everyday clinical practice because of the lack of available therapy. Pulmonary hypertension is more prevalent among those COPD patients who have advanced loss of respiratory function and low peripheral blood oxygen levels requiring treatment with LTOT. The co-morbidity of pulmonary hypertension in these patients leads to cardiovascular complications from the added strain on the right ventricle of the heart. Current drug therapies for COPD are targeted to relieve the symptoms and complications of the respiratory component of the disease. Unlike these therapies, INOpulse is directed at treating the cardiovascular complications of PH-COPD. We believe PH-COPD patients on LTOT who are at risk for cardiovascular complications could benefit from use of INOpulse in addition to any respiratory benefits that result from their existing treatments.

Disease Background and Market Opportunity

COPD is a progressive disease caused by chronic inflammation and destruction of the airways and lung tissue. While COPD is primarily a respiratory disease, over time, as the disease progresses, the chronic pulmonary restrictions and resulting deprivation of adequate oxygen, or hypoxia, can contribute to vasoconstriction in the pulmonary arterial bed. In addition, COPD patients can have deficiency in endogenous nitric oxide production in their lungs, which can worsen vasoconstriction. This pulmonary vasoconstriction puts pressure on the right side of the heart, making it less able to cope with stressors and potentially leading to progressive cardiac dilation, heart failure and death. This cardiovascular component of COPD is, we believe, often overlooked despite pulmonologists' general awareness of the problem, in part because there are no specific therapies for the condition in these patients. While it is widely believed that the cardiovascular complications of COPD occur only in the advanced stage of the disease as a consequence of chronic hypoxemia, recent findings demonstrate an earlier involvement of the cardiovascular system in this disease.

In 2010, Datamonitor estimated that approximately 12 million patients in the United States were being treated for COPD and that over 1.4 million of these patients were being treated with LTOT. Based on academic studies, we estimate that 50% of COPD patients on LTOT in the United States have pulmonary hypertension. Even though the degree of pulmonary hypertension in these patients is milder than in PAH patients, data published in literature suggests that even small elevations in mean pulmonary artery pressure in patients with advanced COPD can impact hospitalization, patient-assessed functional outcomes and mortality. Pulmonary hypertension is a well-known predictor of increased morbidity and mortality in COPD patients and is associated with poor quality of life, worse clinical outcomes and shorter survival time. Based on a long-term study completed in 1992 and published in 1995, PH-COPD patients had a four-year survival rate of approximately 50%. By contrast, in this same long-term study, COPD patients with similar pulmonary functions, but without pulmonary hypertension, had a four-year survival rate of 80%.

We expect INOpulse for PH-COPD, if approved, would be treated as a specialty drug. Specialty drugs are typically high-cost medications, often ranging in price in the United States from approximately \$15,000 to \$50,000 per patient per year, used to treat rare or complex conditions, requiring close clinical management and special handling and distributed through specialty pharmacies.

Scientific Rationale for Use of INOpulse for PH-COPD

The mechanism of action of inhaled nitric oxide in vasodilation at the alveolar smooth muscle in PH-COPD is similar to its action in PAH. Like endogenous pulmonary nitric oxide, inhaled nitric oxide works by selectively relaxing lung vascular smooth muscles, causing dilation of pulmonary blood vessels

and consequently increased pulmonary blood flow. This reduces the elevated pulmonary artery pressure in patients with PH-COPD.

PH-COPD patients generally have hypoxemia as a result of deteriorating lung function, which can be treated with supplemental oxygen therapy. However, these patients are not treated with currently approved PAH-specific drugs because these drugs can worsen hypoxemia. This worsening can occur when these drugs, which are systemically bioavailable, cause indiscriminate pulmonary vasodilation, even in poorly ventilated alveoli, resulting in lower average blood oxygenation levels. We believe that inhaled nitric oxide, as a locally active selective pulmonary vasodilator with minimal systemic effects, can drop pulmonary arterial pressures, and when delivered with INOpulse as a targeted pulse to the well-ventilated alveoli, avoid this indiscriminate vasodilation and the consequent lowering of blood oxygen levels.

The targeted delivery of inhaled nitric oxide to specific alveoli is important because early trials with continuous-flow inhaled nitric oxide reduced pulmonary arterial pressure in PH-COPD patients but also resulted in lowering of blood oxygen levels. It was postulated that this unwanted effect might be avoided by administering nitric oxide as a brief pulse at the beginning of each breath because well-ventilated alveoli open faster, and a brief early pulse would only reach these alveoli. As early as 1997, this concept was demonstrated by testing inhaled nitric oxide in PH-COPD patients during exercise, which allowed the dose to mimic pulse dosing. Recently, data from a computational fluid-flow modeling study we conducted, using high resolution computed tomography scans and computer simulations, supported this hypothesis that early pulsed delivery of nitric oxide could be directed specifically to the well-ventilated alveoli.

Clinical Development Program

INOpulse for PH-COPD is designated as a drug-device combination by the FDA and is being evaluated through the Division of Cardiovascular and Renal Products of the Center for Drug Evaluation and Research with consultation from the Division of Pulmonary, Allergy, and Rheumatology Products and the Center for Devices and Radiological Health. In our IND for PH-COPD, we referenced all of the information in our IND for PAH and included data from a Phase 2 clinical trial that Ikaria commenced in 2005 but terminated due to lack of enrollment after one subject was treated. The one subject experienced a serious adverse event of hypoxia, which was deemed unrelated to treatment. The data referenced in our IND, as well as the years of use of the marketed product, demonstrate that nitric oxide is well tolerated. The FDA has agreed that the IND package is complete and adequate for supporting Phase 2 clinical development of INOpulse for PH-COPD. The FDA also agreed that no additional pre-clinical studies are needed to support product approval.

In the European Union, where there is no formal drug-device designation, we expect that INOpulse for PH-COPD will be evaluated by the EMA as a drug with specific reference in the label to the device and cannula, which will require a separate CE mark from a Notified Body.

In an initial three-month, open-label chronic-use Phase 2 trial, pulsed inhaled nitric oxide significantly reduced pulmonary arterial pressures in PH-COPD patients on LTOT and did so without causing hypoxemia, which is a significant concern for these patients. The inhaled nitric oxide was administered using a device that delivered pulsed nitric oxide as a fixed amount per breath along with the oxygen using a single lumen nasal cannula. This trial, completed in 2000, was conducted in two parts, an initial acute dose titration part and a three-month chronic ambulatory use part. In the initial acute test each patient was treated with doses of 10, 15, 20, 25 and 30 ppm nitric oxide in a step-wise escalation from the lowest to higher doses. Each patient was assessed for drops in mean pulmonary arterial pressures, or mPAP, as well as for changes in oxygenation levels. The mean acute change in mPAP in this study was a reduction of approximately 4 mmHg from a baseline of 27 mmHg across all doses. In another measure of the hemodynamic effects of the drug, the pulmonary arterial systolic pressure reduced by 2.7 to 3.6 mmHg across the nitric oxide doses tested. Based on the individual

mPAP and oxygenation level changes in the acute test, each patient was assigned an individualized dose to be used in the second part of the trial which was a three-month evaluation. The patients were then randomized to either the control group for treatment with oxygen therapy or to the active group for treatment with both oxygen and the individually selected dose of nitric oxide over a period of three months. A total of 32 patients completed the three month portion per protocol, 15 of whom had been randomized to drug therapy and 17 of whom were randomized to the control group. At the end of the three month chronic use portion of the trial, patients in the nitric oxide arm had a statistically significant decrease from baseline in mPAP of 6.8 mmHg compared to an increase in mPAP of 0.9 mmHg in the oxygen alone control arm of the trial ($p < 0.001$) demonstrating a sustained and potentially strengthened effect of inhaled nitric oxide on mPAP over three months. In addition, at the three month evaluation, the patients treated with pulsed inhaled nitric oxide had no worsening of blood oxygen levels compared to the control group suggesting no worsening of oxygen exchange in the lungs.

In June 2012, this data was submitted to the FDA as part of the IND package for INOpulse for PH-COPD. Based on discussions with the FDA, we believe this trial is an adequate Phase 2 trial. The FDA has asked us to confirm the dose range and the safety related to hypoxemia in PH-COPD patients using the INOpulse device, prior to proceeding to large scale trials. Following this guidance, we conducted a Phase 2 acute dose ranging randomized placebo-controlled trial in 159 patients with the INOpulse DS device, with doses ranging from 3 to 75 mcg. This Phase 2 trial, which we completed in July 2014, identified a dose range that showed similar efficacy versus baseline when compared to the initial acute effects of pulsed nitric oxide in the original chronic-use study. The 10 mcg dose of INOpulse showed a decrease in pulmonary arterial systolic pressure from baseline of 5.4 mmHg ($p < 0.05$) and increasing the dose above 10 mcg did not result in a further decrease in pulmonary arterial systolic pressure from baseline indicating a plateau effect of the drug at 10 mcg and above. A post-hoc analysis of data combining all response data over the range of 10 to 75 mcg showed a decrease in pulmonary arterial systolic pressure from baseline of 4.2 mmHg, which was significant and represented a mean decrease of approximately 9% from baseline. In addition, in our confirmatory trial, none of the INOpulse doses tested had an adverse effect on hypoxemia relative to placebo with a total of 48 patients with confirmed oxygenation level decrease greater than 5 mmHg from baseline (16/40 in placebo; 32/84 in inhaled nitric oxide). While the reduction in pulmonary arterial pressure did not reach statistical significance versus placebo in this acute setting, as the decrease in pulmonary arterial systolic pressure from baseline in the placebo group was 1.9 mmHg, we believe that the results have confirmed a dose range for this therapy that delivers a significant reduction in pulmonary arterial pressure versus baseline without causing hypoxemia in patients with PH-COPD.

We are currently designing a three-month Phase 2b trial to evaluate safety and efficacy for chronic use of INOpulse for PH-COPD. We plan to finalize the protocol following discussions with regulatory authorities in the United States and European Union. We currently intend to begin this Phase 2b trial in the second half of 2015 and, once initiated, we expect the trial will take approximately 18 months to complete.

INOpulse for Other Pulmonary Hypertension Conditions

Pulmonary hypertension disease is often classified according to the WHO classification system which groups patients with pulmonary hypertension according to the underlying etiologies, or causes, of the pulmonary hypertension. In this system, PAH is defined as Group 1 and PH-COPD is classified under Group 3, pulmonary hypertension due to lung disease and/or hypoxemia. We believe the mechanism of action of inhaled nitric oxide as a pulmonary vasodilator, and thus INOpulse, can be effective in treating pulmonary hypertension related to other conditions, including pulmonary hypertension associated with PH-IPF and other interstitial lung diseases, chronic thromboembolic pulmonary hypertension, or CTEPH, and pulmonary hypertension associated with sarcoidosis.

While there are two recently approved treatments for IPF, there are currently no approved therapies for PH-IPF. In 2013, riociguat (Adempas) was the first drug therapy approved for treating CTEPH, although other PAH medications are sometimes used to treat this condition. Patients with sarcoidosis are often treated with steroids or other anti-inflammatory medications, however, there are no therapies approved to treat the PH associated with this disease.

Our current license from Ikaria covers only the development of INOpulse for PAH, PH-COPD and PH-IPF. We would need to obtain additional license rights from Ikaria before beginning development of INOpulse for any other indication.

BCM for Prevention of Cardiac Remodeling Following a STEMI

We are developing BCM through the medical device regulatory pathway to prevent congestive heart failure following a STEMI, which is a type of severe heart attack. Patients who suffer a STEMI are at increased risk for congestive heart failure due to potential cardiac remodeling, which is a structural change in the size and shape of the heart that affects its ability to function normally. This change includes thinning of the left ventricle wall at the infarction and the adjacent border zone, outward bulging of the infarcted region, hypertrophy of the non-infarcted portion of the left ventricle and dilation of the left ventricle chamber. Cardiac remodeling increases mechanical stresses on the left ventricular wall and reduces the efficiency of pumping blood often leading to congestive heart failure.

BCM is intended to prevent cardiac remodeling by reducing the abnormal increase in ventricular wall stress and structural changes in the heart after a STEMI. Once blood flow has been re-established to the affected heart muscle of a patient following a STEMI, a physician deploys BCM through the coronary artery related to the infarcted region of the left ventricle. BCM is designed to flow into the damaged heart muscle where it forms a flexible scaffold to enhance the mechanical strength of the heart muscle during recovery and repair, thereby preventing cardiac remodeling. We have an exclusive worldwide license to BCM under a license agreement we entered into with BioLine in August 2009.

Disease Background and Market Opportunity

An AMI is generally a sudden event resulting from a blockage of one or more of the arteries supplying blood to the heart. This can cause the heart muscle to die or temporarily stop working. In some patients, particularly those with large areas of the heart affected by the AMI, the dead or stunned muscle in the infarcted area can start to degrade even if blood flow is subsequently restored.

Given recent advances in treating AMIs, patients do not typically die of the acute event, especially in developed countries with good hospital systems. Instead, post-AMI patients are at an increased risk of congestive heart failure that results from the loss of structural support where the tissue has died, leading to a change in the shape of the heart, or remodeling, excess blood being left in the heart after it beats and increased strain on the left ventricular wall. This left ventricular dysfunction is characterized by increased ventricular volume and decreased ejection fraction, which is the fraction of blood in the heart that is pumped out each time it contracts. The early impact of the heart attack on ejection fraction and left ventricular end-systolic volume is predictive of left ventricular function one year after the initial event. This deterioration in left ventricular function, which indicates adverse ventricular remodeling, can eventually cause the heart not to pump enough blood to the body, leading to congestive heart failure. In a large controlled study, worsening of ventricular measures was predictive of both mortality and heart failure.

Data from long-term third-party studies suggests that the five-year post-AMI rate of congestive heart failure or death is approximately 35% to 40%. In addition, based on data presented from the study conducted in Olmstead County, Minnesota, we estimate that the three-year post-AMI rate of congestive heart failure or mortality among patients who have had an AMI is approximately 30%. We are developing BCM to fill this unmet medical need by providing structural support of the heart muscle in the early days and months following an AMI, which is a critical period when the extracellular matrix is first degraded and

then reconstituted as part of the heart's response to the injury and the time at which the heart is at high risk for remodeling. We expect that deploying BCM will help prevent cardiac remodeling and possibly the progression to advanced stages of congestive heart failure.

According to hospital claims data and American Heart Association estimates, in 2014, the estimated incidence of AMI hospital admissions in the United States will be over 900,000. There are two classifications of AMI, STEMI and non-STEMI. While both types of AMIs can cause significant damage to the heart, STEMIs tend to have more severe acute symptoms. We estimate that nearly one-third of AMI hospital admissions in the United States were for STEMI. Additionally, according to a report published in the European Heart Journal in 2010, over one million people suffer from AMI in Europe, over half of whom have a STEMI. The costs of treating the consequences of AMI can be substantial. The American Heart Association reported that the total cost of congestive heart failure in 2012 was approximately \$30.0 billion in the United States, and we estimate that approximately 40% of these patients were treated for congestive heart failure following an AMI. The average hospitalization costs in the United States for congestive heart failure have been estimated to be in the range \$17,000 to \$21,000 per admission with total lifetime medical costs following CHF diagnosis estimated at more than \$100,000 per patient. Therefore, we believe BCM could be a treatment that would help to prevent cardiac remodeling and thereby reduce the incidence of congestive heart failure, which could generate significant medical cost savings in addition to improving the quality of life of these patients.

Scientific Rationale for Use of BCM in the Prevention of Cardiac Remodeling Following a STEMI

BCM is a clear, low-viscosity solution containing sodium alginate and calcium gluconate. Alginates, which are complex sugars obtained from seaweed, have been used extensively in the food industry as well as by the pharmaceutical and medical device industries. In medical devices, alginates have been used as wound dressings, as bone-void fillers and to create dental impressions. BCM's specific, patent-protected composition has been optimized to be partially cross-linked by calcium ions and to maintain a free-flowing liquid state for injection into the blood stream. However, when injected into the heart following an AMI, we believe that BCM will flow into the damaged heart muscle where it will come into contact with the additional extracellular calcium that is released by the newly dead heart muscle cells, resulting in the formation of additional cross-links within the alginate. These cross-links turn BCM into a gel meshwork with mechanical properties similar to the normal extracellular cardiac matrix. Based on data from animal studies, we believe these properties allow BCM to provide temporary structural support to the wall of the heart while it heals after an AMI.

Once deposited, BCM remains in the infarct zone for a few months. As the heart heals and the extracellular calcium levels return to normal, the crosslinks in the gel slowly degrade, and the alginate returns to liquid form and is excreted via the kidneys. In our pre-clinical animal studies of BCM, tissue sample analysis has shown that most of the alginate dissipates within three months and is no longer detectable in the heart or elsewhere in the body within six months after BCM injection. In an academic study published in the Journal of the American College of Cardiology, pigs were injected with either BCM or saline following an AMI. In this study, the pigs that received saline had approximately 44% greater enlargement in left ventricular chamber volume after 60 days compared to the pigs that received two milliliters of BCM. In another academic study conducted in dogs with AMI, deploying BCM at any time within one week of an AMI reduced cardiac remodeling compared to placebo.

Clinical Development Program

BCM is a Class III medical device that we are developing to prevent cardiac remodeling and subsequent congestive heart failure after AMI following successful re-opening of the blood vessels. We are currently conducting a clinical trial of BCM, which is designed as a CE mark registration trial in the European Union. We refer to this trial as our PRESERVATION I trial, and it is designed as a

double-blind, placebo-controlled trial, and the primary endpoint is change in anatomical measurements six months after device deployment.

The principal treatment for a STEMI is to re-establish blood flow in the blocked coronary artery at the earliest possible opportunity. This can be achieved by percutaneous coronary intervention, dissolving the blockage with medications or open heart surgery. BCM is designed to be deployed via a percutaneous coronary intervention into the previously blocked coronary artery after blood flow has been re-established.

We are developing BCM in the United States under an IDE and in consultation with a Notified Body in the European Union, which regulates the testing and use of devices. For our IDE application, we performed animal and *in vitro* studies and device effectiveness studies in pigs. Our pre-clinical studies demonstrated that BCM was well tolerated and showed activity in reducing cardiac remodeling after AMI in pigs when deployed in either a dedicated percutaneous coronary intervention procedure or during an initial percutaneous coronary intervention procedure. The FDA has agreed that the non-clinical package is complete and adequate for supporting clinical development, as specified in the IDE, and for registration of BCM.

The first human trial for BCM was a pilot clinical trial conducted by BioLine in Europe and completed in 2009, in which BCM was safely administered to 27 patients within seven days following a moderate to large STEMI and percutaneous coronary intervention. This open-label trial, in which all patients were treated with a two milliliter device, was conducted in multiple centers in Germany and Belgium and included patients who had experienced a first AMI of substantial size. The primary purpose of this trial was to evaluate the safety of BCM deployment. In addition, some efficacy parameters could be observed as all patients suffered a STEMI and had serial echocardiography studies performed at one, three and six months. A total of 27 patients (mean age 54 ± 9 years) after a STEMI were treated during the course of this trial. Twenty-four patients were male, and 19 had experienced an anterior AMI with peak creatine kinase levels of 3183 ± 1490 international units per liter. The time from symptom onset to primary percutaneous coronary intervention ranged from 0.6 to 84.7 hours (with a mean of 9.9 ± 16.9 hours and a median of 3.8 hours). There were no serious adverse events observed with BCM at deployment. In this trial, eight patients experienced at least one treatment-emergent serious adverse event, and one event, a single episode of syncope that occurred 172 days after BCM deployment, was judged as possibly device related. In addition, 21 patients reported at least one adverse event in the initial six-month follow-up period. This data showed that BCM was well tolerated when deployed in patients following an AMI. In addition, standard echocardiogram measures of heart function were performed. In the six-month evaluation, patients in the study, each of whom had large STEMIs, had measures of left ventricular function, including left ventricular end diastolic index, or LVEDVI, of left ventricular end systolic volume index, or LVESVI, and of left ventricular ejection fraction that indicated no change from baseline. Although interpretation of this data is limited by the lack of a control group, data from patients who were treated showed little change in these left ventricular measures, the worsening of which have been linked to mortality and heart failure.

In addition to the short-term testing during the first six months following the STEMI, the 27 patients had annual follow-up safety evaluations planned for up to five years. At the four-year follow-up evaluation, which is the most recent data set available, 25 of the 27 patients were confirmed to still be alive. Of the two patients not confirmed alive, one died from T-cell lymphoma, which was likely a pre-existing condition, and one was lost to follow-up between the three- and four-year follow-up evaluations. However, the patient lost to follow-up had no device-related adverse events at the three-year follow-up evaluation. Of the 25 patients who were confirmed to be alive at year four, one had a hospitalization for congestive heart failure, which occurred within one year of device deployment. In addition, based on available data, during the four-year evaluation period, five patients experienced at least one cardiac ischemic event (nine cardiac ischemic events in total), none of which were considered to be related to BCM. This data from the four-year safety follow-up evaluations is better than we

expected based on our review of publicly reported data from two long-term third-party studies of AMI patients, the Framingham Heart Study and the Olmstead County. The data from these two studies suggest that the rate of congestive heart failure or death five years following an AMI is approximately 35% to 40%. In addition, based on data presented from the Olmstead County study, we estimate that the three-year post-AMI rate of congestive heart failure or mortality among patients who have had an AMI is approximately 30%.

Our ongoing PRESERVATION I trial is a CE mark registration trial for EU regulatory purposes and is comparable to a feasibility clinical trial in the United States. We completed enrollment of this trial in December 2014, with 303 patients having completed the treatment procedure at almost 90 clinical sites in Europe, Australia, North America and Israel. Our key inclusion criteria for this trial include that patients must have:

- suffered from a large STEMI as measured by cardiac enzymes;
- clinical signs of significant cardiac damage;
- imaging evidence of impaired heart function; and
- had a primary percutaneous coronary intervention with a stent placed.

In this double-blind trial, patients are randomized in a two-to-one ratio to BCM or placebo. The trial device is injected in a second percutaneous coronary intervention two to five days after the initial myocardial infarction. The primary endpoint is change in the anatomical measurement of left ventricular end-diastolic volume index by echocardiography measured six months after device deployment. Secondary endpoints include the measurement of functional capacity of change in six-minute walk distance and the measurement of patient reported outcome as recorded on the quality of life tool of Kansas City Cardiomyopathy Questionnaire. Other endpoints include a measurement of BCM in the peripheral circulation as an assessment of the pharmacokinetics of BCM, electrocardiogram measures and other anatomic endpoints, including change in left ventricular end-systolic volume index and ejection fraction. In addition, as required by the trial protocol, we will follow all patients to monitor safety for a period of five years after device deployment. The Data Safety Monitoring Board for this trial has met six times to evaluate the safety data and on each occasion has approved the continuation of the trial as planned. We expect to report top line results from this trial in mid-2015. We also expect that if our PRESERVATION I trial is successful, we will rely on the results to seek CE marking for BCM in the European Union potentially in the first half of 2016.

Assuming positive results from our PRESERVATION I trial, we plan to conduct a second, larger clinical trial to support approval in the United States through the PMA pathway. We met with the FDA to discuss U.S. regulatory requirements for a pivotal clinical trial. Based on discussions with the FDA Center for Devices and Radiological Health in May 2010, we expect that our pivotal trial will include approximately 1,000 patients, having a composite endpoint of anatomic measurements of left ventricular end-diastolic volume index or ejection fraction, a patient outcomes measurement test and a functional measure such as six-minute walk distance or a cardiopulmonary stress test. We currently expect to begin this trial in the first half of 2016, and we estimate that, once initiated, the trial will take approximately two to three years to complete.

If the PRESERVATION I trial demonstrates that BCM is well tolerated and has a clinical benefit in severe STEMIs when deployed in a second percutaneous coronary intervention procedure, we intend to consider testing BCM in an expanded population, including patients with moderate STEMIs, and for deployment of BCM during the primary percutaneous coronary intervention procedure, eliminating the need for a second invasive procedure. We are currently designing a trial to evaluate the safety of deploying BCM in the primary percutaneous coronary intervention procedure after a large STEMI. The secondary objective of this trial will be to evaluate the efficacy of BCM six months after deployment using ventricular remodeling measures. We currently intend to begin this trial in the second half of

2015, assuming successful completion of PRESERVATION I, and we expect the trial will take approximately one year to complete.

Relationship with Ikaria after the Spin-Out

The development of our programs was initiated under the leadership of our scientific and development team while at Ikaria. Ikaria's lead product, INOmax, is an inhaled nitric oxide product used for treatment of persistent pulmonary hypertension of the newborn. Our understanding of the medical applications of nitric oxide and associated delivery devices, as well as our innovative approach to the pulsed delivery of nitric oxide, originated at Ikaria, and we in-licensed BCM while we were a part of Ikaria.

In October 2013, Ikaria completed an internal reorganization of certain assets and subsidiaries, in which it transferred to us exclusive worldwide rights, with no royalty obligations, to develop and commercialize pulsed nitric oxide in PAH, PH-COPD and PH-IPF. Following the internal reorganization, in February 2014, Ikaria distributed all of our then outstanding units to its stockholders through the payment of a special dividend on a pro rata basis based on each stockholder's ownership of Ikaria capital stock. We refer to Ikaria's distribution of our then outstanding units to its stockholders as the Spin-Out. Shortly after the Spin-Out, Ikaria was acquired by entities affiliated with Madison Dearborn Partners. Ikaria retains the right to develop and commercialize inhaled nitric oxide products, including pulsed products, in all indications other than PAH, PH-COPD and PH-IPF.

In connection with the Spin-Out, we entered into several agreements with Ikaria providing for, among other things, the provision of transition services, the cross license of certain intellectual property, commitments not to compete, the manufacture and supply of the INOpulse drug and device and certain employee matters.

Transition Services Agreement

In February 2014, we entered into a transition services agreement with Ikaria, which we refer to as the TSA. Pursuant to the terms and conditions of the TSA, Ikaria has agreed to use commercially reasonable efforts to provide certain services to us, including human resources support, real estate support, information technology support, accounting and tax support, treasury support, financial planning and analysis support, purchasing support, management/executive services, legal services, quality services, regulatory services, drug and device safety services, business development support, biometrics support and manufacturing support. Ikaria is obligated, subject to the terms of the TSA (including the early termination provisions thereof and our obligation to use commercially reasonable efforts to provide the services for ourselves as soon as practicable), to provide such services until February 2016.

Ikaria has also agreed, on the terms and subject to the conditions of the TSA, to use commercially reasonable efforts to allow our employees to remain in Ikaria's Hampton, New Jersey facility for the continued operation of our business during the term of the TSA.

We are obligated to pay Ikaria a service fee in the amount of \$772,000 per month and to reimburse Ikaria for any out-of-pocket expenses incurred in connection with its provisions of services under the TSA, any taxes imposed on Ikaria in connection with the performance or delivery of services under the TSA and any costs and expenses incurred by Ikaria in connection with the performance of any services that require resources outside of the existing resources of Ikaria or that otherwise interfere with the ordinary operations of Ikaria's business. This monthly service fee is payable by us regardless of the frequency or quantity of services actually utilized by us under the TSA, and our obligation to pay such monthly service fee until February 2016 will survive any early termination of the TSA. At the time we entered into the TSA, we also entered into an escrow agreement, pursuant to which we deposited \$18.5 million, representing the aggregate amount of the monthly service fees payable by us under the TSA, into escrow to guarantee our payment of such fees to Ikaria. We are also obligated to pay any

fees, costs, expenses or other amounts incurred by Ikaria to obtain the right to allow our employees to remain in the Hampton, New Jersey facility during the term of the TSA.

Exclusive Cross-License, Technology Transfer and Regulatory Matters Agreement

In February 2014, we entered into an exclusive cross-license, technology transfer and regulatory matters agreement with Ikaria. Pursuant to the terms of the license agreement, Ikaria granted to us a fully paid-up, non-royalty bearing, exclusive license under specified intellectual property rights controlled by Ikaria to engage in the development, manufacture and commercialization of nitric oxide, devices to deliver nitric oxide and related services for or in connection with out-patient, chronic treatment of patients with PAH, PH-COPD or PH-IPF, which we refer to collectively as the Bellerophon indications.

We have granted to Ikaria a fully paid-up, non-royalty-bearing, exclusive license under specified intellectual property rights that we control to engage in the development, manufacture and commercialization of products and services for or used in connection with the diagnosis, prevention or treatment, whether in- or out-patient, of certain conditions and diseases other than the Bellerophon indications and for the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital, which we refer to collectively as the Ikaria nitric oxide business.

We have agreed that, during the term of the license agreement, we will not, without the prior written consent of Ikaria, grant a sublicense under any of the intellectual property licensed to us under the license agreement to any of our affiliates or any third party, in either case that directly or indirectly competes with the Ikaria nitric oxide business. We have also agreed that we will include certain restrictions in our agreements with customers of our products to ensure that such products will only be used for the Bellerophon indications.

The license agreement will expire on a product-by-product basis for products for a specific Bellerophon indication at such time as we are no longer developing or commercializing any product for such indication. The license agreement may be terminated by either party in the event an act or order of a court or governmental authority prohibits either party from substantially performing under the license agreement. Either party may also terminate the license agreement in the event of an uncured material breach by the other party or in the event the other party is insolvent or in bankruptcy proceedings. Ikaria may also terminate the license agreement if we or any of our affiliates breach the agreements not to compete described below, or if we or any successor to our rights under the license agreement markets a generic nitric oxide product that is competitive with INOmax. Under certain circumstances, if the license agreement is terminated, the licenses granted to Ikaria by us will survive such termination.

Agreements Not to Compete

In September 2013, October 2013 and February 2014, we and each of our subsidiaries entered into an agreement not to compete with Ikaria. We refer to these agreements collectively as the agreements not to compete. Pursuant to the agreements not to compete, we and each of our subsidiaries agreed not to engage, anywhere in the world, in any manner, directly or indirectly, until the earlier of five years after the effective date of such agreement not to compete or the date on which Ikaria and all of its subsidiaries are no longer engaged in such business, in:

- the development, manufacture, commercialization, promotion, sale, import, export, servicing, repair, training, storage, distribution, transportation, licensing or other handling or disposition of any product or service (including, without limitation, any product or service that utilizes, contains or includes nitric oxide for inhalation, a device intended to deliver nitric oxide or a service that delivers or supports the delivery of nitric oxide), bundled or unbundled, for or used in connection with (a) the diagnosis, prevention or treatment, in both adult and/or pediatric

populations, and whether in- or out-patient, of: (i) hypoxic respiratory failure associated with pulmonary hypertension, (ii) pulmonary hypertensive episodes and right heart failure associated with cardiovascular surgery, (iii) bronchopulmonary dysplasia, (iv) the management of ventilation-perfusion mismatch in acute lung injury, (v) the management of ventilation-perfusion mismatch in acute respiratory distress syndrome, (vi) the management of pulmonary hypertension episodes and right heart failure in congestive heart failure, (vii) pulmonary edema from high altitude sickness, (viii) the management of pulmonary hypertension episodes and right heart failure in pulmonary or cardiac surgery, (ix) the management of pulmonary hypertension episodes and right heart failure in organ transplant, (x) sickle cell vaso-occlusive crisis, (xi) hypoxia associated with pneumonia or (xii) ischemia-reperfusion injury or (b) the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital; or

- any and all development, manufacture, commercialization, promotion, sale, import, export, storage, distribution, transportation, licensing, or other handling or disposition of any terlipressin or any other product within the pressin family, (a) intended to treat (i) hepatorenal syndrome in any form, (ii) bleeding esophageal varices or (iii) septic shock or (b) for or in connection with the management of low blood pressure.

The agreements not to compete expressly exclude the Bellerophon indications.

In February 2014, we also entered into drug and device clinical supply agreements and an employee matters agreement with Ikaria See "Manufacturing" below for a description of the drug and device clinical supply agreements and "Certain Relationships and Related Person Transactions—Relationship with Ikaria" for a description of the employee matters agreement.

BioLine License Agreement

In August 2009, we entered into a license agreement with BioLineRx, Ltd. and BioLine Innovations Jerusalem L.P., under which we obtained an exclusive worldwide license to BCM. Under the license agreement, we are obligated to use commercially reasonable efforts to develop and commercialize at least one product containing BCM. We have established a joint development committee with BioLine to oversee the development of BCM.

We paid BioLine a \$7.0 million upfront payment in 2009 and a \$10.0 million milestone payment in 2010. Under the terms of the license agreement, if we achieve certain clinical and regulatory events specified in the license agreement, we will be obligated to pay milestone payments to BioLine that could total, in the aggregate, up to \$115.5 million, and if we achieve certain commercialization targets specified in the license agreement, we will be obligated to pay additional milestone payments to BioLine that could total, in the aggregate, up to \$150.0 million. In addition, we will be obligated to pay BioLine a specified percentage of any upfront consideration we receive for sublicensing BCM, as well as royalties at a percentage in the low double digits below 20% on net sales, if any, of any approved product containing BCM, subject to offsets for specified payments to third parties made in connection with BCM. Our obligation to pay BioLine royalties will expire on a product-by-product and country-by-country basis on the date on which BCM is no longer covered by a valid claim in the licensed patent rights in the given country.

BioLine has the option, exercisable under specified circumstances, to manufacture any product containing BCM for us pursuant to terms to be negotiated by the parties. If BioLine exercises this option, we would generally be obligated to purchase at least a specified percentage of our BCM requirements from BioLine at a price calculated using a pre-agreed methodology, and the parties would be required to establish a joint manufacturing committee to coordinate manufacturing efforts.

Except under specified circumstances, neither we, nor any other person that controls, is controlled by, or is under common control with us, may directly or indirectly acquire more than a specified

percentage of the equity or debt securities of BioLine, or urge, induce, entice or solicit any other party to acquire such securities, without BioLine's consent.

We and BioLine have the right to terminate the license agreement for an uncured material breach by the other party. In addition, we have the right to terminate the license agreement if at any time we determine that further development of products containing BCM is not warranted.

Manufacturing

INOpulse Drug Product

In February 2014, we entered into a drug clinical supply agreement with Ikaria, or the drug supply agreement, pursuant to which Ikaria has agreed to use commercially reasonable efforts to manufacture and supply, and we have agreed to acquire from Ikaria, our requirements for nitric oxide for inhalation and corresponding placebo for use in our clinical programs for PAH, PH-COPD and PH-IPF. Pursuant to the drug supply agreement, we will pay to Ikaria an amount equal to Ikaria's internal and external manufacturing cost plus 20%. Under the terms of the drug supply agreement, we have also granted Ikaria a right of first negotiation in the event that we desire to obtain supply of nitric oxide for inhalation and corresponding placebo (or any variant thereof or any version with different specifications) for commercial use. The drug supply agreement will expire on a product-by-product basis on the date we discontinue clinical development of such product. In addition, either party may terminate the drug supply agreement in the event of an uncured material breach by the other party.

Ikaria manufactures pharmaceutical-grade nitric oxide at its facility in Port Allen, Louisiana. This facility, which we believe is operated in compliance with current Good Manufacturing Practices, or cGMP, is the only FDA-inspected site for manufacturing pharmaceutical-grade nitric oxide in the world. The primary manufacturing activity at the site is the commercial production of INOmax and production of INOpulse. This production includes the chemical synthesis of high-purity nitric oxide, which is the active pharmaceutical ingredient in INOmax and INOpulse, and the filling of the gas cylinders in which the products are packaged.

To support business outside of the United States, the Port Allen manufacturing facility has also successfully passed inspections by local agencies, the EMA, Health Canada; the Pharmaceutical and Medical Devices Agency, or PMDA, of Japan, and the Korean FDA, or KFDA. The EMA, the Health Protection Branch of Health Canada, PMDA and KFDA operate in a similar fashion to the FDA in that each requires submission of a dossier containing substantial evidence of safety and effectiveness prior to approval. These agencies' monitoring of safety in a post-marketing setting also is similar to that of the FDA.

The operations that Ikaria currently performs for us consist of two steps. The first step is to manufacture the concentrated drug product, which Ikaria conducts using the same processes that it uses to manufacture its own drug product. The second step is the filling operation in which the pre-mix product is mixed to the appropriate concentration and filled into the final cartridges that we use with INOpulse. As we have reduced the size and weight of INOpulse, we have also developed a smaller, more-concentrated drug cartridge for INOpulse. The filling process has been developed by Ikaria as a high-throughput batch fill process that leverages several technologies that Ikaria has developed, and we have licensed, to fill smaller containers at a higher pressure and purity and at a significantly higher production rate than prior technology.

This manufacturing system is designed to be modular and can be expanded as needed. The current installed capacity within the Port Allen plant is sufficient to support our INOpulse clinical program as currently planned. In addition, the plant has the capacity to expand to meet additional demand. We have a license from Ikaria to use this fill process technology to work with additional companies, as needed, to produce the final cartridge. Commercial supply manufacturing can be supported with

additional units installed at the Port Allen site or other regional locations, by Ikaria or other manufacturers, as determined by distribution requirements. For our clinical trials, Ikaria can supply and ship product from the Port Allen site and the current cartridges are expected to have a shelf life of at least one year. We are testing the finished product to potentially establish a shelf life of up to two years.

INOpulse Drug Delivery Systems

Ikaria has a drug delivery system manufacturing facility in Madison, Wisconsin, at which it designs, engineers, assembles, packages and distributes drug delivery systems, including INOpulse. In February 2014, we entered into a device clinical supply agreement with Ikaria, or the device supply agreement, pursuant to which Ikaria is required to use commercially reasonable efforts to manufacture and supply our requirements for certain nitric oxide delivery devices specified in the device supply agreement for use in our INOpulse clinical program. The device supply agreement will expire on February 9, 2015. We entered into a services agreement with Ikaria, effective as of January 1, 2015, which expires in February 2016, under which, among other things, Ikaria agreed to use commercially reasonable efforts to provide us with certain INOpulse device related services, including services related to device remediation, upgrades and refurbishment. We are currently negotiating and intend to enter into, by the end of the first quarter of 2015, a new agreement with a third-party manufacturer to assemble the Mark2 devices that we expect to use in any future clinical trials of INOpulse for PAH and INOpulse for PH-COPD.

Each version of our INOpulse device currently under development will be pre-programmed at the time of manufacture to the dose setting specified for the applicable indication. Since PAH patients have the potential for rebound pulmonary hypertension, which is a sudden and serious increase in pulmonary arterial pressure that results from therapy withdrawal, patients with this condition are required to have a backup system. Accordingly, we will be required to provide PAH patients with either a separate backup device or a device with a built-in pneumatic, or non-electrical, backup system. Also, pursuant to the terms of our license agreement with Ikaria, we are required to lease and not to sell our INOpulse devices as well as to track and maintain control of the indications for which each are used. We intend to meet these requirements by maintaining close monitoring of the use of the devices, including through planned remote data downloads and a system diagnostic feature.

BCM Product

We currently outsource the manufacture of BCM for use in clinical trials. BCM is manufactured by a third-party under the terms of a manufacturing and supply agreement which expires in April 2017. We plan to enter into a manufacturing and supply agreement for BCM with a third-party prior to April 2017.

BCM is composed of ultra-pure sodium alginate and calcium-D-gluconate. We purchase sodium alginate from FMC BioPolymer AS (doing business as NovaMatrix™) under the terms of a clinical supply agreement that expires in December 2018. We and FMC BioPolymer have agreed to negotiate a commercial supply agreement prior to the December 2018 expiration of the clinical supply agreement. Calcium-D-gluconate is a commodity item available from multiple suppliers. If BCM is approved for commercial sale, we will likely continue to outsource its manufacture to contract manufacturers.

BioLine has the option, exercisable under specified circumstances, to manufacture any product containing BCM for us pursuant to terms to be negotiated by the parties. If BioLine exercises this option, we would generally be obligated to purchase at least a specified percentage of our BCM requirements from BioLine at a price calculated using a pre-agreed methodology, and the parties would be required to establish a joint manufacturing committee to coordinate manufacturing efforts.

Competition

The biotechnology and pharmaceutical industries are highly competitive. There are many pharmaceutical companies, biotechnology companies, public and private universities and research organizations actively engaged in the research and development of products that may be similar to our products. In addition, other companies are increasingly looking at cardiac and cardiopulmonary indications as a potential opportunity. It is possible that the number of companies seeking to develop products and therapies for the treatment of unmet needs in our target markets will increase.

Our competitors, either alone or with their strategic partners, may have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of products and the commercialization of those products. Accordingly, our competitors may be more successful than we may be in obtaining approval for therapies and achieving widespread market acceptance. We anticipate that we will face intense and increasing competition as new drugs and advanced technologies become available.

Currently, there are 12 drugs approved for the treatment of PAH, within the following categories: prostacyclin and prostacyclin analogs (including Flolan (epoprostenol), which is marketed by GlaxoSmithKline, Tyvaso (treprostinil), Orenitram (treprostinil) and Remodulin (treprostinil), which are marketed by United Therapeutics Corporation, and Ventavis (iloprost) and Veletri (epoprostenol), which are marketed by Actelion Pharmaceuticals US, Inc., or Actelion), phosphodiesterase type-5 inhibitors (including Adcirca (tadalafil), which is marketed by United Therapeutics Corporation, and Revatio (sildenafil), which is marketed by Pfizer Inc.), endothelin receptor antagonists (including Letairis (ambrisentan), which is marketed by Gilead Sciences, Inc., and Opsumit (macitentan) and Tracleer (bosentan), which are marketed by Actelion) and a soluble guanylate cyclase stimulator (Adempas (riociguat), which is marketed by Bayer HealthCare Pharmaceuticals Inc.). Actelion recently submitted an NDA to the FDA for selexipag, a selective prostacyclin receptor agonist.

There are also other treatments in Phase 1 and Phase 2 clinical development, including other nitric oxide generation and delivery systems, including GeNOsyl, which is being developed by GeNO LLC, and a nebulized formulation of nitrite, which is being developed by Mast Therapeutics.

Currently, there are no approved therapies for treating PH-COPD, and the only generally accepted treatments are long-term oxygen therapy, pulmonary rehabilitation and lung transplant, and we are not aware of any therapies for PH-COPD in advanced clinical development.

There are no generally accepted products approved for structural support to prevent cardiac remodeling following an AMI. Other product candidates that are currently in clinical development include stem cell therapies to restore heart muscle cells following an AMI, with large Phase 3 trials expected to be completed in 2018 or 2019. We do not expect BCM to compete with, or replace, current treatments for congestive heart failure following AMI, but instead believe it will become part of the treatment regimen used in conjunction with other therapies. In addition, because BCM can be delivered by a minimally invasive percutaneous coronary intervention procedure, we do not believe it will directly compete with devices that are used to treat congestive heart failure, which are designed for administration during open heart surgery or by intra-cardiac injection involving a thoracotomy procedure. These include mesh restraining devices, for example HeartNet; injectable biopolymers, for example Algisyl-LVR; and implantable electro-stimulation devices, for example, CardioFit. In addition, volume reduction surgery or cardiac assist devices, or pumps, are sometimes used to treat patients with congestive heart failure.

Patents and Proprietary Rights

We strive to protect the proprietary technologies that we believe are important to our business, including seeking and maintaining patent protection intended to protect, for example, our product candidates, related technologies and/or other aspects of the inventions that are important to our business. Our owned and licensed patents and patent applications cover patentable subject matter from composition of matter, methods of use, manufacturing processes for BCM and method of administration, devices and device components, critical safety features and design components with respect to INOpulse. However, patent protection is not available for the composition of matter of the active pharmaceutical ingredients in INOpulse since nitric oxide is a naturally occurring molecule.

Actual protection afforded by a patent, which can vary from country to country, depends on the type of patent, the scope of its coverage and the availability of legal remedies in the country. We also rely on trade secrets and careful monitoring of our proprietary information to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

We plan to continue to expand our intellectual property estate by filing patent applications directed to inventions which provide additional patent protection for our product offering, for instance, device enhancements, safety features and manufacturing processes. Our success will depend significantly on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business; defend and enforce our patents; maintain our licenses to use intellectual property owned by third parties; preserve the confidentiality of our trade secrets; and operate without infringing the valid and enforceable patents and other proprietary rights of third parties. We also consider know-how, continuing technological innovation and in-licensing opportunities to develop, strengthen and maintain our proprietary positions.

A third party may hold intellectual property, including patent rights that are important or necessary to the development of our programs. It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our product candidates, in which case we would be required to obtain a license from these third parties on commercially reasonable terms, or our business could be harmed, possibly materially. For example, if we want to expand the indications for which we could develop and commercialize pulsed nitric oxide beyond PAH, PH-COPD and PH-IPF, we will need to obtain a license from Ikaria.

The patent positions of biotherapeutics companies like us are generally uncertain and involve complex legal, scientific and factual questions. In addition, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and patent scope can be reinterpreted by the courts after issuance. Moreover, many jurisdictions permit third parties to challenge issued patents in administrative proceedings which may result in further narrowing or even cancellation of patent claims. Consequently, we do not know whether any of our product candidates will be protectable or remain protected by enforceable patents. We cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection from competitors. Any patents that we own or license may be challenged, narrowed, circumvented or invalidated by third parties.

Because patent applications in the United States and certain other jurisdictions are maintained in secrecy for 18 months or potentially even longer, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, we cannot be certain of the priority of inventions covered by pending patent applications. Moreover, we may have to participate in interference proceedings declared by the U.S. Patent and Trademark Office, or USPTO, to determine priority of inventions for any patent applications filed with the USPTO on or before March 15, 2013. Likewise, derivation proceedings may also be declared for any patent filings filed after March 15, 2013.

The patents and patent applications that relate to our programs are described below.

INOpulse

As of January 12, 2015, we hold exclusive licenses from Ikaria to at least 80 patents and pending patent applications in both the United States and foreign countries including Australia, Brazil, Canada, China, Europe, Hong Kong, India, Indonesia, Israel, Japan, Korea, Mexico, the Philippines, Russia and Singapore. Certain of these issued patents and patent applications, if issued, will expire as late as 2033. These patent rights have been exclusively licensed for the treatment of patients with PAH, PH-COPD and PH-IPF and cover methods of delivery and the drug delivery device, as well as important safety features and the ornamental design of the drug delivery device.

A primary basis for patent exclusivity is based on pending and issued in-licensed patents directed to proprietary methods of administering pulsed inhaled nitric oxide, as well as a device for delivering the same. This patent family expires as late as 2027 in the United States and as late as 2026 in Australia, Brazil, Canada, China, Europe, Hong Kong, Japan and Mexico.

Another important basis for patent exclusivity is based on an in-licensed portfolio of one issued U.S. patent, three pending U.S. patent applications, and two Patent Cooperation Treaty pending patent applications, in each case directed to novel nasal cannula features that we believe are necessary for the accurate, safe and efficacious administration of pulsed nitric oxide. Each of these patents and patent applications, if issued, will expire in 2033 in the United States and abroad.

Another in-licensed patent family relates to features of the drug delivery canister necessary for providing drug product for use with our proprietary pulsing drug delivery device. This patent family includes one issued U.S. patent and three issued Australian patents, as well as 15 pending patent applications in the United States, Brazil, Canada, China, Europe, Hong Kong, India, Indonesia, Israel, Japan, Korea, Mexico, the Philippines, Russia and Singapore. These pending applications, if issued, will expire in 2029, as well will the issued Australian patents. The issued U.S. patent will expire in 2030.

Several other patent families directed to device and safety features are pending. Furthermore, a design patent covering the ornamental design of the intended commercial device has been granted, and a design patent application is pending for the ornamental design of the clinical device.

In addition, the FDA has granted orphan drug designation to our nitric oxide program for the treatment of PAH, which could result in marketing exclusivity of seven years in the United States should this be the first NDA approved for inhaled nitric oxide in this indication. The active ingredient, nitric oxide, was previously approved by the FDA as a drug in a separate clinical application. Accordingly, any related patent rights will not be eligible for a patent term extension under relevant provisions of the Hatch-Waxman Act.

BCM

Patent protection of BCM in the United States and in Australia, Canada, China, Europe, Hong Kong, India, Israel, Japan, Korea and Mexico is provided by issued composition of matter and method of treatment patents and patent pending applications, which we in-license from BioLine, that cover the intended commercial product. These issued patents are not limited to treatment of cardiac tissue, affording broad protection for the use of BCM in treating any damaged body tissue. We were notified by the European Patent Office in July 2014 and October 2014 that Notices of Opposition to two European patents that we licensed from BioLine, one of which covers the BCM intended commercial product described above, have been filed with the European Patent Office. A Notice of Opposition initiates a process during which the European Patent Office can decide to reconsider an issued patent and modify or revoke some or all of the patent claims. We have the right to respond to the Notices of Opposition before the European Patent Office makes a decision whether or not any or all of the patent claims are to be modified or revoked. We filed a response to the first patent opposition in December 2014 and intend to file a response in the near future for the second patent opposition as we believe the two issued patents were properly examined and appropriately granted by the European Patent Office. Furthermore, we believe the arguments made in the Notices of Opposition misstate the facts and lack scientific merit.

BCM will be regulated as a device and therefore data exclusivity will not be available. However, under the Hatch-Waxman Act, one issued U.S. patent covering the product will be eligible for patent term extension of up to five years to recover patent term lost during clinical trials. Accordingly, if the U.S. composition of matter patent that expires in 2029 is selected for this extension and a patent term extension is granted, certain rights under the patent may not expire until 2032 to 2034, depending on the timing of marketing approval and other factors. Corresponding issued patents in other countries will expire in 2024 and may also be eligible for patent term extensions. We do not expect to be granted a patent term extension for composition of matter patents in Europe, but patent term extensions may be available in other countries such as Japan and Israel.

Method of manufacturing patents that we have in-licensed have issued in the United States, Australia, China, Europe, India, Israel, Korea and Mexico and are pending in Canada. The U.S. issued patent expires in 2025 and the non-U.S. issued patents expire in 2024. The method of manufacturing patent applications we developed and own, if issued, will expire in the United States, Canada and Europe in 2032, not including any applicable patent term adjustment. Further, there is no abbreviated clinical trial pathway, such as an abbreviated new drug application, or ANDA, or a 505(b)(2) new drug application, for a device product approved via a PMA pathway.

Patent Term

The base term of a U.S. patent is 20 years from the filing date of the earliest-filed non-provisional patent application from which the patent claims priority. The term of a U.S. patent can be lengthened by patent term adjustment, which compensates the owner of the patent for administrative delays at the USPTO. In some cases, the term of a U.S. patent is shortened by terminal disclaimer that reduces its term to that of an earlier-expiring patent.

The term of a U.S. patent may be eligible for patent term extension under the Hatch-Waxman Act to account for at least some of the time the drug or device is under development and regulatory review after the patent is granted. With regard to a drug or device for which FDA approval is the first permitted marketing of the active ingredient, the Hatch-Waxman Act allows for extension of the term of one U.S. patent. Thus, patent term extension is not available for INOpulse since the active moiety is nitric oxide, which is already subject to an approved NDA. The extended patent term cannot exceed the shorter of five years beyond the non-extended expiration of the patent or 14 years from the date of the FDA approval of the drug or device. Some foreign jurisdictions have analogous patent term extension provisions that allow for extension of the term of a patent that covers a device approved by the applicable foreign regulatory agency. In the future, if and when BCM receives FDA approval, we expect to apply for a patent term extension on the patent covering BCM that we believe will provide the best exclusivity position if extended.

Trade Secrets

In addition to patents, we rely on trade secrets and know-how to develop and maintain our competitive position. We typically rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. For example, elements of the manufacture of our products are based on trade secrets and know-how that are not publicly disclosed. We protect trade secrets and know-how by establishing confidentiality agreements and invention assignment agreements with our employees, consultants, scientific advisors, contractors and commercial partners. These agreements provide that all confidential information developed or made known during the course of an individual or entity's relationship with us must be kept confidential during and after the relationship. These agreements also provide that all inventions resulting from work performed for us or relating to our business and conceived or completed during the period of employment or assignment, as applicable, shall be our exclusive property. In addition, we take other

appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our proprietary technology by third parties.

Trademarks

We also seek trademark protection where available and when appropriate. The symbol [™] indicates a common law trademark. Other service marks, trademarks and trade names appearing in this prospectus are the property of their respective owners.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries and jurisdictions, including the European Union, extensively regulate, among other things, the research, development, testing, manufacture, quality control, clearance, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, post-approval monitoring and reporting, and import and export of pharmaceutical products and medical devices. The processes for obtaining marketing approvals in the United States and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations and other regulatory authorities, require the expenditure of substantial time and financial resources.

Review and Approval of Drugs in the United States

In the United States, the FDA regulates drugs under the Food, Drug, and Cosmetic Act, or FDCA, and implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval may subject an applicant and/or sponsor to a variety of administrative or judicial sanctions, including refusal by the FDA to approve pending applications, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters and other types of letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement of profits, or civil or criminal investigations and penalties brought by the FDA and the Department of Justice or DOJ or other governmental entities.

Our product candidates must be approved by the FDA through the NDA process before they may be legally marketed in the United States. An applicant seeking approval to market and distribute a new drug product in the United States must typically undertake the following:

- completion of pre-clinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations;
- submission to the FDA of an IND, which must take effect before human clinical trials may begin;
- approval by an independent institutional review board, or IRB, representing each clinical site before each clinical trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices, or GCP, to establish the safety and efficacy of the proposed drug product for each indication;
- preparation and submission to the FDA of an NDA;
- review of the product by an FDA advisory committee, where appropriate or if applicable;

- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with cGMP requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity;
- payment of user fees and securing FDA approval of the NDA; and
- compliance with any post-approval requirements, including Risk Evaluation and Mitigation Strategies, or REMS, and post-approval studies required by the FDA.

Pre-Clinical Studies

Pre-clinical studies include laboratory evaluation of the purity and stability of the manufactured drug substance or active pharmaceutical ingredient and the formulated drug or drug product, as well as *in vitro* and animal studies to assess the safety and activity of the drug for initial testing in humans and to establish a rationale for therapeutic use. The conduct of pre-clinical studies is subject to federal regulations and requirements, including GLP regulations. The results of the pre-clinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical studies, among other things, are submitted to the FDA as part of an IND.

Companies usually must complete some long-term pre-clinical testing, such as animal tests of reproductive adverse events and carcinogenicity, and must also develop additional information about the chemistry and physical characteristics of the drug and finalize a process for manufacturing the drug in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality and purity of the final drug product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

Human Clinical Studies in Support of an NDA

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research subjects provide their informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written study protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to a proposed clinical trial and places the trial on clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. Accordingly, submission of an IND may or may not result in the FDA allowing clinical trials to commence.

In addition, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the study at least annually. The IRB must review and approve, among other things, the study protocol and informed consent information to be provided to study subjects. An IRB must operate in compliance with FDA regulations. Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health for public dissemination on their ClinicalTrials.gov website.

A sponsor who wishes to conduct a clinical trial outside the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND. If a foreign clinical trial is not conducted under an IND, the sponsor may submit data from the clinical trial to the FDA in support of an NDA or IND so long as the clinical trial is conducted in compliance with GCP, and the FDA is able to validate the data from the study through an onsite inspection if the agency deems it necessary.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined:

- Phase 1: The drug is initially introduced into a small number of healthy human subjects or patients with the target disease (e.g. cancer) or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness and to determine optimal dosage.
- Phase 2: The drug is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.
- Phase 3: Phase 3 clinical trials are commonly referred to as "pivotal" studies, which typically denotes a study which presents the data that the FDA or other relevant regulatory agency will use to determine whether or not to approve a drug. In Phase 3 clinical trials, the drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product, and to provide adequate information for the labeling of the product.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, or at all. Furthermore, the FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. The FDA will typically inspect one or more clinical sites to assure compliance with GCP and the integrity of the clinical data submitted.

Section 505(b)(2) NDAs

NDAs for most new drug products are based on two full clinical studies which must contain substantial evidence of the safety and efficacy of the proposed new product. These applications are submitted under Section 505(b)(1) of the FDCA. The FDA is, however, authorized to approve an alternative type of NDA under Section 505(b)(2) of the FDCA. This type of application allows the applicant to rely, in part, on the FDA's previous findings of safety and efficacy for a similar product, or published literature. Specifically, Section 505(b)(2) applies to NDAs for a drug for which the investigations made to show whether or not the drug is safe for use and effective in use and relied upon by the applicant for approval of the application "were not conducted by or for the applicant and for which the applicant has not obtained a right of reference or use from the person by or for whom the investigations were conducted."

Thus, Section 505(b)(2) authorizes the FDA to approve an NDA based on safety and effectiveness data that were not developed by the applicant. NDAs filed under Section 505(b)(2) may provide an alternate and potentially more expeditious pathway to FDA approval for new or improved formulations or new uses of previously approved products. If the 505(b)(2) applicant can establish that reliance on the FDA's previous approval is scientifically appropriate, the applicant may eliminate the need to

conduct certain pre-clinical or clinical studies of the new product. The FDA may also require companies to perform additional studies or measurements to support the change from the approved product. The FDA may then approve the new drug candidate for all or some of the label indications for which the referenced product has been approved, as well as for any new indication sought by the Section 505(b)(2) applicant.

Submission of an NDA to the FDA

NDAs for most new drug products are based on two full clinical studies that must contain substantial evidence of the safety and efficacy of the proposed new product. Assuming successful completion of required clinical testing and other requirements, the results of the pre-clinical and clinical studies, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the drug product for one or more indications. Under federal law, the submission of most NDAs is additionally subject to an application user fee, currently exceeding \$2.1 million, and the sponsor of an approved NDA is also subject to annual product and establishment user fees, currently exceeding \$104,000 per product and \$554,000 per establishment. These fees are typically increased annually.

The FDA conducts a preliminary review of an NDA within 60 days of its receipt and informs the sponsor by the 74th day after the FDA's receipt of the submission whether the application is sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA has agreed to specified performance goals in the review process of NDAs. Most such applications are meant to be reviewed within ten months from the date of filing, and most applications for "priority review" products are meant to be reviewed within six months of filing. The review process may be extended by the FDA for various reasons, including for three additional months to consider new information or clarification provided by the applicant to address an outstanding deficiency identified by the FDA following the original submission.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is or will be manufactured. These pre-approval inspections cover all facilities associated with an NDA submission, including drug component manufacturing (such as Active Pharmaceutical Ingredients), finished drug product manufacturing, and control testing laboratories. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP.

The FDA may refer an application for a novel drug to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Accelerated Approval Pathway

The FDA may grant accelerated approval to a drug for a serious or life-threatening condition that provides meaningful therapeutic advantage to patients over existing treatments based upon a determination that the drug has an effect on a surrogate endpoint that is reasonably likely to predict

clinical benefit. The FDA may also grant accelerated approval for such a condition when the product has an effect on an intermediate clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality, or IMM, and that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. Drugs granted accelerated approval must meet the same statutory standards for safety and effectiveness as those granted traditional approval.

For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. An intermediate clinical endpoint is a measurement of a therapeutic effect that is considered reasonably likely to predict the clinical benefit of a drug, such as an effect on IMM. The FDA has limited experience with accelerated approvals based on intermediate clinical endpoints, but has indicated that such endpoints generally may support accelerated approval where the therapeutic effect measured by the endpoint is not itself a clinical benefit and basis for traditional approval, if there is a basis for concluding that the therapeutic effect is reasonably likely to predict the ultimate clinical benefit of a drug.

The accelerated approval pathway is most often used in settings in which the course of a disease is long and an extended period of time is required to measure the intended clinical benefit of a drug, even if the effect on the surrogate or intermediate clinical endpoint occurs rapidly. The accelerated approval pathway is usually contingent on a sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the drug's clinical benefit. As a result, a product candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of Phase 4 or post-approval clinical trials to confirm the effect on the clinical endpoint. Failure to conduct required post-approval studies, or confirm a clinical benefit during post-marketing studies, would allow the FDA to withdraw the drug from the market on an expedited basis. All promotional materials for product candidates approved under accelerated regulations are subject to prior review by the FDA.

The FDA's Decision on an NDA

On the basis of the FDA's evaluation of the NDA and accompanying information, including the results of the inspection of the manufacturing facilities, the FDA may issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. If and when those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

If the FDA approves a product, it may limit the approved indications for use for the product, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess the drug's safety after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions which can materially affect the potential market and profitability of the product. In addition, as a condition of approval, the FDA may require an applicant to develop a REMS. REMS use risk minimization strategies beyond the professional labeling to ensure that the benefits of the product outweigh the potential risks. To determine whether a REMS is needed, the FDA will consider the size of the population likely to use the product, seriousness of the disease,

expected benefit of the product, expected duration of treatment, seriousness of known or potential adverse events, and whether the product is a new molecular entity. REMS can include medication guides, physician communication plans for healthcare professionals, and elements to assure safe use, or ETASU. ETASU may include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring, and the use of patient registries. The FDA may require a REMS before approval or post-approval if it becomes aware of a serious risk associated with use of the product. The requirement for a REMS can materially affect the potential market and profitability of a product.

The FDA may prevent or limit further marketing of a product based on the results of post-market studies or surveillance programs. After approval, many types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further testing requirements and FDA review and approval.

Post-Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of drugs and drug samples at the federal level, and sets minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

Abbreviated New Drug Applications for Generic Drugs

In 1984, with passage of the Hatch-Waxman Amendments to the FDCA, Congress authorized the FDA to approve generic drugs that are the same as drugs previously approved by the FDA under the NDA provisions of the statute. To obtain approval of a generic drug, an applicant must submit an ANDA to the agency. In support of such applications, a generic manufacturer may rely on the pre-clinical and clinical testing previously conducted for a drug product previously approved under an NDA, known as the reference listed drug, or RLD.

Specifically, in order for an ANDA to be approved, the FDA must find that the generic version is identical to the RLD with respect to the active ingredients, the route of administration, the dosage form, and the strength of the drug. At the same time, the FDA must also determine that the generic drug is "bioequivalent" to the innovator drug. Under the statute, a generic drug is bioequivalent to a RLD if the rate and extent of absorption of the drug do not show a significant difference from the rate and extent of absorption of the listed drug.

Upon approval of an ANDA, the FDA indicates whether the generic product is "therapeutically equivalent" to the RLD in its publication "Approved Drug Products with Therapeutic Equivalence Evaluations," also referred to as the "Orange Book." Physicians and pharmacists consider a therapeutic equivalent generic drug to be fully substitutable for the RLD. In addition, by operation of certain state laws and numerous health insurance programs, the FDA's designation of therapeutic equivalence often results in substitution of the generic drug without the knowledge or consent of either the prescribing physician or patient.

Under the Hatch-Waxman Amendments, the FDA may not approve an ANDA until any applicable period of non-patent exclusivity for the RLD has expired. The FDCA provides a period of five years of non-patent data exclusivity for a new drug containing a new chemical entity. In cases where such exclusivity has been granted, an ANDA may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification, in which case the applicant may submit its application four years following the original product approval. The FDCA also provides for a period of three years of exclusivity if the NDA includes reports of one or more new clinical investigations, other than bioavailability or bioequivalence studies, that were conducted by or for the applicant and are essential to the approval of the application. This three-year exclusivity period often protects changes to a previously approved drug product, such as a new dosage form, route of administration, combination or indication.

Hatch-Waxman Patent Certification and the 30-Month Stay

Upon approval of an NDA or a supplement thereto, NDA sponsors are required to list with the FDA each patent with claims that cover the applicant's product or an approved method of using the product. Each of the patents listed by the NDA sponsor is published in the Orange Book. When an ANDA applicant files its application with the FDA, the applicant is required to certify to the FDA

concerning any patents listed for the reference product in the Orange Book, except for patents covering methods of use for which the ANDA applicant is not seeking approval. To the extent that the Section 505(b)(2) applicant is relying on studies conducted for an already approved product, the applicant is required to certify to the FDA concerning any patents listed for the approved product in the Orange Book to the same extent that an ANDA applicant would.

Specifically, the applicant must certify with respect to each patent that:

- the required patent information has not been filed;
- the listed patent has expired;
- the listed patent has not expired, but will expire on a particular date and approval is sought after patent expiration; or
- the listed patent is invalid, unenforceable or will not be infringed by the new product.

A certification that the new product will not infringe the already approved product's listed patents or that such patents are invalid or unenforceable is called a Paragraph IV certification. If the applicant does not challenge the listed patents or indicate that it is not seeking approval of a patented method of use, the ANDA application will not be approved until all the listed patents claiming the referenced product have expired.

If the ANDA applicant or 505(b)(2) applicant has provided a Paragraph IV certification to the FDA, the applicant must also send notice of the Paragraph IV certification to the NDA and patent holders once the ANDA has been accepted for filing by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the Paragraph IV certification. The filing of a patent infringement lawsuit within 45 days after the receipt of a Paragraph IV certification automatically prevents the FDA from approving the ANDA until the earlier of 30 months after the receipt of the Paragraph IV notice, expiration of the patent, or a decision in the infringement case that is favorable to the ANDA applicant.

Orphan Designation and Exclusivity

Under the Orphan Drug Act, FDA may designate a drug product as an "orphan drug" if it is intended to treat a rare disease or condition (generally meaning that it affects fewer than 200,000 individuals in the United States, or more in cases in which there is no reasonable expectation that the cost of developing and making a drug product available in the United States for treatment of the disease or condition will be recovered from sales of the product). A company must request orphan product designation before submitting a NDA. If the request is granted, FDA will disclose the identity of the therapeutic agent and its potential use. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product with orphan status receives the first FDA approval for the disease or condition for which it has such designation, the product will be entitled to orphan product exclusivity. Orphan product exclusivity means that FDA may not approve any other applications for the same product for the same indication for seven years, except in certain limited circumstances. Competitors may receive approval of different products for the indication for which the orphan product has exclusivity and may obtain approval for the same product but for a different indication. If a drug or drug product designated as an orphan product ultimately receives marketing approval for an indication broader than what was designated in its orphan product application, it may not be entitled to exclusivity.

Pediatric Studies and Exclusivity

Under the Pediatric Research Equity Act of 2003, a NDA or supplement thereto must contain data that are adequate to assess the safety and effectiveness of the drug product for the claimed indications

in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. With enactment of the Food and Drug Administration Safety and Innovation Act, or FDASIA, in 2012, sponsors must also submit pediatric study plans prior to the assessment data. Those plans must contain an outline of the proposed pediatric study or studies the applicant plans to conduct, including study objectives and design, any deferral or waiver requests, and other information required by regulation. The applicant, the FDA, and the FDA's internal review committee must then review the information submitted, consult with each other, and agree upon a final plan. The FDA or the applicant may request an amendment to the plan at any time.

The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. Additional requirements and procedures relating to deferral requests and requests for extension of deferrals are contained in FDASIA.

Pediatric exclusivity is another type of non-patent marketing exclusivity in the United States and, if granted, provides for the attachment of an additional six months of marketing protection to the term of any existing regulatory exclusivity, including the non-patent exclusivity. This six-month exclusivity may be granted if an NDA sponsor submits pediatric data that fairly respond to a written request from the FDA for such data. The data do not need to show the product to be effective in the pediatric population studied; rather, if the clinical trial is deemed to fairly respond to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by the FDA within the statutory time limits, whatever statutory or regulatory periods of exclusivity or patent protection cover the product are extended by six months. This is not a patent term extension, but it effectively extends the regulatory period during which the FDA cannot approve another application.

Patent Term Restoration and Extension

A patent claiming a new drug product or medical device may be eligible for a limited patent term extension under the Hatch-Waxman Act, which permits a patent restoration of up to five years for patent term lost during product development and the FDA regulatory review. The restoration period granted on a patent covering a new drug product or a Class III medical device is typically one-half the time between the date a clinical investigation on human beings is begun and the submission date of an application for premarket approval of the product or medical device, plus the time between the submission date of an application for approval of the product or medical device and the ultimate approval date. Patent term restoration cannot be used to extend the remaining term of a patent past a total of 14 years from the product's approval date. Only one patent applicable to an approved drug product or medical device is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent in question. A patent that covers multiple drugs or medical devices for which approval is sought can only be extended in connection with one of the approvals. The USPTO reviews and approves the application for any patent term extension or restoration in consultation with the FDA.

Review and Approval of Medical Devices in the United States

Medical devices in the United States are strictly regulated by the FDA. Under the FDCA a medical device is defined as an instrument, apparatus, implement, machine, contrivance, implant, *in vitro* reagent, or other similar or related article, including a component, part or accessory which is, among other things: intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals; or intended to affect the structure or any function of the body of man or other animals, and which does not achieve its primary intended purposes through chemical action within or on the body of man or other animals and which is not dependent upon being metabolized for the achievement of any of its primary intended purposes.

This definition provides a clear distinction between a medical device and other FDA regulated products such as drugs. If the primary intended use of the product is achieved through chemical action or by being metabolized by the body, the product is usually a drug. If not, it is generally a medical device.

Unless an exemption applies, a new medical device may not be marketed in the United States unless and until it has been cleared through filing of a 510(k) premarket notification, or 510(k), or approved by the FDA pursuant to a PMA. The information that must be submitted to the FDA in order to obtain clearance or approval to market a new medical device varies depending on how the medical device is classified by the FDA. Medical devices are classified into one of three classes on the basis of the controls deemed by the FDA to be necessary to reasonably ensure their safety and effectiveness.

Class I devices are those low risk devices for which reasonable assurance of safety and effectiveness can be provided by adherence to the FDA's general controls for medical devices, which include applicable portions of the FDA's Quality System Regulation, or QSR, facility registration and product listing, reporting of adverse medical events and malfunctions and appropriate, truthful and non-misleading labeling, advertising and promotional materials. Many Class I devices are exempt from premarket regulation; however, some Class I devices require premarket clearance by the FDA through the 510(k) premarket notification process.

Class II devices are moderate risk devices and are subject to the FDA's general controls, and any other special controls, such as performance standards, post-market surveillance, and FDA guidelines, deemed necessary by the FDA to provide reasonable assurance of the devices' safety and effectiveness. Premarket review and clearance by the FDA for Class II devices are accomplished through the 510(k) premarket notification procedure, although some Class II devices are exempt from the 510(k) requirements. Premarket notifications are subject to user fees, unless a specific exemption applies.

Class III devices are deemed by the FDA to pose the greatest risk, such as those for which reasonable assurance of the device's safety and effectiveness cannot be assured solely by the general controls and special controls described above and that are life-sustaining or life-supporting. A PMA application must provide valid scientific evidence, typically extensive pre-clinical and clinical trial data and information about the device and its components regarding, among other things, device design, manufacturing and labeling. PMA applications (and supplemental PMA applications) are subject to significantly higher user fees than are 510(k) premarket notifications.

Clinical Studies in Support of Development of a Medical Device

The types of clinical studies required for the development and approval of a medical device differ from those required for drug products. Clinical trials involving a drug product typically involve a sequential process of Phase 1, 2 and 3 clinical trials to test for the safety and efficacy of the product. The clinical development of a medical device, on the other hand, is often conducted in three different sequential phases, which may overlap or be combined. Those phases are a pilot study, which may also be referred to as an early feasibility study; a feasibility study; and a pivotal study.

- **Pilot Study:** A pilot study is a limited clinical investigation of a device early in development, typically before the device design has been finalized, for a specific indication. It may be used to evaluate the device design concept with respect to initial clinical safety and device functionality in a small number of subjects (generally fewer than ten initial subjects) when this information cannot practically be provided through additional nonclinical assessments or appropriate nonclinical tests are unavailable. Information obtained from a pilot study may guide device modifications.
- **Feasibility Study:** A feasibility study is a clinical investigation that is commonly used to capture preliminary safety and effectiveness information on a near-final or final device design to

adequately plan an appropriate pivotal study. Because the study of a near-final or final device design takes place later in development than a pilot study, the FDA has indicated that it expects to see more nonclinical (or prior clinical) data in a feasibility study IDE application. A feasibility study does not necessarily need to be preceded by a pilot study.

- **Pivotal Study:** A pivotal study is a clinical investigation designed to collect definitive evidence of the safety and effectiveness of a device for a specified intended use, typically in a statistically justified number of subjects. Evidence from one or more pivotal clinical studies generally serves as the primary basis for the determination of reasonable assurance of safety and effectiveness of the medical device of a PMA and FDA's overall benefit-risk determination. A pivotal study may or may not be preceded by a pilot study or feasibility study.

These three stages in the development of a medical device may be dependent on each other and conducting a thorough evaluation in one stage can make the next stage more straightforward. To determine which type of clinical study is appropriate to pursue, a manufacturer will consider several factors, such as the novelty of the device, the device's intended clinical use, the stability of the device design and the amount of test data available to support the IDE application. A pilot study is appropriate when device changes are expected and when, due to the novelty of the device or its intended use, a clinical study is expected to provide information that cannot be practically obtained through additional nonclinical assessments. A pilot study may also be appropriate even if a device or a prototype of the device has previously been used clinically for the intended clinical use. A feasibility study or a pivotal study may be more appropriate if the device design is near-final or final, respectively, depending on the amount of data available to justify the study.

510(k) Premarket Notification

To obtain 510(k) clearance, a manufacturer must submit a premarket notification demonstrating that the proposed device is "substantially equivalent" to a predicate device, which is a previously cleared 510(k) device or a pre-amendment device that was in commercial distribution before May 28, 1976, for which the FDA has not yet called for the submission of a PMA application. The FDA's 510(k) clearance pathway usually takes from three to 12 months from the date the application is submitted and filed with the FDA, but it can take significantly longer and clearance is never assured. The FDA has issued guidance documents meant to expedite review of a 510(k) and facilitate interactions between applicants and the agency. To demonstrate substantial equivalence, a manufacturer must show that the device has the same intended use as a predicate device and the same technological characteristics, or the same intended use and different technological characteristics and does not raise new questions of safety and effectiveness than the predicate device. Most 510(k)s do not require clinical data for clearance, but the FDA may request such data.

The FDA seeks to review and act on a 510(k) within 90 days of submission, but it may take longer if the agency finds that it requires more information to review the 510(k). If the FDA determines that the device is substantially equivalent to a predicate device, the subject device may be marketed. However, if the FDA concludes that a new device is not substantially equivalent to a predicate device, the new device will be classified in Class III and the manufacturer will be required to submit a PMA to market the product. Devices of a new type that the FDA has not previously classified based on risk are automatically classified into Class III by operation of section 513(f)(1) of the FDCA, regardless of the level of risk they pose. To avoid requiring PMA review of low- to moderate-risk devices classified in Class III by operation of law, Congress enacted section 513(f)(2) of the FDCA. This provision allows the FDA to classify a low- to moderate-risk device not previously classified into Class I or II, a process known as the *de novo* process. A company may apply directly to the FDA for classification of its device as *de novo* or may submit a *de novo* petition within 30 days of receiving a not substantially equivalent determination.

Modifications to a 510(k)-cleared medical device may require the submission of another 510(k). Modifications to a 510(k)-cleared device frequently require the submission of a traditional 510(k), but modifications meeting certain conditions may be candidates for FDA review under a special 510(k). If a device modification requires the submission of a 510(k), but the modification does not affect the intended use of the device or alter the fundamental technology of the device, then summary information that results from the design control process associated with the cleared device can serve as the basis for clearing the application. A special 510(k) allows a manufacturer to declare conformance to design controls without providing new data. When the modification involves a change in material, the nature of the "new" material will determine whether a traditional or special 510(k) is necessary.

Any modification to a 510(k)-cleared product that would constitute a major change in its intended use or any change that could significantly affect the safety or effectiveness of the device may, in some circumstances, require the submission of a PMA, if the change raises complex or novel scientific issues or the product has a new intended use. A manufacturer may be required to submit extensive pre-clinical and clinical data depending on the nature of the changes.

The FDA requires every manufacturer to make the determination regarding the need for a new 510(k) submission in the first instance, but the FDA may review any manufacturer's decision. If the FDA disagrees with the manufacturer's determination and requires new 510(k) clearances or PMA approvals for modifications to previously cleared products for which the manufacturer concluded that new clearances or approvals are unnecessary, the manufacturer may be required to cease marketing or distribution of the products or to recall the modified product until it obtains clearance or approval, and the manufacturer may be subject to significant regulatory fines or penalties. In addition, the FDA is currently evaluating the 510(k) process and may make substantial changes to industry requirements.

Premarket Approval Application

The PMA process for approval to market a medical device is more complex, costly, and time consuming than the 510(k) clearance procedure. A PMA must be supported by extensive data, including technical information regarding device design and development, pre-clinical studies, clinical studies, manufacturing and controls information and labeling information, that demonstrates the safety and effectiveness of the device for its intended use. After a PMA is submitted, the FDA has 45 days to determine whether it is sufficiently complete to permit a substantive review. If the PMA is complete, the FDA will file the PMA. If the FDA accepts the application for filing, the agency will begin an in-depth substantive review of the application. By statute, the FDA has 180 days to review the application although, generally, review of the application often takes between one and three years, and may take significantly longer. If the FDA has questions, it will likely issue a first major deficiency letter within 150 days of filing. It may also refer the PMA to an FDA advisory panel for additional review, and will conduct a pre-approval inspection of the manufacturing facility to ensure compliance with the QSR, either of which could extend the 180-day response target. In addition, the FDA may request additional information or request the performance of additional clinical trials in which case the PMA approval may be delayed while the trials are conducted and the data acquired are submitted in an amendment to the PMA. Even with additional trials, the FDA may not approve the PMA application.

If the FDA's evaluations of both the PMA and the manufacturing facilities are favorable, the FDA will either issue an approval letter authorizing commercial marketing or an approvable letter that usually contains a number of conditions that must be met in order to secure final approval. If the FDA's evaluations are not favorable, the FDA will deny approval of the PMA or issue a not approvable letter. The PMA process, including the gathering of clinical and nonclinical data and the submission to and review by the FDA, can take several years, and the process can be expensive and uncertain. Moreover, even if the FDA approves a PMA, the FDA may approve the device with an indication that is narrower or more limited than originally sought. The FDA can impose post-approval conditions that it believes necessary to ensure the safety and effectiveness of the device, including, among other things,

restrictions on labeling, promotion, sale and distribution. After approval of a PMA, a new PMA or PMA supplement may be required for a modification to the device, its labeling, or its manufacturing process. PMA supplements often require submission of the same type of information as an initial PMA application, except that the supplement is limited to information needed to support any changes from the device covered by the approved PMA application and may or may not require as extensive technical or clinical data or the convening of an advisory panel. The time for review of a PMA supplement may vary depending on the type of change, but it can be lengthy. In addition, in some cases the FDA might require additional clinical data.

Investigational Device Exemption

A clinical trial is typically required for a PMA and, in a small percentage of cases, the FDA may require a clinical study in support of a 510(k) submission. A manufacturer that wishes to conduct a clinical study involving the device is subject to the FDA's IDE regulation. The IDE regulation distinguishes between significant and nonsignificant risk device studies and the procedures for obtaining approval to begin the study differ accordingly. Also, some types of studies are exempt from the IDE regulations.

Significant risk devices are, among other things, devices that are substantially important in diagnosing, curing, mitigating, or treating disease or in preventing impairment to human health and present a potential for serious risk to the health, safety or welfare of a subject. Studies of devices that pose a significant risk require both FDA and an IRB approval prior to initiation of a clinical study. Nonsignificant risk devices are devices that do not pose a significant risk to the human subjects. A nonsignificant risk device study requires only IRB approval prior to initiation of a clinical study.

An IDE application must be supported by appropriate data, such as animal and laboratory testing results, showing that it is safe to test the device in humans and that the testing protocol is scientifically sound. An IDE application is considered approved 30 days after it has been received by the FDA, unless the FDA otherwise informs the sponsor prior to 30 calendar days from the date of receipt that the IDE is approved, approved with conditions, or disapproved. The FDA typically grants IDE approval for a specified number of subjects to be enrolled at specified study centers. The clinical trial must be conducted in accordance with applicable regulations, including but not limited to the FDA's IDE regulations and GCP. The investigators must obtain subject informed consent, rigorously follow the investigational plan and study protocol, control the disposition of investigational devices, and comply with all reporting and record keeping requirements. A clinical trial may be suspended or terminated by the FDA, the IRB or the sponsor at any time for various reasons, including a belief that the risks to the study participants outweigh the benefits of participation in the trial. Approval of an IDE does not bind the FDA to accept the results of the trial as sufficient to prove the product's safety and efficacy, even if the trial meets its intended success criteria.

Humanitarian Use Device

When a medical device is intended to treat or diagnose a disease or condition that affects or is manifested in fewer than 4,000 individuals in the United States per year, a manufacturer may seek approval through a humanitarian device exemption, or HDE, application to market its product as a humanitarian use device, or HUD. This pathway provides an incentive for the development of devices for the treatment or diagnosis of diseases affecting small populations and where a manufacturer's research and development costs could exceed market return. Thus, the purpose of the HDE is to encourage device manufacturers to develop devices for rare conditions or diseases.

Prior to submitting the HDE application the device manufacturer must request HUD designation from the FDA's Office of Orphan Products Development. The FDA seeks to respond to the request

within 45 days of submission. If granted, a manufacturer may file an HDE application for HUD approval.

An HDE application is similar to a PMA application but is exempt from the effectiveness requirements of a PMA. In submitting an HDE application a manufacturer is not required to include scientifically valid clinical investigation results demonstrating that the device is effective for its intended purpose. However, the application must contain sufficient information for the FDA to determine that the device does not pose an unreasonable or significant risk of illness or injury, and that the probable benefit to health outweighs the risk of injury or illness from its use, taking into account the probable risks and benefits of currently available devices or alternative forms of treatment. The manufacturer must also demonstrate that no comparable devices are available to treat or diagnose the disease or condition, and that the manufacturer could not otherwise bring the device to market. The FDA seeks to act on an HDE application within 75 days after accepting the HDE for filing.

If the FDA approves the HDE, the manufacturer may market the HUD. However, an HUD may only be used in facilities that have established an IRB to supervise clinical testing of devices and after an IRB has approved the use of the device to treat or diagnose the specific disease. HUDs are also subject to specific labeling requirements identifying the device as a HUD device and noting that although the device is authorized by the FDA, the effectiveness of the device for the specific indication has not been demonstrated. Moreover, a manufacturer cannot charge an amount for an HDE approved device that exceeds the costs of research and development, fabrication, and distribution.

Expedited Access PMA

The FDA has proposed a program to provide earlier access to high-risk medical devices that are intended to treat or diagnose patients with serious conditions whose medical needs are unmet by current technology. The Expedited Access Premarket Approval Application for Unmet Medical Needs for Life Threatening or Irreversibly Debilitating Diseases or Conditions program, or "Expedited Access PMA" or "EAP," allows for earlier and more interactive engagement with FDA staff. It also involves senior FDA management and a collaboratively developed plan for collecting scientific and clinical data to support approval—taken together, these features are meant to provide patients with earlier access to safe and effective medical devices by reducing the time associated with product development.

To be eligible for participation in the program, the medical device must be intended to treat or diagnose a life-threatening or irreversibly-debilitating disease or condition and represent one of the following:

- no approved alternative treatment exists;
- a breakthrough technology that provides a clinically meaningful advantage over existing technology;
- offers a significant, clinically meaningful advantage over existing approved alternatives; or
- availability of the device is in the patient's best interest.

The EAP must be accompanied by an acceptable data development plan that has been approved by the FDA. When utilizing the EAP program, the FDA will continue to apply the current approval standard of demonstrating a reasonable assurance of safety and efficacy.

Post-Marketing Restrictions and Enforcement

After a device is placed on the market, numerous regulatory requirements apply. These include, but are not limited to:

- submitting and updating establishment registration and device listings with the FDA;

- compliance with the QSR, which requires manufacturers to follow stringent design, testing, control, documentation, record maintenance, including maintenance of complaint and related investigation files, and other quality assurance controls during the manufacturing process;
- unannounced routine or for-cause device inspections by the FDA, which may include our suppliers' facilities; and
- labeling regulations, which prohibit the promotion of products for uncleared or unapproved or "off-label" uses and impose other restrictions on labeling; post-approval restrictions or conditions, including requirements to conduct post-market surveillance studies to establish continued safety data or tracking products through the chain of distribution to the patient level.

Under the FDA medical device reporting, or MDR, regulations, medical device manufacturers are required to report to the FDA information that a device has or may have caused or contributed to a death or serious injury or has malfunctioned in a way that would likely cause or contribute to death or serious injury if the malfunction of the device or a similar device of such manufacturer were to recur. The decision to file an MDR involves a judgment by the manufacturer. If the FDA disagrees with the manufacturer's determination, the FDA can take enforcement action.

Additionally, the FDA has the authority to require the recall of commercialized products in the event of material deficiencies or defects in design or manufacture. The authority to require a recall must be based on an FDA finding that there is reasonable probability that the device would cause serious adverse health consequences or death. Manufacturers may, under their own initiative, recall a product if any material deficiency in a device is found. The FDA requires that certain classifications of recalls be reported to the FDA within ten working days after the recall is initiated.

The failure to comply with applicable regulatory requirements can result in enforcement action by the FDA, which may include any of the following sanctions:

- untitled letters, warning letters, fines, injunctions or civil penalties;
- recalls, detentions or seizures of products;
- operating restrictions;
- delays in the introduction of products into the market;
- total or partial suspension of production;
- delay or refusal of the FDA or other regulators to grant 510(k) clearance or PMA approvals of new products;
- withdrawals of 510(k) clearance or PMA approvals; or
- in the most serious cases, criminal prosecution.

To ensure compliance with regulatory requirements, medical device manufacturers are subject to market surveillance and periodic, pre-scheduled and unannounced inspections by the FDA, and these inspections may include the manufacturing facilities of subcontractors.

Review and Approval of Combination Products in the United States

Certain products may be comprised of components that would normally be regulated under different types of regulatory authorities, and frequently by different Centers at the FDA. These products are known as combination products. Specifically, under regulations issued by the FDA, a combination product may be:

- a product comprised of two or more regulated components that are physically, chemically, or otherwise combined or mixed and produced as a single entity;

- two or more separate products packaged together in a single package or as a unit and comprised of drug and device products;
- a drug or device packaged separately that according to its investigational plan or proposed labeling is intended for use only with an approved individually specified drug or device where both are required to achieve the intended use, indication, or effect and where upon approval of the proposed product the labeling of the approved product would need to be changed, e.g., to reflect a change in intended use, dosage form, strength, route of administration, or significant change in dose; or
- any investigational drug or device packaged separately that according to its proposed labeling is for use only with another individually specified investigational drug, device, or biological product where both are required to achieve the intended use, indication, or effect.

Under the FDCA, the FDA is charged with assigning a center with primary jurisdiction, or a lead center, for review of a combination product. That determination is based on the "primary mode of action" of the combination product. Thus, if the primary mode of action of a device-drug combination product is attributable to the drug product, the FDA Center responsible for premarket review of the drug product would have primary jurisdiction for the combination product. The FDA has also established an Office of Combination Products to address issues surrounding combination products and provide more certainty to the regulatory review process. That office serves as a focal point for combination product issues for agency reviewers and industry. It is also responsible for developing guidance and regulations to clarify the regulation of combination products, and for assignment of the FDA center that has primary jurisdiction for review of combination products where the jurisdiction is unclear or in dispute.

Review and Approval of Drug Products in the European Union

In order to market any product outside of the United States, a company must also comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of drug products. Whether or not it obtains FDA approval for a product, the company would need to obtain the necessary approvals by the comparable foreign regulatory authorities before it can commence clinical trials or marketing of the product in those countries or jurisdictions. The approval process ultimately varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others.

Pursuant to the European Clinical Trials Directive, a system for the approval of clinical trials in the European Union has been implemented through national legislation of the member states. Under this system, an applicant must obtain approval from the competent national authority of a European Union member state in which the clinical trial is to be conducted. Furthermore, the applicant may only start a clinical trial after a competent ethics committee has issued a favorable opinion. Clinical trial application must be accompanied by an investigational medicinal product dossier with supporting information prescribed by the European Clinical Trials Directive and corresponding national laws of the member states and further detailed in applicable guidance documents.

To obtain marketing approval of a drug under European Union regulatory systems, an applicant must submit a marketing authorization application, or MAA, either under a centralized or decentralized procedure.

The centralized procedure provides for the grant of a single marketing authorization by the European Commission that is valid for all European Union member states. The centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, advanced therapy products and products with a new active substance indicated for the treatment of certain diseases. For products with a new active substance indicated for the treatment of other diseases and products that are highly innovative or for which a centralized process is in the interest of patients, the centralized procedure may be optional.

Under the centralized procedure, the Committee for Medicinal Products for Human Use, or the CHMP, established at the EMA, is responsible for conducting the initial assessment of a drug. The CHMP is also responsible for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing marketing authorization. Under the centralized procedure in the European Union, the maximum timeframe for the evaluation of an MAA is 210 days, excluding clock stops, when additional information or written or oral explanation is to be provided by the applicant in response to questions of the CHMP. Accelerated evaluation might be granted by the CHMP in exceptional cases, when a medicinal product is of major interest from the point of view of public health and in particular from the viewpoint of therapeutic innovation. In this circumstance, the EMA ensures that the opinion of the CHMP is given within 150 days.

The decentralized procedure is available to applicants who wish to market a product in various European Union member states where such product has not received marketing approval in any European Union member states before. The decentralized procedure provides for approval by one or more other, or concerned, member states of an assessment of an application performed by one member state designated by the applicant, known as the reference member state. Under this procedure, an applicant submits an application based on identical dossiers and related materials, including a draft summary of product characteristics, and draft labeling and package leaflet, to the reference member state and concerned member states. The reference member state prepares a draft assessment report and drafts of the related materials within 210 days after receipt of a valid application. Within 90 days of receiving the reference member state's assessment report and related materials, each concerned member state must decide whether to approve the assessment report and related materials.

If a member state cannot approve the assessment report and related materials on the grounds of potential serious risk to public health, the disputed points are subject to a dispute resolution mechanism and may eventually be referred to the European Commission, whose decision is binding on all member states.

Review and Approval of Medical Devices in the European Union

The European Union has adopted numerous directives and standards regulating, among other things, the design, manufacture, clinical trials, labeling, approval and adverse event reporting for medical devices. In the European Union, medical devices must comply with the Essential Requirements in Annex I to the EU Medical Devices Directive (Council Directive 93/42/EEC), or the Essential Requirements. Compliance with these requirements is a prerequisite to be able to affix the CE mark of conformity to medical devices, without which they cannot be marketed or sold in the European Economic Area, or EEA, comprised of the European Union member states plus Norway, Iceland, and Liechtenstein. Actual implementation of these directives, however, may vary on a country-by-country basis.

To demonstrate compliance with the Essential Requirements a manufacturer must undergo a conformity assessment procedure, which varies according to the type of medical device and its classification. Except for low risk medical devices, where the manufacturer can issue a CE Declaration of Conformity based on a self-assessment of the conformity of its products with the Essential Requirements, a conformity assessment procedure requires the intervention of a third-party

organization designated by competent authorities of a European Union country to conduct conformity assessments, or a Notified Body. Notified Bodies are independent testing houses, laboratories, or product certifiers typically based within the European Union and authorized by the European member states to perform the required conformity assessment tasks, such as quality system audits and device compliance testing. The Notified Body would typically audit and examine the product's Technical File and the quality system for the manufacture, design and final inspection of the product before issuing a CE Certificate of Conformity demonstrating compliance with the relevant Essential Requirements.

Medical device manufacturers must carry out a clinical evaluation of their medical devices to demonstrate conformity with the relevant Essential Requirements. This clinical evaluation is part of the product's Technical File. A clinical evaluation includes an assessment of whether a medical device's performance is in accordance with its intended use, and that the known and foreseeable risks linked to the use of the device under normal conditions are minimized and acceptable when weighed against the benefits of its intended purpose. The clinical evaluation conducted by the manufacturer must also address any clinical claims, the adequacy of the device labeling and information (particularly claims, contraindications, precautions and warnings) and the suitability of related Instructions for Use. This assessment must be based on clinical data, which can be obtained from clinical studies conducted on the devices being assessed, scientific literature from similar devices whose equivalence with the assessed device can be demonstrated or both clinical studies and scientific literature.

With respect to implantable devices or devices classified as Class III in the European Union, the manufacturer must conduct clinical studies to obtain the required clinical data, unless relying on existing clinical data from similar devices can be justified. As part of the conformity assessment process, depending on the type of devices, the Notified Body will review the manufacturer's clinical evaluation process, assess the clinical evaluation data of a representative sample of the device's subcategory or generic group, or assess all the clinical evaluation data, verify the manufacturer's assessment of that data and assess the validity of the clinical evaluation report and the conclusions drawn by the manufacturer.

Even after a manufacturer receives a CE Certificate of Conformity enabling the CE mark on its products and the right to sell the products in the EEA countries, a Notified Body or a competent authority may require post-marketing studies of the products. Failure to comply with such requirements in a timely manner could result in the withdrawal of the CE Certificate of Conformity and the recall or withdrawal of the subject product from the European market.

A manufacturer must inform the Notified Body that carried out the conformity assessment of the medical devices of any planned substantial changes to the devices which could affect compliance with the Essential Requirements or the devices' intended purpose. The Notified Body will then assess the changes and verify whether they affect the product's conformity with the Essential Requirements or the conditions for the use of the devices. If the assessment is favorable, the Notified Body will issue a new CE Certificate of Conformity or an addendum to the existing CE Certificate of Conformity attesting compliance with the Essential Requirements. If it is not, the manufacturer may not be able to continue to market and sell the product in the EEA.

In the European Union, medical devices may be promoted only for the intended purpose for which the devices have been CE marked. Failure to comply with this requirement could lead to the imposition of penalties by the competent authorities of the European Union Member States. The penalties could include warnings, orders to discontinue the promotion of the medical device, seizure of the promotional materials and fines. Promotional materials must also comply with various laws and codes of conduct developed by medical device industry bodies in the European Union governing promotional claims, comparative advertising, advertising of medical devices reimbursed by the national health insurance systems and advertising to the general public.

Additionally, all manufacturers placing medical devices in the market in the European Union are legally bound to report any serious or potentially serious incidents involving devices they produce or sell to the competent authority in whose jurisdiction the incident occurred. In the European Union, manufacturers must comply with the EU Medical Device Vigilance System. Under this system, incidents must be reported to the relevant authorities of the European Union countries, and manufacturers are required to take Field Safety Corrective Actions, or FSCAs, to reduce a risk of death or serious deterioration in the state of health associated with the use of a medical device that is already placed on the market. An incident is defined as any malfunction or deterioration in the characteristics and/or performance of a device, as well as any inadequacy in the labeling or the instructions for use which, directly or indirectly, might lead to or might have led to the death of a patient or user or of other persons or to a serious deterioration in their state of health. An FSCA may include the recall, modification, exchange, destruction or retrofitting of the device. FSCAs must be communicated by the manufacturer or its European Authorized Representative to its customers and to the end users of the device through Field Safety Notices. In September 2012, the European Commission adopted a proposal for a regulation which, if adopted, will change the way that most medical devices are regulated in the European Union, and may subject products to additional requirements.

Pharmaceutical Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of products approved by the FDA and other government authorities. Sales of products will depend, in part, on the extent to which the costs of the products will be covered by third-party payors, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations. The process for determining whether a payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors may limit coverage to specific products on an approved list, or formulary, which might not include all of the approved products for a particular indication. Additionally, the containment of healthcare costs has become a priority of federal and state governments, and the prices of drugs have been a focus in this effort. The U.S. government, state legislatures and foreign governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable regulatory approvals. A payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Third-party reimbursement may not be sufficient to maintain price levels high enough to realize an appropriate return on investment in product development.

In the European Union, pricing and reimbursement schemes vary widely from country to country. Some countries provide that drug products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost-effectiveness of a particular product candidate to currently available therapies. For example, the European Union provides options for its member states to restrict the range of drug products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. European Union member states may approve a specific price for a drug product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the drug product on the market. Other member states allow companies to fix their

own prices for drug products, but monitor and control company profits. The downward pressure on health care costs in general, particularly prescription drugs, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert competitive pressure that may reduce pricing within a country. Any country that has price controls or reimbursement limitations for drug products may not allow favorable reimbursement and pricing arrangements.

Healthcare Law and Regulation

Healthcare providers, physicians and third-party payors play a primary role in the recommendation and prescription of drug products that are granted marketing approval. Arrangements with third-party payors and customers are subject to broadly applicable fraud and abuse and other healthcare laws and regulations. Such restrictions under applicable federal and state healthcare laws and regulations, include the following:

- the federal Anti-Kickback Statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made, in whole or in part, under a federal healthcare program such as Medicare and Medicaid;
- the federal False Claims Act imposes civil penalties, and provides for civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and its implementing regulations, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;
- the federal transparency requirements under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the PPACA will require applicable manufacturers of covered drugs, devices, biologics and medical supplies to report to the Department of Health and Human Services information related to payments and other transfers of value to physicians and teaching hospitals and physician ownership and investment interests; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers.

Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures. State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from

each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Employees

As of December 31, 2014, we had 48 full-time employees, of which 41 employees were engaged in research and development and seven employees provided general and administrative support. Of our employees, 27 have earned advanced degrees. Our employees are not represented by a labor union or covered by a collective bargaining agreement.

Facilities

Our principal facilities consist of approximately 25,000 square feet of office space at Ikaria's headquarters located in Hampton, New Jersey and approximately 3,200 square feet of office space and research lab facilities at the Commercialization Center for Innovative Technologies located in North Brunswick, New Jersey. We have access to the office space at Ikaria's headquarters until February 2016, pursuant to the TSA. We lease the space in North Brunswick, New Jersey under a lease that expires in March 2015.

Legal Proceedings

We are not presently a party to any material litigation or regulatory proceeding, and we are not aware of any pending or threatened litigation or regulatory proceeding against us that could have a material adverse effect on our business, operating results, financial condition or cash flows.

MANAGEMENT

The following table sets forth the name, age and position of each of our executive officers, key employees and directors as of January 13, 2015.

<u>Name</u>	<u>Age</u>	<u>Position</u>
Jonathan M. Peacock	56	Chief Executive Officer, President and Chairman of the Board
Manesh Naidu	45	Vice President and Chief Business Officer
Reinilde Heyrman, M.D.	54	Vice President, Chief Clinical Development Officer and Secretary
Martin Meglasson, Ph.D.	64	Vice President and Chief Scientific Officer
David Abrams	40	Treasurer
Deborah A. Quinn, M.D.	60	Vice President and Medical Lead for INOpulse Programs
Martin Dekker	42	Vice President of Device Engineering
Matthew Holt(2)(3)	38	Director
Jens Luehring(1)	41	Director
Andre V. Moura(1)(3)	33	Director
Robert T. Nelsen(2)	51	Director
Daniel Tassé	54	Director
Adam B. Weinstein(1)	35	Director

- (1) Member of the Audit Committee
- (2) Member of the Compensation Committee
- (3) Member of the Nominating and Corporate Governance Committee

Jonathan M. Peacock has served as our Chief Executive and President and as the Chairman of our board of directors since June 2014. Prior to joining us, Mr. Peacock served as the Chief Financial Officer of Amgen Inc., a biotechnology company, from September 2010 to January 2014. From November 2005 to September 2010, he served as Chief Financial and Administrative Officer of Novartis Pharmaceuticals AG, the Pharmaceuticals and Biotechnology division of Novartis AG. Mr. Peacock was a partner at McKinsey and Company, a global strategy consulting firm, from 1998 to 2005. Before that, he was a partner at Price Waterhouse LLP, a global accounting firm (now PricewaterhouseCoopers LLP), from 1993 to 1998. He currently serves on the board of directors of Kite Pharma, Inc., a biopharmaceutical company. Mr. Peacock received an M.A. degree in economics from the University of St. Andrews. We believe that Mr. Peacock is qualified to serve on our board of directors because of his global management experience, his experience as an officer of a public company in our industry, his financial expertise and his position as our Chief Executive Officer and President.

Manesh Naidu has served as our Vice President and Chief Business Officer since February 2014. Mr. Naidu previously served as Vice President and General Manager of the INOpulse program of Ikaria, a biotherapeutics company, from August 2011 to February 2014, and prior to that, he served as Senior Director, Marketing Strategy of Ikaria from May 2008 to August 2011. Prior to joining Ikaria, Mr. Naidu held several positions at Novartis Corporation and Pfizer Inc., both of which are pharmaceutical companies, from 2003 to 2008. He also worked at McKinsey & Company, a global strategy consulting firm, from 2001 to 2003. Mr. Naidu received an M.S. in chemical engineering from Oklahoma State University, a B.E. in chemical engineering and an M.S. in chemistry both from the Birla Institute of Technology and Science, and an M.B.A. from the Kellogg School of Management at Northwestern University.

Reinilde Heyrman, M.D. has served as our Vice President, Chief Clinical Development Officer and Secretary since February 2014. Prior to joining us, Dr. Heyrman served as Vice President, Chief Clinical Development Officer of Ikaria from March 2012 to February 2014. Dr. Heyrman held several positions at Daiichi Sankyo Pharma Development, a pharmaceutical company, from 2005 to March 2012, most recently as Vice President, Clinical Development from 2009 to March 2012. From 2001 to 2002 and 2002 to 2005, Dr. Heyrman served as Director Clinical Research and Senior Director Clinical Research, respectively, at Sankyo Pharma Development, a pharmaceutical company. Dr. Heyrman received an M.D. from the University of Antwerp, Belgium.

Martin Meglasson, Ph.D. has served as our Vice President and Chief Scientific Officer since February 2014. From July 2010 to February 2014, Dr. Meglasson served as Chief Scientific Officer of Ikaria. Prior to joining Ikaria, Dr. Meglasson served as Vice President, head of Research and Development of Ligand Pharmaceuticals Incorporated, a biotechnology company, from February 2004 to July 2010. From 1996 to 2003, Dr. Meglasson was Director of Preclinical Pharmacology at Pharmacia, Inc., a pharmaceutical company, and from 1984 to 1992, he was first an Assistant Professor and later an Associate Professor of Pharmacology at the University of Pennsylvania School of Medicine. Dr. Meglasson received a B.S. in biology, an M.S. in physiology and a Ph.D. in pharmacology, each from the University of Houston.

David Abrams has served as our Treasurer since February 2014, with responsibilities for treasury, financial planning and financial reporting. Prior to joining us, Mr. Abrams held various roles in strategic financial planning at Ikaria from October 2010 to February 2014 and at Johnson & Johnson, a healthcare products company, from May 2002 to October 2010. Mr. Abrams has previously held roles at Stern Stewart and Deutsche Bank. Mr. Abrams received a B.S. in economics from The Wharton School of Business of the University of Pennsylvania and a B.A. in history from the University of Pennsylvania.

Deborah A. Quinn, M.D. has served as our Vice President and Medical Lead for the INOpulse programs since January 2015. Prior to joining us, Dr. Quinn held several positions at Novartis Pharmaceuticals AG from December 2006 to January 2015, most recently as medical director for both pulmonary arterial hypertension and heart failure programs. Previously, Dr. Quinn worked at the Massachusetts General Hospital from 1998 to 2011 where she was an Instructor in Medicine from 1998 to 2006 and a Clinical Assistant Professor in Medicine at Harvard Medical School from 2006 to 2011. Her postdoctoral training in Medicine and Pulmonary and Critical Care Fellowship were at Massachusetts General Hospital. She received an M.D. from the University of Massachusetts Medical School.

Martin Dekker has served as our Vice President of Device Engineering since January 2015. Prior to joining us, Mr. Dekker held several positions at Spacelabs Healthcare, a company that develops and manufacturers medical devices, from November 1998 to January 2015, most recently as Director of Global Operations Engineering. During his time at Spacelabs Healthcare, Mr. Dekker led and co-designed new products, developed and launched transformative manufacturing technologies and championed cross-functional quality/engineering projects. He is a member of the Institute of Electrical and Electronic Engineers. Mr. Dekker received a B.S. in electronics from Noordelijke Hogeschool Leeuwarden, the Netherlands.

Matthew Holt has served as a member of our board of directors since February 2014. Since 2001, Mr. Holt has been employed by New Mountain Capital, a private equity group, where he currently serves as a Managing Director. Prior to joining New Mountain Capital, Mr. Holt served in the mergers and acquisitions Group at Lehman Brothers, a financial services firm. Mr. Holt has served on the board of directors of Ikaria since March 2007. Mr. Holt received an A.B. in English and American literature and language from Harvard College. We believe that Mr. Holt is qualified to serve on our

board of directors because of his financial expertise and his years of experience providing strategic advisory services across many industries.

Jens Luehring has served as a member of our board of directors since January 2015. Mr. Luehring has been the Head of Finance, Americas, of The Linde Group since April 2012. In this position, his responsibilities include accounting, tax, business planning, investments, treasury and insurance. Prior to his current role, Mr. Luehring was the Head of Mergers & Acquisitions of The Linde Group from April 2007 to March 2012. Mr. Luehring received a Master of Business Economics from Hanover University in 1998. Prior to joining The Linde Group in January 2006, Mr. Luehring worked in investment banking, covering corporate finance, private equity, equity capital markets and mergers and acquisitions. We believe that Mr. Luehring is qualified to serve on our board of directors because of his financial, business and strategic expertise.

Andre V. Moura has served as a member of our board of directors since February 2014. Mr. Moura joined New Mountain Capital in 2005, where he currently serves as a Director. Prior to joining New Mountain Capital, Mr. Moura was employed by McKinsey & Company, a global management consulting firm. Mr. Moura also serves on the board of directors of two privately held companies. Mr. Moura received an A.B. in computer science from Harvard College and an M.B.A. from Harvard Business School. We believe that Mr. Moura is qualified to serve on our board of directors because of his financial expertise and his years of experience providing strategic advisory services to diverse companies across multiple industries.

Robert T. Nelsen has served as a member of our board of directors since February 2014. Since 1986, Mr. Nelsen has served as a Co-Founder and Managing Director of ARCH Venture Partners, a venture capital firm focused on early-stage technology companies. Mr. Nelsen currently serves as a director of Agios Pharmaceuticals, Inc., Fate Therapeutics, Inc., Kythera Biopharmaceuticals, Inc. and Sage Therapeutics, Inc., each a publicly traded biopharmaceutical company. Mr. Nelsen previously served as a director of Adolor Corporation, Array BioPharma Inc., Illumina, Inc., NeurogesX, Inc., Receptos, Inc. and Trubion Pharmaceuticals, Inc., each a biopharmaceutical company. Mr. Nelsen also serves on the board of several privately held companies, including Sapphire Energy Corporation. Mr. Nelsen received a B.S. from the University of Puget Sound, with majors in biology and economics, and an M.B.A. from the University of Chicago Graduate School of Business. We believe that Mr. Nelsen is qualified to serve on our board of directors because of his extensive experience with biotechnology companies, his financial expertise and his years of experience providing strategic and financial advisory services to pharmaceutical and biotechnology organizations, including evaluating business plans involving clinical trials.

Daniel Tassé has served as a member of our board of directors since February 2014 and served as our Chairman from February 2014 to June 2014. Since January 2008, Mr. Tassé has served as President and Chief Executive Officer and as a member of the board of directors of Ikaria. Mr. Tassé was appointed chairman of Ikaria's board of directors in October 2009. Mr. Tassé served as our Interim Chief Executive Officer and President from February 2014 to June 2014. From October 2004 to January 2008, Mr. Tassé served as General Manager of the Pharmaceuticals and Technologies Business Unit of Baxter International, Inc., a global diversified healthcare company. From July 2001 to October 2004, Mr. Tassé served as Vice President and Regional Director for Australasia at GlaxoSmithKline, a healthcare company. Mr. Tassé currently serves as a director of Indivior PLC, a publicly traded company, and serves on its audit and compensation committees. Mr. Tassé is a member of the Healthcare Leadership Council and a member of the board of directors of the Roundtable on Critical Care Policy. He also is a member of the board of directors and health section governing board of the Biotechnology Industry Organization, where he participates on the bioethics, regulatory environment and reimbursement committees. Additionally, Mr. Tassé is a member of the board of directors of the Pharmaceutical Research and Manufacturers Association of America, where he participates on the FDA and biomedical research committee. Mr. Tassé received a B.S. in biochemistry from the University

of Montreal. We believe Mr. Tassé is qualified to serve on our board of directors because of his former service as our Chief Executive Officer and President, his extensive track record of business building in the healthcare industry, his strong background within critical care, his global management experience and his detailed knowledge of the pharmaceutical industry, our company, employees, client base and competitors.

Adam B. Weinstein has served as a member of our board of directors since February 2014. He is a Managing Director of New Mountain Capital, LLC, and he joined that organization in 2005. At New Mountain, Mr. Weinstein serves as a Chief Financial Officer and is an Executive Vice President and is on the Board of Directors of New Mountain Finance Corporation, a publicly traded business development company. Prior to joining New Mountain, Mr. Weinstein held roles in the mergers and acquisitions and private equity investor services areas of Deloitte & Touche, LLP, in that firm's merger and acquisition and private equity investor services areas. Mr. Weinstein is a New York State Certified Public Accountant and received his B.S., summa cum laude, in accounting from Binghamton University. We believe that Mr. Weinstein is qualified to serve on our board of directors because of his financial and accounting expertise and valuable corporate governance experience.

Board Composition and Election of Directors

Our business and affairs are currently managed by our limited liability company board of directors, which consists of seven members. Five of the members of our board of directors were designated by certain of our principal stockholders and elected pursuant to a voting agreement that we entered into with our principal stockholders. The voting agreement will terminate upon the closing of this offering.

Following the completion of this offering, pursuant to a stockholders agreement that we expect to enter into, the New Mountain Entities will be entitled to designate one director for nomination to our board of directors, to designate one director to the board of directors (or equivalent governing body) of each of our subsidiaries and to appoint the lead director of our board of directors, in each case, for so long as the New Mountain Entities or certain of their respective assignees beneficially own (i) 50% or more of the sum of (a) the aggregate number of shares of our common stock that they collectively own immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering (subject in each case to adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination or shares, reclassification or other similar change in our capitalization) and (ii) 15% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). We expect the New Mountain Entities to nominate Mr. Holt to serve as the New Mountain director pursuant to the stockholders agreement.

In addition, following the completion of this offering, pursuant to a stockholders agreement that we expect to enter into, Linde will be entitled to designate one director for nomination to our board of directors and to designate one director to the board of directors (or equivalent governing body) of each of our subsidiaries, in each case, for so long as Linde or certain of its assignees beneficially own (i) 50% or more of the sum of (a) the aggregate number of shares of our common stock that they collectively own immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering (subject in each case to adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination or shares, reclassification or other similar change in our capitalization) and (ii) 10% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). We expect Linde to designate Mr. Luehring to serve as the Linde director pursuant to such stockholders agreement.

Following the closing of this offering, in accordance with the terms of our certificate of incorporation and bylaws that will become effective as of the closing of this offering, our board of

directors will be divided into three classes—class I, class II and class III—with members of each class serving staggered three-year terms. Upon the closing of this offering, the members of the classes will be divided as follows:

- the class I directors are Messrs. Luehring and Tassé, and their term expires at our annual meeting of stockholders to be held in 2016;
- the class II directors are Messrs. Nelsen and Weinstein, and their term expires at our annual meeting of stockholders to be held in 2017; and
- the class III directors are Messrs. Holt, Moura and Peacock, and their term expires at our annual meeting of stockholders to be held in 2018.

Upon the expiration of the term of a class of directors, directors in that class are eligible to be elected for a new three-year term at the annual meeting of stockholders in the year in which their term expires. In accordance with the terms of our certificate of incorporation and bylaws that will become effective upon the closing of this offering, the authorized number of our directors may be changed only by resolution of our board of directors, our directors may be removed only for cause and by the affirmative vote of holders of at least 75% of the outstanding shares of our common stock and any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

The rules established by the NASDAQ Stock Market, or NASDAQ rules, require that a majority of our board of directors be independent within one year of listing. In addition, the NASDAQ rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent and that audit committee members also satisfy independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Under NASDAQ rules, a director will only qualify as an "independent director" if, in the opinion of our board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors or any other board committee, accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. Our board of directors has determined that, at the time of this offering, Messrs. Holt, Luehring, Moura Nelsen and Weinstein will be "independent directors", as defined under Rule 5605(a)(2) of the NASDAQ rules. In making such determination, our board of directors considered the relationships that each such non-employee director has with our company and all other facts and circumstances that our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director.

The phase-in periods with respect to director independence under the applicable NASDAQ rules allow us to have only one independent member on each of the audit committee, compensation committee and nominating and corporate governance committee upon the listing date of our common stock, a majority of independent members on each of these committees within 90 days of the listing date and fully independent committees within one year of the listing date.

Our board of directors has determined that Mr. Luehring, who is a member of our audit committee, Messrs. Holt and Nelsen, who are members of our compensation committee, and Messrs. Holt and Moura, who are members of our nominating and corporate governance committee, satisfy the independence standards for their respective committees established by the SEC and NASDAQ rules, as applicable, including, in the case of the audit committee member, the independence requirements of Rule 10A-3 under the Exchange Act and, in the case of the compensation committee

members, the independence requirements under Rule 10C-1 under the Exchange Act. In making such determinations, our board of directors considered the relationships that each such non-employee director has with our company and all other facts and circumstances that our board of directors deemed relevant in determining independence, including the beneficial ownership of our capital stock by each non-employee director. Our board of directors has determined that neither Mr. Moura, who is a member of our audit committee, nor Mr. Weinstein, who is the chair of our audit committee, is currently independent under Rule 10A-3 of the Exchange Act, but determined that Mr. Moura will be permitted to remain on the audit committee for a period of up to 90 days following completion of this offering and Mr. Weinstein will be permitted to remain on the audit committee for a period of up to one year following the completion of this offering, in each case in accordance with the phase-in period under NASDAQ rules.

There are no family relationships among any of our directors or executive officers.

Lead Director

Our board of directors has appointed Mr. Holt to serve as our lead director. As lead director, Mr. Holt presides over periodic meetings of our non-employee directors, serves as a liaison between our Chairman and the other directors and performs such additional duties as our board of directors may otherwise delegate.

Board Committees

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee, each of which operates under a charter that has been approved by our board of directors. The composition of each committee will be effective upon the closing of this offering. Copies of each committee's charter will be posted on our website, www.bellerophon.com.

Following the completion of this offering, pursuant to a stockholders agreement that we expect to enter into, the director designated by the New Mountain Entities will be entitled to serve on each committee of our board of directors and the consent of the New Mountain Entities will be required to establish any new committee of our board of directors, in each case except to the extent prohibited by applicable law or applicable listing exchange rules, for so long as the New Mountain Entities or certain of their respective assignees beneficially own (i) 50% or more of the sum of (a) the aggregate number of shares of our common stock that they collectively own immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering (subject in each case to adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination or shares, reclassification or other similar change in our capitalization) and (ii) 15% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q).

In addition, following the completion of this offering, pursuant to a stockholders agreement that we expect to enter into, the director designated by Linde will be entitled to serve on each committee of our board of directors and the consent of Linde will be required to establish any new committee of our board of directors, in each case except to the extent prohibited by applicable law or applicable listing exchange rules, for so long as Linde or certain of its assignees beneficially own (i) 50% or more of the sum of (a) the aggregate number of shares of our common stock that they collectively own immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering (subject in each case to adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination or shares, reclassification or other similar change in our capitalization) and (ii) 10% or more of our common stock outstanding (as set

forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q).

Audit Committee

The members of our audit committee are Messrs. Luehring, Moura and Weinstein. Mr. Weinstein chairs our audit committee. Our audit committee's responsibilities will include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of reports from such firm;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- overseeing our internal audit function;
- overseeing our risk assessment and risk management policies;
- establishing policies regarding hiring employees from our independent registered public accounting firm and procedures for the receipt and retention of accounting related complaints and concerns;
- meeting independently with our internal auditing staff, our independent registered public accounting firm and management;
- reviewing and approving or ratifying any related person transactions; and
- preparing the audit committee report required by SEC rules.

All audit and non-audit services, other than *de minimis* non-audit services, to be provided to us by our independent registered public accounting firm must be approved in advance by our audit committee.

Our board of directors has determined that Mr. Weinstein is an "audit committee financial expert" as defined in applicable SEC rules.

Compensation Committee

The members of our compensation committee are Messrs. Holt and Nelsen. Mr. Holt chairs our compensation committee. Our compensation committee's responsibilities will include:

- reviewing and approving, or making recommendations to our board with respect to, the compensation of our chief executive officer and our other executive officers;
- overseeing an evaluation of our senior executives;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to our board with respect to director compensation;
- reviewing and discussing annually with management our compensation disclosure required by SEC rules; and
- preparing the compensation committee report required by SEC rules.

Nominating and Corporate Governance Committee

The members of our nominating and corporate governance committee are Messrs. Holt and Moura. Mr. Moura chairs our nominating and corporate governance committee. Our nominating and corporate governance committee's responsibilities will include:

- identifying individuals qualified to become members of our board;
- recommending to our board the persons to be nominated for election as directors and to each of our board's committees;
- reviewing and making recommendations to our board with respect to our board leadership structure;
- reviewing and making recommendations to our board with respect to management succession planning;
- developing and recommending to our board corporate governance principles; and
- overseeing a periodic evaluation of our board.

Compensation Committee Interlocks and Insider Participation

None of our executive officers serves as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our board of directors or our compensation committee. None of the members of our compensation committee is, or has ever been, an officer or employee of our company.

Code of Ethics and Code of Conduct

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. We have posted a current copy of the code on our website, www.bellerophon.com. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a Current Report on Form 8-K.

EXECUTIVE COMPENSATION

Overview

We were formed on October 17, 2013 as a subsidiary of Ikaria and we became an independent, stand-alone operating company as a result of the Spin-Out on February 12, 2014. Because the costs and liabilities with respect to compensation of our employees for the fiscal year ended December 31, 2013 and for prior periods were paid by Ikaria on the basis of criteria and methodology not relevant to us and work performed with respect to businesses in addition to ours, we are not presenting compensation information for historical periods.

In preparing to become a stand-alone public company, we have begun a thorough review of all elements of our executive compensation program, including the function and design of our equity incentive programs. We have begun to, and expect to continue to in the coming months, evaluate the need for revisions to our executive compensation program to ensure that our program is competitive with the companies with which we compete for executive talent and is appropriate for a public company. As we gain experience as a stand-alone, public company, we expect that the specific direction, emphasis and components of our executive compensation program will continue to evolve. Moving forward, our compensation committee will review and approve the compensation of our executive officers and oversee and administer our executive compensation programs and initiatives.

Summary Compensation Table

The following table sets forth information regarding compensation earned by Jonathan Peacock, our President and Chief Executive Officer, Daniel Tassé, our former interim Chief Executive Officer, Reinilde Heyrman, our Chief Clinical Development Officer, and Martin Meglasson, our Chief Scientific Officer, during our fiscal year ended December 31, 2014. We refer to Mr. Peacock, Dr. Heyrman and Dr. Meglasson as our named executive officers.

<u>Name and principal position</u>	<u>Salary (\$)</u>	<u>Bonus (\$)</u>	<u>Option Awards \$(1)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
Jonathan Peacock <i>President and Chief Executive Officer</i>	201,539	—	4,470,833	58,351(3)	4,730,723
Daniel Tassé(2) <i>Former Interim Chief Executive Officer</i>	—	—	—	—	—
Reinilde Heyrman <i>Chief Clinical Development Officer</i>	366,808	150,000	79,246	—	596,054
Martin Meglasson <i>Chief Scientific Officer</i>	307,154	150,000	79,246	—	536,400

- (1) The amounts reported in the "Option Awards" column reflect the aggregate fair value of share-based compensation awarded during the year computed in accordance with the provisions of Financial Accounting Standards Board Accounting Standard Codification, or ASC, Topic 718. See Note 8 to the audited financial statements and Note 5 to the unaudited condensed consolidated financial statements, in each case appearing at the end of this prospectus, regarding assumptions underlying the valuation of equity awards.
- (2) In 2014, we did not pay a base salary nor did we make any other awards of compensation to our former interim Chief Executive Officer, Daniel Tassé. Prior to our Spin-Out, Mr. Tassé was compensated by our former parent company, Ikaria, of which he continues to serve as President and Chief Executive Officer.

- (3) Consists of \$52,197 of relocation costs incurred by us in connection with Mr. Peacock becoming our President and Chief Executive Officer, and \$6,154 that we matched pursuant to our 401(k) plan.

Narrative to Summary Compensation Table

Base Salary. In 2014, we paid salaries of \$201,539 to Mr. Peacock, \$366,808 to Dr. Heyrman and \$307,158 to Dr. Meglasson. On an annualized basis, the 2014 base salaries of our named executive officers were: \$400,000 to Mr. Peacock, \$433,500 to Dr. Heyrman and \$363,000 to Dr. Meglasson. Base salaries are used to recognize the experience, skills, knowledge and responsibilities required of all of our employees, including our executive officers. We did not engage in any form of benchmarking in the determination of base salaries of our executive officers. Following the closing of this offering, our compensation committee will review the salaries of our executives annually at the beginning of each calendar year and recommend to our board of directors changes in salaries based primarily on changes in job responsibilities, experience, individual performance and comparative market data. We will pay our named executive officers the following annualized base salaries for the year ending December 31, 2015: \$400,000 to Mr. Peacock, \$433,500 to Dr. Heyrman and \$363,000 to Dr. Meglasson.

Bonus Compensation. Our named executive officers are expected to be eligible to receive an annual cash bonus award in accordance with the management incentive program then in effect with respect to such executive officer and based on an annualized target of base salary. Our named executive officers are also expected to be eligible for performance-based annual bonus awards based on metrics to be determined by our board of directors, in consultation with the executive officer, and our board of directors will determine the extent to which the metrics have been satisfied and the amount of the annual bonus, if any. The performance-based bonuses are designed to motivate our employees to achieve annual goals based on our strategic, financial and operating performance objectives.

On February 3, 2014, we delivered a letter to Dr. Heyrman and to Dr. Meglasson offering them each a one-time \$150,000 "retention bonus" payment if she or he remained an active employee of Bellerophon in good standing through December 19, 2014. We paid these retention bonus payments, less applicable taxes, to Dr. Heyrman and Dr. Meglasson in December 2014.

Long-Term Equity Based Incentive Awards. We believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interests of our executives and our stockholders. In addition, we believe that equity grants with a time-based vesting feature promote executive retention because this feature incentivizes our named executive officers to remain in our employment during the vesting period. Accordingly, our compensation committee and board of directors periodically review the equity incentive compensation of our named executive officers and from time to time may grant additional equity incentive awards to them in the form of stock options.

Outstanding Equity Awards at 2014 Fiscal Year-End

The following table sets forth information regarding outstanding stock options held by our named executive officers and Mr. Tassé as of December 31, 2014:

Name	Option Awards			
	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price (\$)	Option Expiration Date
Jonathan Peacock	90,082	360,329(1)	\$ 13.28	6/20/2024
Daniel Tassé	35,926	—	\$ 7.77	12/16/2019
	59,876	—	\$ 10.40	1/20/2018
Reinilde Heyrman	—	7,983(2)	\$ 13.28	6/20/2024
Martin Meglasson	7,983	—	\$ 7.77	12/07/2020
	—	7,983(2)	\$ 13.28	6/20/2024

- (1) This option vested as to 20% of the underlying shares on June 20, 2014 and vests as to an additional 20% of the underlying shares annually thereafter through June 20, 2018.
- (2) This option vests as to (i) 25% of the underlying shares on February 12, 2016, (ii) 25% of the underlying shares on February 12, 2017 and (iii) 50% of the underlying shares on February 12, 2018.

In connection with the Spin-Out, Ikaria distributed our then outstanding units to its stockholders through the payment of a special dividend on a pro rata basis based on each stockholder's ownership of Ikaria capital stock. Prior to the Spin-Out, we issued to certain employees and directors of ours and of Ikaria, including certain of our executive officers, options to purchase the same number of our non-voting membership units as the number of shares of non-voting Ikaria stock subject to the Ikaria options then held by such employee or director at such time. The vesting of these options was subsequently accelerated and all are now fully vested.

Employment Agreements with Our Executive Officers

Agreement with Mr. Peacock

In June 2014, we entered into an employment agreement with Mr. Peacock in connection with the commencement of his employment with us. The agreement provides that Mr. Peacock is employed at will, and either we or Mr. Peacock may terminate the employment relationship for any reason, at any time. Mr. Peacock is required to give us at least 30 days' prior notice if he elects to terminate his employment other than for good reason (as defined in the employment agreement). Following the end of each calendar year, Mr. Peacock is eligible to receive an annual bonus for such calendar year in accordance with the terms of our management incentive program, calculated as a percentage of his annual base salary. As of the date of this prospectus, Mr. Peacock's target bonus percentage is 100%.

If we terminate Mr. Peacock's employment without cause (as defined in the employment agreement) or if Mr. Peacock terminates his employment with us for good reason (as defined in the employment agreement), Mr. Peacock is entitled to receive: (1) a lump sum payment in an amount equal to earned but unpaid base salary through the date of his termination of employment and any unpaid annual bonus that was earned by Mr. Peacock and declared due and owing by us, any accrued but unpaid vacation time, and any incurred but unreimbursed expenses, together with any other benefits to which Mr. Peacock is entitled under our benefit plans and arrangements; and (2) subject to his continued compliance with the restrictive covenants of the agreement and his execution and nonrevocation of a general release of claims against us: (a) a pro-rated portion of his annual bonus

target for the year in which his employment terminates, payable in a single lump sum; (b) payments for a period of 18 months following the date of termination in an aggregate amount equal to one and one half times the sum of (i) Mr. Peacock's annual base salary and (ii) the greater of his applicable annual bonus target and the actual annual bonus most recently paid to Mr. Peacock, determined on a monthly basis; and (c) continued coverage, under our medical, dental and vision benefit plans at active-employee rates for 18 months following the date of termination.

We have agreed to indemnify and hold Mr. Peacock harmless from and against any liabilities Mr. Peacock may incur under Section 409A of the Internal Revenue Code of 1986, as amended, on account of any payments made to Mr. Peacock pursuant to his employment agreement.

Mr. Peacock is subject to confidentiality, invention assignment, non-competition and non-solicitation obligations pursuant to the terms of his employment agreement.

Agreements with Other Named Executive Officers

We also have written employment agreements with Dr. Heyrman and Dr. Meglasson. Each agreement provides for an employment term of one year, with the term automatically renewing for successive one-year terms, unless we or the applicable officer gives written notice of non-renewal at least 90 days prior to the renewal date. Each of these officers is subject to confidentiality, invention assignment, non-competition and non-solicitation agreements.

In addition, for each calendar year, each executive officer named below is eligible to receive an annual bonus in accordance with the terms of our management incentive program. The bonus is calculated as a percentage of the executive's annual base salary. As of the date of this prospectus, the target bonus percentage for each such executive officer is as follows: Dr. Heyrman 40% and Dr. Meglasson 40%. In order to receive her bonus, Dr. Heyrman must be employed by us at the time the bonus is declared due and owing.

Both Dr. Heyrman and Dr. Meglasson are entitled to severance payments if her or his employment is terminated under specified circumstances.

Dr. Reinilde Heyrman. If we terminate Dr. Heyrman's employment without cause (as defined in the employment agreement), Dr. Heyrman terminates her employment with us for good reason (as defined in the employment agreement) or Dr. Heyrman terminates her employment at the end of a term following delivery by us of notice that we will not extend the term, Dr. Heyrman is entitled to receive: (1) a lump sum payment in an amount equal to earned but unpaid base salary through the date of termination of her employment and any unpaid annual bonus that was earned by Dr. Heyrman and declared due and owing by us and any accrued but unpaid vacation time, together with any other benefits to which Dr. Heyrman is entitled under our benefit plans and arrangements; and (2) subject to her continued compliance with the restrictive covenants of the employment agreement and her execution and nonrevocation of a general release of claims against us: (a) payments for a period of 12 months following the date of termination in an aggregate amount equal to the sum of (i) Dr. Heyrman's annual base salary and (ii) the greater of her applicable annual bonus target and the actual annual bonus most recently paid to Dr. Heyrman, determined on a monthly basis; and (b) continued coverage, under our medical, dental and vision benefit plans at active employee rates for 12 months following the date of termination.

In the event that we terminate Dr. Heyrman's employment without cause, Dr. Heyrman terminates her employment with us for good reason, or Dr. Heyrman terminates her employment at the end of a term following delivery by us of notice that we will not extend the term, in each case within 12 months of the occurrence of a change in control (as defined in the employment agreement), any equity compensation granted to Dr. Heyrman shall become fully vested as of the date of termination.

Dr. Martin Meglasson. If we terminate Dr. Meglasson's employment without cause (as defined in the employment agreement), Dr. Meglasson terminates his employment with us for good reason (as defined in the employment agreement) or Dr. Meglasson terminates his employment at the end of a term following delivery by us of notice that we will not extend the term, Dr. Meglasson is entitled to receive: (1) a lump sum payment in an amount equal to earned but unpaid base salary through the date of his termination of employment and any unpaid annual bonus that was earned by Dr. Meglasson and declared due and owing by us and any accrued but unpaid vacation time, together with any other benefits to which Dr. Meglasson is entitled under our benefit plans and arrangements; and (2) subject to his continued compliance with the restrictive covenants of the agreement and his execution and nonrevocation of a general release of claims against us: (a) a pro-rated portion of his annual bonus target for the year in which his employment terminates, payable in a single lump sum, and payments for a period of 12 months following the date of termination in an aggregate amount equal to the sum of (i) Dr. Meglasson's annual base salary and (ii) the greater of his applicable annual bonus target and the actual annual bonus most recently paid to Dr. Meglasson, determined on a monthly basis; and (b) continued coverage, under our medical, dental and vision benefit plans at active-employee rates for 12 months following the date of termination.

In the event that we terminate Dr. Meglasson's employment without cause, Dr. Meglasson terminates his employment with us for good reason or Dr. Meglasson terminates his employment at the end of a term following delivery by us of notice that we will not extend the term, in each case within 18 months of, or in certain circumstances related to a potential change in control prior to, the occurrence of a change in control, Dr. Meglasson is entitled to receive, in addition to the payments and benefits described in the preceding paragraph and subject to his continued compliance with the restrictive covenants of the employment agreement and his execution and nonrevocation of a general release of claims against us: (a) a lump sum payment in an amount equal to 50% of the sum of (i) Dr. Meglasson's annual base salary and (ii) the greater of his annual bonus target and the actual annual bonus most recently paid to Dr. Meglasson; (b) an additional six months of continued coverage under our medical, dental and vision benefit plans at active employee rates; and (c) the unvested portion of any equity compensation granted to Dr. Meglasson shall become immediately fully vested.

We have agreed to indemnify and hold Dr. Meglasson harmless from and against any liabilities Dr. Meglasson may incur under 409A of the Internal Revenue Code of 1986, as amended, on account of any payments made to Dr. Meglasson pursuant to his employment agreement.

Stock Option and Other Compensation Plans

The four equity incentive plans described in this section are (i) the assumed 2007 Ikaria stock option plan, which we refer to as the 2007 Ikaria plan, (ii) the assumed Ikaria 2010 long term incentive plan, which we refer to as the 2010 Ikaria plan, (iii) our 2014 equity incentive plan, which we refer to as the 2014 equity plan and (iv) our 2015 equity incentive plan. Following the closing of this offering, we expect to grant awards to eligible participants only under the 2015 equity incentive plan.

Assumed 2007 Ikaria Plan

The 2007 Ikaria plan was adopted by Ikaria in March 2007, and we assumed the terms of the 2007 Ikaria plan in connection with the Spin-Out. Stock options granted under the 2007 Ikaria plan have a contractual life of ten years. Pursuant to the terms of the 2007 Ikaria plan, in the event of a liquidation or dissolution of our company, each outstanding option under the 2007 Ikaria plan will terminate immediately prior to the consummation of the action, unless the administrator determines otherwise. In the event of a merger or other reorganization event, each outstanding option will be assumed or an equivalent option or right will be substituted by the successor entity, unless such successor entity does not agree to assume the award or to substitute an equivalent option or right in which case such option will terminate upon the consummation of the merger or reorganization event.

Assumed 2010 Ikaria Plan

The 2010 Ikaria plan was adopted by Ikaria in February 2010 and amended and restated in May 2010, and we assumed the terms of the 2010 Ikaria plan in connection with the Spin-Out. Pursuant to the terms of the 2010 Ikaria plan, upon our liquidation, dissolution, merger or consolidation, except as otherwise provided in an applicable option or award agreement, each option or award will be (i) treated as provided in the agreement related to the transaction, or (ii) if not so provided in such agreement, each holder of an option or award will be entitled to receive, in respect of each share subject to outstanding options or awards, the same number of stock, securities, cash, property or other consideration that he or she would have received had he or she exercised such options or awards prior to the transaction. The stock, securities, cash, property or other consideration shall remain subject to all of the conditions, restrictions and performance criteria which were applicable to the options and awards prior to any such transaction. If the consideration paid or distributed is not entirely shares of common stock of the acquiring or resulting corporation, the treatment of outstanding options and stock appreciation rights may include the cancellation of outstanding options and stock appreciation rights upon consummation of the transaction as long as the holders of affected options and stock appreciation rights, at the election of the compensation committee, either:

- have been given a period of at least 15 days prior to the date of the consummation of the transaction to exercise the options or stock appreciation rights (whether or not they were otherwise exercisable); or
- are paid (in cash or cash equivalents) in respect of each share covered by the option or stock appreciation right being cancelled an amount equal to the excess, if any, of the per share price paid or distributed to stockholders in the transaction (the value of any non-cash consideration to be determined by the compensation committee in its sole discretion) over the exercise price of the option or stock appreciation right.

2014 Equity Incentive Plan

In June 2014, our board of directors adopted, and our stockholders approved, the 2014 equity plan. The 2014 equity plan is administered by our board of directors or by a committee appointed by our board of directors. The 2014 equity plan provides for the grant of options. As of December 31, 2014, there were 50,571 shares of non-voting common stock available for the grant of options under the 2014 equity plan.

Our employees, officers, directors, consultants and advisors are eligible to receive awards under the 2014 equity plan. Subject to any limitation in the 2014 equity plan, our board of directors or any committee to which our board of directors has delegated authority will select the recipients of options and determine:

- the number of shares of non-voting common stock covered by options, the dates upon which those options become exercisable and the terms and conditions that apply to such options;
- the exercise price of options which may not be less than 100% of the fair market value of our non-voting common stock on the grant date;
- the duration of options, which may not be in excess of ten years;
- the methods of payment of the exercise price of options; and
- any amendments to the 2014 equity plan and/or any option agreement.

Our board of directors may exercise such powers and perform such acts as it deems necessary or expedient to promote the best interests of the Company which are not in conflict with the 2014 equity plan provisions.

Awards under the 2014 equity plan are subject to adjustment in the event of a split, reverse split, dividend, recapitalization, combination or reclassification of Company common stock, spin-off or other similar change in our capitalization, conversion of the Company into a corporation or other entity or event or any dividend or distribution to holders of our common stock other than an ordinary cash dividend.

Upon a merger or other reorganization event (as defined in the 2014 equity plan), our board of directors, may, in its sole discretion, take any one or more of the following actions pursuant to the 2014 equity plan, as to some or all outstanding options:

- provide that all outstanding options will be assumed, or substantially equivalent awards shall be substituted, by the acquiring or successor corporation or an affiliate thereof;
- upon written notice to a participant, provide that the participant's unvested and/or unexercised options will terminate immediately prior to the consummation of such transaction unless exercised by the participant;
- provide that outstanding options will become exercisable, realizable or deliverable, or restrictions applicable to an option will lapse, in whole or in part, prior to or upon the reorganization event;
- in the event of a reorganization event pursuant to which holders of shares of non-voting common stock will receive a cash payment for each share of non-voting common stock surrendered in the reorganization event, make or provide for a cash payment to the participants with respect to each option held by the participant equal to (1) the number of shares of non-voting common stock subject to the vested portion of the option, after giving effect to any acceleration of vesting that occurs upon or immediately prior to such reorganization event, multiplied by (2) the excess, if any, of the cash payment for each share of non-voting common stock surrendered in the reorganization event over the exercise price of such option and any applicable tax withholdings, in exchange for the termination of such option; and
- provide that, in connection with a liquidation or dissolution, options convert into the right to receive liquidation proceeds.

At any time, our board of directors may, in its sole discretion, provide that any award under the 2014 equity plan will become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part.

No option may be granted under the 2014 equity plan on or after the effectiveness of the registration statement for this offering. Our board of directors may amend, suspend or terminate the 2014 equity plan at any time, except that stockholder approval will be required to comply with applicable law or stock market requirements.

2015 Equity Incentive Plan

In January 2015, our board of directors adopted, and our stockholders approved, the 2015 equity incentive plan, which will become effective immediately prior to the effectiveness of the registration statement for this offering. The 2015 equity incentive plan provides for the grant of incentive stock options, nonstatutory stock options, share appreciation rights, restricted share awards, restricted share unit awards and other share-based awards. Upon the effectiveness of the 2015 equity incentive plan, the number of shares of our common stock that will be reserved for issuance under the 2015 equity incentive plan will be the sum of (1) 449,591 plus (2) the number of shares (up to 558,851 shares) equal to the sum of the number of shares of our common stock available for issuance under the 2014 equity plan immediately prior to the effectiveness of the registration statement for this offering and the number of shares of our common stock subject to outstanding awards under the 2014 equity plan that expire, terminate or are otherwise surrendered, cancelled, forfeited or repurchased by us at their original issuance price pursuant to a

contractual repurchase right plus (3) an annual increase, to be added on the first day of each fiscal year, beginning with the fiscal year ending December 31, 2016 and continuing until, and including, the fiscal year ending December 31, 2025, equal to the least of (i) 798,358 shares of our common stock, (ii) a number equal to the difference between 5% of the number of shares of our common stock outstanding on the first day of the fiscal year (treating all shares of our common stock issuable upon the exercise of outstanding options and upon the conversion of outstanding shares of preferred stock, warrants or other securities convertible into shares of our common stock as outstanding for this purpose) and the number of shares of our common stock available for grant under the 2015 equity incentive plan on the first day of the fiscal year and (iii) an amount determined by our board of directors. Solely for purposes of the 2015 equity incentive plan, from and after the conversion until the closing of this offering "shares of our common stock" shall refer to shares of our non-voting common stock. Upon the closing of this offering, "shares of our common stock" shall refer to shares of our voting common stock and awards granted prior to the closing of this offering shall automatically become awards covering shares of our voting common stock at such time.

Our employees, officers, directors, consultants and advisors are eligible to receive awards under the 2015 equity incentive plan. However, incentive stock options may only be granted to our employees. We expect to grant options to purchase an aggregate of 99,367 shares to certain of our employees upon the commencement of trading of our common stock on the NASDAQ Global Market under the 2015 equity incentive plan.

Pursuant to the terms of the 2015 equity incentive plan, our board of directors (or a committee delegated by our board of directors) administers the plan and, subject to any limitations in the plan, selects the recipients of awards and determines:

- the number of shares of our common stock covered by options and the dates upon which the options become exercisable;
- the type of options to be granted;
- the duration of options, which may not be in excess of ten years;
- the exercise price of options, which must be at least equal to the fair market value of our common stock on the date of grant;
- the methods of payment of the exercise of options; and
- the number of shares of our common stock subject to and the terms of any share appreciation rights, restricted share awards, restricted share units or other share-based awards and the terms and conditions of such awards, including conditions for repurchase, issue price and repurchase price (though the measurement price of share appreciation rights must be at least equal to the fair market value of our common stock on the date of grant and the duration of such awards may not be in excess of ten years).

If our board of directors delegates authority to an officer to grant awards under the 2015 equity incentive plan, the officer will have the power to make awards to all of our officers, except executive officers. Our board of directors will fix the terms of the awards to be granted by such officer, including the exercise price of such awards (which may include a formula by which the exercise will be determined), and the maximum number of shares subject to awards that such officer may make.

Upon a merger or other reorganization event, our board of directors may, except to the extent specifically provided otherwise in an award or other agreement between us and the plan participant,

take any one or more of the following actions pursuant to the 2015 equity incentive plan as to some or all outstanding awards other than restricted shares:

- provide that all outstanding awards shall be assumed, or substantially equivalent awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof);
- upon written notice to a participant, provide that all of the participant's unvested and/or unexercised awards will terminate immediately prior to the consummation of such reorganization event unless exercised by the participant (to the extent then exercisable) within a specified period;
- provide that outstanding awards shall become exercisable, realizable or deliverable, or restrictions applicable to an award shall lapse, in whole or in part, prior to or upon such reorganization event;
- in the event of a reorganization event pursuant to which holders of shares of our common stock will receive a cash payment for each share surrendered in the reorganization event, make or provide for a cash payment to the participants with respect to each award held by a participant equal to (1) the number of shares of our common stock subject to the vested portion of the award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to such reorganization event) multiplied by (2) the excess, if any, of the cash payment for each share surrendered in the reorganization event over the exercise, measurement or purchase price of such award and any applicable tax withholdings, in exchange for the termination of such award;
- provide that, in connection with a liquidation or dissolution, awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise, measurement or purchase price thereof and any applicable tax withholdings); and/or
- any combination of the foregoing.

Our board of directors does not need to take the same action with respect to all awards, all awards held by a participant or all awards of the same type.

In the case of certain restricted share units, no assumption or substitution is permitted, and the restricted share units will instead be settled in accordance with the terms of the applicable restricted share unit agreement.

Upon the occurrence of a reorganization event other than a liquidation or dissolution, the repurchase and other rights with respect to outstanding restricted share awards will continue for the benefit of the successor company and will, unless the board of directors may otherwise determine, apply to the cash, securities or other property into which shares of our common stock are converted or exchanged pursuant to the reorganization event, provided that our board of directors may provide for the termination or deemed satisfaction of such repurchase or other rights under the applicable award agreement or any other agreement between the participant and us. Upon the occurrence of a reorganization event involving a liquidation or dissolution, all restrictions and conditions on each outstanding restricted share award will automatically be deemed terminated or satisfied, unless otherwise provided in the agreement evidencing the restricted share award or in any other agreement between the participant and us.

At any time, our board of directors may, in its sole discretion, provide that any award under the 2015 equity incentive plan will become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part.

No award may be granted under the 2015 equity incentive plan on or after the date that is ten years following the effectiveness of the registration statement for this offering. Our board of directors

may amend, suspend or terminate the 2015 equity incentive plan at any time, except that stockholder approval may be required to comply with applicable law or stock market requirements.

401(k) Retirement Plan

We maintain a 401(k) retirement plan that is intended to be a tax-qualified defined contribution plan under Section 401(k) of the Internal Revenue Code. In general, all of our employees are eligible to participate, beginning on the first day of the month following commencement of their employment. The 401(k) plan includes a salary deferral arrangement pursuant to which participants may elect to reduce their current compensation by up to the statutorily prescribed limit, equal to \$17,500 in 2014, and have the amount of the reduction contributed to the 401(k) plan.

Limitations on Liability and Indemnification

Our certificate of incorporation, which will become effective upon the closing of this offering, limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the Delaware General Corporation Law and provides that no director will have personal liability to us or to our stockholders for monetary damages for breach of fiduciary duty or other duty as a director. However, these provisions do not eliminate or limit the liability of any of our directors:

- for any breach of the director's duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- for voting for or assenting to unlawful payments of dividends, stock repurchases or other distributions; or
- for any transaction from which the director derived an improper personal benefit.

Any amendment to or repeal of these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to such amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

In addition, our certificate of incorporation, which will become effective upon the closing of this offering, provides that we must indemnify our directors and officers and we must advance expenses, including attorneys' fees, to our directors and officers in connection with legal proceedings, subject to very limited exceptions.

In addition, we have entered into indemnification agreements with each of our directors and officers. These indemnification agreements may require us, among other things, to indemnify each such director or officer for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by him or her in any action or proceeding arising out of his or her service as one of our directors or officers.

We maintain a general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Certain of our non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities incurred in their capacity as members of our board of directors.

Rule 10b5-1 Sales Plans

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or officer when entering into the plan, without further direction from the director or officer. The director or officer may adopt, amend or terminate a plan when not in possession of material, non-public information. In addition, our directors and executive officers may also buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information.

Director Compensation

Prior to this offering, we did not have a formal non-employee director compensation policy. We did not compensate any of our current non-employee directors for his service as a director in 2014. We have historically reimbursed our non-employee directors for reasonable travel and out-of-pocket expenses incurred in connection with attending board of director and committee meetings. Jonathan Peacock, one of our directors who also serves as our President and Chief Executive Officer, does not receive any additional compensation for his service as a director. The compensation that we pay to Mr. Peacock for his service as our President and Chief Executive Officer is discussed in the "Executive Compensation" section of this prospectus.

Director Compensation Policy Following This Offering

Our board has established the following compensation policy for non-employee directors, effective upon the closing of this offering:

- each non-employee director will receive, on an annual basis, a cash retainer of \$30,000;
- each non-employee director who has then served on our board of directors for at least six months will receive, on the date of the first board meeting held after each year's annual meeting of stockholders, an option to purchase 798 shares of our common stock, which shall vest in full on the earlier of the first anniversary of the date of grant or immediately prior to the first annual meeting of stockholders occurring after the date of grant;
- the chairman of our board of directors, if a non-employee director, will receive an additional cash retainer of \$30,000;
- each non-employee director who serves on the audit committee will receive a cash retainer of \$7,500 per year (\$15,000 for the chair);
- each non-employee director who serves on the compensation committee will receive a cash retainer of \$5,000 per year (\$10,000 for the chair);
- each non-employee director who serves on the nominating and corporate governance committee will receive a cash retainer of \$3,000 (\$7,000 for the chair); and
- each non-employee director elected to the board following the closing of this offering will receive a one-time award of an option to purchase 3,991 shares of our common stock, which option shall vest in three equal annual installments.

In addition, we will continue to reimburse our non-employee directors for reasonable travel and out-of-pocket expenses incurred in connection with attending board of director and committee meetings.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

We describe below transactions and series of similar transactions during our last three fiscal years to which we were a party or will be a party, in which (i) the amounts involved exceeded or will exceed \$120,000, and (ii) any of our directors, executive officers, or holders of more than 5% of our capital stock, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest. Compensation arrangements for our directors and executive officers are described elsewhere in this prospectus. We believe that all of these transactions were on terms as favorable as could have been obtained from unrelated third parties.

Corporate Conversion

We are currently a Delaware limited liability company. Prior to the effectiveness of the registration statement of which this prospectus forms a part, we will complete transactions pursuant to which we will convert into a Delaware corporation and change our name to Bellerophon Therapeutics, Inc. As required by the limited liability company agreement of Bellerophon Therapeutics LLC, the conversion has been approved by the board of directors of Bellerophon Therapeutics LLC. In connection with the Corporate Conversion, holders of our outstanding voting units will receive one share of voting common stock for each voting unit held immediately prior to the Corporate Conversion, holders of our outstanding non-voting units will receive one share of non-voting common stock for each non-voting unit held immediately prior to the Corporate Conversion and options to purchase non-voting units will become options to purchase one non-voting share of common stock for each unit underlying such options immediately prior to the Corporate Conversion, at the same aggregate exercise price in effect prior to the Corporate Conversion.

Following the Corporate Conversion and prior to our registration statement being declared effective, certain entities affiliated with certain of our principal stockholders will be merged with and into us. We refer to these mergers as the Mergers. In connection with the conversion and the Mergers, these certain entities affiliated with certain of our principal stockholders will receive, in exchange for their equity interests in the entities being merged into us, the number of shares of our common stock that they would have held had they held our equity interests directly.

In connection with the Corporate Conversion, we intend to enter into the following agreements:

Merger Agreement

We intend to enter into a merger agreement with certain of our principal stockholders to effect the Mergers. Concurrently with the consummation of the conversion to a corporation, our limited liability company agreement, or the LLC agreement, will be terminated (other than the provisions thereof relating to certain pre-closing tax matters and liabilities for breaches of the LLC agreement).

In the merger agreement, the companies that will be merged into us will represent and warrant that they do not have any liabilities, operations or businesses other than activities related to holding our common stock and other than liabilities for (i) deferred income taxes that reflect only timing differences between the treatment of items for accounting and income tax purposes and (ii) income taxes with respect to pre-closing periods which are not yet due and payable and for which we are fully indemnified. The Mergers will be structured so that we will not acquire any assets (other than certain income tax receivables and an amount of cash that has been estimated in good faith to be sufficient to pay all pre-closing income taxes of the entities to be merged into us) or be responsible for any liabilities other than (i) deferred income taxes that reflect only timing differences between the treatment of items for accounting and income tax purposes and (ii) income taxes with respect to pre-closing periods which are not yet due and payable and for which we are fully indemnified. Each of our principal stockholders party to the merger agreement will indemnify us with respect to any liabilities (including tax liabilities related to pre-closing periods, other than with respect to deferred

income tax liabilities that reflect only timing differences between the treatment of items for accounting and income tax purposes) of the entity related to such principal stockholder that we acquire in the merger. Any assets (other than our equity interests, certain income tax receivables and an amount of cash that has been estimated in good faith to be sufficient to pay all liabilities, including pre-closing income taxes, of the entities to be merged into us) in the entities to be merged into us will be distributed to the equity holders of those entities prior to the Mergers.

Registration Rights Agreement

We intend to enter into a registration rights agreement with certain holders of our common stock, including our 5% stockholders and their affiliates and entities affiliated with our directors. The registration rights agreement will provide these holders the right, following the completion of this offering, to demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. See "Description of Capital Stock—Registration Rights" for additional information regarding these registration rights.

Stockholders Agreements

New Mountain Stockholders Agreement

We intend to enter into a stockholders agreement with the New Mountain Entities, which will remain in effect following this offering. The stockholders agreement will provide that, following the closing of the offering, the New Mountain Entities will be entitled to designate one director for nomination to our board of directors, to designate one director to the board of directors (or equivalent governing body) of each of our subsidiaries and to appoint the lead director of our board of directors, in each case, for so long as the New Mountain Entities or certain of their respective assignees beneficially own (i) 50% or more of the sum of (a) the number of shares of our common stock that they own immediately prior to the closing of this offering and (b) the number of shares of common stock, if any, acquired following the closing of this offering (subject to in each case adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification or other similar change in our capitalization) and (ii) 15% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). Subject to the same ownership thresholds, following the closing of this offering, the director nominated by the New Mountain Entities will be entitled to serve on each committee of our board of directors and of the board of directors (or equivalent governing body) of each of our subsidiaries and the consent of the New Mountain Entities will be required to establish any new committee of our board of directors or the board of directors (or equivalent governing body) of any of our subsidiaries, in each case except to the extent prohibited by applicable law or applicable listing exchange rules.

The New Mountain Entities may assign their rights to designate one director for nomination to our board of directors, to designate a director to the board of directors (or equivalent governing body) of each of our subsidiaries and to appoint the lead director of our board of directors, following the completion of this offering, to a person who acquires, in a transaction other than a registered public offering or a sale pursuant to Rule 144 under the Securities Act, at least 50% of the aggregate number of shares of our common stock owned, directly or indirectly, by the New Mountain Entities as of immediately prior to such transaction.

In addition, the stockholders agreement will provide that, following the closing of this offering, we will be required to obtain the prior written approval of the New Mountain Entities to take certain actions, including, among other things, actions to:

- consolidate or merge into or with any other person, sell, lease or transfer all or a significant portion of our assets or capital stock to another person or enter into any other similar business combination transaction, or effect a liquidation;
- authorize, issue, sell, offer for sale or solicit offers to buy any shares of our common stock or any convertible securities or any other equity or debt securities or rights to acquire any of our or our subsidiaries' equity or debt securities, subject to certain exceptions, including among other things, the issuance under our stock incentive plan of grants that have been approved by our board of directors (or a board committee) and at least one director appointed by the New Mountain Entities;
- incur indebtedness or refinance any indebtedness, in each case in an amount in excess of a specified threshold;
- hire or replace our chief executive officer; or
- agree or otherwise commit to do any of the foregoing (unless the commitment is conditioned on obtaining the approval of the New Mountain Entities).

These approval rights of the New Mountain Entities will terminate following the closing of this offering when the New Mountain Entities or certain of their respective assignees beneficially own either (i) less than 50% of the sum of (a) the aggregate number of shares of our common stock that they collectively own immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering (subject to in each case adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification or similar changes in our capitalization) or (ii) less than 15% of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). Following this offering, we expect the New Mountain Entities to hold approximately 31.8% of our outstanding common stock (or 30.3% if the underwriters exercise in full their option to purchase additional shares from us).

Linde Stockholders Agreement

We also intend to enter into a stockholders agreement with Linde, which will remain in effect following this offering. The stockholders agreement will provide that, following the closing of the offering, Linde will be entitled to designate one director for nomination to our board of directors and to designate one director to the board of directors (or equivalent governing body) of each of our subsidiaries, in each case, for so long as Linde or certain of its assignees beneficially own (i) 50% or more of the sum of (a) the number of shares of our common stock that they own immediately prior to the closing of this offering and (b) the number of shares of common stock, if any, acquired following the closing of this offering (subject to in each case adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification or other similar change in our capitalization) and (ii) 10% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). Subject to the same ownership thresholds, following the closing of this offering, the director designated by Linde will be entitled to serve on each committee of our board of directors and of the board of directors (or equivalent governing body) of each of our subsidiaries and the consent of Linde will be required to establish any new committee of our board of directors or the board of directors (or equivalent governing body) of any of our subsidiaries, in each case except to the extent prohibited by applicable law or applicable listing exchange rules.

Linde may assign its rights to designate one director for nomination to our board of directors and to designate a director for nomination to the board of directors (or equivalent governing body) of each of our subsidiaries, following the completion of this offering, to a person who acquires, in a transaction other than a registered public offering or a sale pursuant to Rule 144 under the Securities Act, at least 50% of the aggregate number of shares of our common stock owned, directly or indirectly, by Linde as of immediately prior to such transaction. Following this offering, we expect Linde to hold approximately 10.7% of our outstanding common stock (or 10.2% if the underwriters exercise in full their option to purchase additional shares from us).

Our principal stockholders have indicated an interest in purchasing an aggregate of up to approximately \$20 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these stockholders may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase in this offering. It also is possible that these stockholders could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or not to sell any shares to these stockholders. Accordingly, the foregoing discussion does not reflect any purchases by these potential purchasers.

Management Rights Letters

We intend to enter into management rights letters with entities affiliated with certain of our principal stockholders, pursuant to which such entities will be entitled to routinely consult with and advise management regarding our operations and have the right to inspect our books and records. We will also be required to deliver financial statements to such entities within 45 days after the end of each of the first three quarters of each fiscal year and 120 days after the end of each fiscal year and any other periodic reports as soon as they become available. Our management rights letter with the New Mountain Entities will also provide that at any time during which the New Mountain Entities do not have the direct contractual right to designate a representative to serve on our board of directors, the New Mountain Entities will have the right to designate one observer to our board of directors. Such observer shall be entitled to attend all meetings of our board of directors and to receive copies of all materials provided to the directors, subject to customary exceptions specified in the management rights letter. Each management rights letter will terminate on the date the entity party thereto (or principal stockholder with which such entity is affiliated) no longer holds any of our securities.

Indemnification Agreements

Our certificate of incorporation in effect upon the closing of this offering provides that we will indemnify our directors and officers to the fullest extent permitted by Delaware law. In addition, we have entered into indemnification agreements with each of our directors and officers. See "Executive Compensation—Limitations on Liability and Indemnification" for additional information regarding these agreements.

Directed Share Program

The underwriters have reserved for sale, at the initial public offering price, up to 10% of the shares offered hereby for employees, directors and other persons associated with us who have expressed an interest in purchasing common stock in the offering. The directed share program will not limit the ability of our directors, officers and their family members, or holders of more than 5% of our capital stock, to purchase more than \$120,000 in value of our common stock. We do not currently know the extent to which these related persons will participate in our directed share program, if at all, or the extent to which they will purchase more than \$120,000 in value of our common stock.

Relationship with Ikaria

Prior to the Spin-Out on February 12, 2014, we were a wholly-owned subsidiary of Ikaria. See "Business—Relationship with Ikaria after the Spin-Out." Following the Spin-Out, Ikaria ceased to hold any of our equity interests and we became a stand-alone company.

Separation and Distribution Agreement

In connection with the Spin-Out, we and Ikaria entered into a separation and distribution agreement which sets forth the key provisions relating to the separation of our business from Ikaria's other businesses. The separation and distribution agreement described the assets and liabilities that remained with or were transferred to us and those that remained with or were transferred to Ikaria and the terms of Ikaria's distribution of all of our then outstanding units to its stockholders. The separation and distribution agreement provides for a full and complete release and discharge of all liabilities between Ikaria and us, except as set forth in the agreement. We and Ikaria each agreed to indemnify, defend and hold harmless the other party and its subsidiaries, and each of their respective past and present directors, officers and employees, and each of their respective permitted successors and assigns, from any and all damages relating to, arising out of or resulting from, among other things, our business and certain additional specified liabilities or Ikaria's business and certain additional specified liabilities, as applicable. The separation and distribution agreement also provides that we and Ikaria will each use reasonable best efforts, including by cooperating with the other party, to, among other things, effect the transfer of any assets being transferred in connection with the Spin-Out that had not been transferred as of the date of the Spin-Out.

In connection with the Spin-Out, we and Ikaria have entered into other agreements that will govern various interim and ongoing relationships between us and Ikaria. These agreements, the material terms of which are summarized below, include:

- transition services agreements;
- an exclusive cross-license, technology transfer, and regulatory matters agreement;
- an employee matters agreement;
- agreements not to compete; and
- drug and device supply agreements.

The principal agreements described below are filed as exhibits to the registration statement to which this prospectus forms a part, and the summaries of each of these agreements below set forth the terms of the agreements that we believe are material. These summaries are qualified in their entirety by reference to the full text of the applicable agreements, which are incorporated by reference into this prospectus.

Services Agreements

Transition Services Agreement. In February 2014, we entered into the TSA. Pursuant to the terms and conditions of the TSA, Ikaria has agreed to use commercially reasonable efforts to provide certain services to us, including human resources support, real estate support, information technology support, accounting and tax support, treasury support, financial planning and analysis support, purchasing support, management/executive services, legal services, quality services, regulatory services, drug and device safety services, business development support, biometrics support and manufacturing support. Ikaria is obligated, subject to the terms of the TSA (including the early termination provisions thereof and our obligation to use commercially reasonable efforts to provide the services for ourselves as soon as practicable), to provide such services until February 2016.

Ikaria has also agreed, on the terms and subject to the conditions of the TSA, to use commercially reasonable efforts to allow our employees to remain in Ikaria's Hampton, New Jersey facility for the continued operation of our business during the term of the TSA.

We are obligated to pay Ikaria a service fee in the amount of \$772,000 per month and to reimburse Ikaria for any out-of-pocket expenses incurred in connection with its provisions of services under the TSA, any taxes imposed on Ikaria in connection with the performance or delivery of services under the TSA and any costs and expenses incurred by Ikaria in connection with the performance of any services that require resources outside of the existing resources of Ikaria or that otherwise interfere with the ordinary operations of Ikaria's business. This monthly service fee is payable by us regardless of the frequency or quantity of services actually utilized by us under the TSA, and our obligation to pay such monthly service fee for 24 months will survive any early termination of the TSA. We are also obligated to pay any fees, costs, expenses or other amounts incurred by Ikaria to obtain the right to allow our employees to remain in the Hampton, New Jersey facility during the term of the TSA. At the time of the Spin-Out, we deposited the sum of \$18.5 million into escrow, representing the aggregate of the \$772,000 monthly service fees payable by the Company under the TSA, to guarantee payment of the monthly service fees by us.

2015 Services Agreement. We entered into a services agreement with Ikaria, effective as of January 1, 2015, which we refer to as the 2015 Services Agreement. Pursuant to the terms of the 2015 Services Agreement, we have agreed to use commercially reasonable efforts to provide certain services to Ikaria, including services related to regulatory matters, drug and device safety, clinical operations, biometrics and scientific affairs. We are obligated, subject to the terms of the 2015 Services Agreement, to provide such services until February 2016. Upon execution of the 2015 Services Agreement, Ikaria became obligated to pay us a one-time service fee in the amount of \$916,666 and will be obligated to pay us a service fee in the amount of \$83,333 per month, subject to our obligation to perform the services.

In addition, pursuant to the terms and conditions of the 2015 Services Agreement, Ikaria has agreed to use commercially reasonable efforts to provide certain services to us, including services related to information technology, and servicing and upgrades of INOpulse devices. Ikaria is obligated, subject to the terms of the 2015 Services Agreement, to provide such services until February 2016. We are obligated to pay Ikaria certain fees under the 2015 Services Agreement that total, in the aggregate, approximately \$215,000, subject to termination of the 2015 Services Agreement.

Exclusive Cross-License, Technology Transfer and Regulatory Matters Agreement

In February 2014, we entered into an exclusive cross-license, technology transfer and regulatory matters agreement with Ikaria. Pursuant to the terms of the license agreement, Ikaria granted to us a fully paid-up, non-royalty bearing, exclusive license under specified intellectual property rights controlled by Ikaria to engage in the development, manufacture and commercialization of nitric oxide, devices to deliver nitric oxide and related services for or in connection with out-patient, chronic treatment of patients with PAH, PH-COPD or PH-IPF, which we refer to collectively as the Bellerophon indications.

We have granted to Ikaria a fully paid-up, non-royalty-bearing, exclusive license under specified intellectual property rights that we control to engage in the development, manufacture and commercialization of products and services for or used in connection with the diagnosis, prevention or treatment, whether in- or out-patient, of certain conditions and diseases other than the Bellerophon indications and for the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital, which we refer to collectively as the Ikaria nitric oxide business.

We have agreed that, during the term of the license agreement, we will not, without the prior written consent of Ikaria, grant a sublicense under any of the intellectual property licensed to us under

the license agreement to any of our affiliates or any third party, in either case, that directly or indirectly competes with the Ikaria nitric oxide business. We have also agreed that we will include certain restrictions in our agreements with customers of our products to ensure that such products will only be used for the Bellerophon indications.

The license agreement will expire on a product-by-product basis for products for a specific Bellerophon indication at such time as we are no longer developing or commercializing any product for such indication. The license agreement may be terminated by either party in the event an act or order of a court or governmental authority prohibits either party from substantially performing under the license agreement. Either party may also terminate the license agreement in the event of an uncured material breach by the other party or in the event the other party is insolvent or in bankruptcy proceedings. Ikaria may also terminate the license agreement if we or any of our affiliates breach the agreements not to compete described below, or if we or any successor to our rights under the license agreement markets a generic nitric oxide product that is competitive with INOmax. Under certain circumstances, if the license agreement is terminated, the licenses granted to Ikaria by us will survive such termination.

Employee Matters Agreement

In February 2014, we entered into an employee matters agreement with Ikaria, pursuant to which the employment of certain Ikaria employees was transferred to us or our subsidiaries on the terms and conditions set forth therein. The employee matters agreement also sets forth the treatment of outstanding Ikaria stock options and RSUs in connection with the Spin-Out. We have agreed to assume and pay, perform, fulfill and discharge, in accordance with the terms of the employee matters agreement, all liabilities to or relating to such transferred employees. Effective as of the date of the Spin-Out, such transferred employees terminated participation in Ikaria's employee benefit plans, and we or our subsidiaries adopted employee benefit plans substantially similar to the following Ikaria plans: a 401(k) plan, a medical and dental plan, long-term disability, short-term disability, life and accidental death and dismemberment and flexible spending accounts, pursuant to the terms of the employee matters agreement.

Agreements Not to Compete

In September 2013, October 2013 and February 2014, we and each of our subsidiaries entered into an agreement not to compete with a subsidiary of Ikaria, which we refer to collectively as the agreements not to compete. Pursuant to the agreements not to compete, we and each of our subsidiaries agreed not to engage, anywhere in the world, in any manner, directly or indirectly, until the earlier of five years after the effective date of such agreement not to compete or the date on which Ikaria and all of its subsidiaries are no longer engaged in such business, in:

- the development, manufacture, commercialization, promotion, sale, import, export, servicing, repair, training, storage, distribution, transportation, licensing or other handling or disposition of any product or service (including, without limitation, any product or service that utilizes, contains or includes nitric oxide for inhalation, a device intended to deliver nitric oxide or a service that delivers or supports the delivery of nitric oxide), bundled or unbundled, for or used in connection with (a) the diagnosis, prevention or treatment, in both adult and/or pediatric populations, and whether in- or out-patient, of: (i) hypoxic respiratory failure associated with pulmonary hypertension, (ii) pulmonary hypertensive episodes and right heart failure associated with cardiovascular surgery, (iii) bronchopulmonary dysplasia, (iv) the management of ventilation-perfusion mismatch in acute lung injury, (v) the management of ventilation-perfusion mismatch in acute respiratory distress syndrome, (vi) the management of pulmonary hypertension episodes and right heart failure in congestive heart failure, (vii) pulmonary edema from high altitude sickness, (viii) the management of pulmonary hypertension episodes and right

heart failure in pulmonary or cardiac surgery, (ix) the management of pulmonary hypertension episodes and right heart failure in organ transplant, (x) sickle cell vaso-occlusive crisis, (xi) hypoxia associated with pneumonia or (xii) ischemia-reperfusion injury or (b) the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital; or

- any and all development, manufacture, commercialization, promotion, sale, import, export, storage, distribution, transportation, licensing, or other handling or disposition of any terlipressin or any other product within the pressin family, (a) intended to treat (i) hepatorenal syndrome in any form, (ii) bleeding esophageal varices or (iii) septic shock or (b) for or in connection with the management of low blood pressure.

The agreements not to compete expressly exclude the Bellerophon indications.

Supply Agreements

Device Clinical Supply Agreement. In February 2014, we entered into the device supply agreement, pursuant to which Ikaria will use commercially reasonable efforts to manufacture and supply our requirements for certain nitric oxide delivery devices specified in the device supply agreement for use in our clinical programs for PAH and PH-COPD. Pursuant to the device supply agreement, we will pay to Ikaria an amount equal to Ikaria's internal and external manufacturing cost plus 20%. The device supply agreement will expire on February 9, 2015. In addition, either party may terminate the device supply agreement in the event of an uncured material breach by the other party. We do not intend to renew or extend the term of this agreement.

Drug Clinical Supply Agreement. In February 2014, we entered into the drug supply agreement, pursuant to which Ikaria has agreed to use commercially reasonable efforts to manufacture and supply, and we have agreed to acquire from Ikaria, our requirements for nitric oxide for inhalation and corresponding placebo for use in our clinical programs for PAH, PH-COPD and PH-IPF. Pursuant to the drug supply agreement, we will pay to Ikaria an amount equal to Ikaria's internal and external manufacturing cost plus 20%. Under the terms of the drug supply agreement, we have also granted Ikaria a right of first negotiation in the event that we desire to obtain supply of nitric oxide for inhalation and corresponding placebo (or any variant thereof or any version with different specifications) for commercial use. The drug supply agreement will expire on a product-by-product basis on the date we discontinue clinical development of such product. In addition, either party may terminate the drug supply agreement in the event of an uncured material breach by the other party.

Directors and Officers of Ikaria

Daniel Tassé, a member of our board of directors, currently serves as President and Chief Executive Officer and is a member of the board of directors of Ikaria. Matthew Holt, a member of our board of directors, is a member of the board of directors of Ikaria.

Policies and Procedures for Related Person Transactions

Our board of directors has adopted written policies and procedures for the review of any transaction, arrangement or relationship in which we were or are to be a participant, the amount involved exceeds \$120,000 and one of our executive officers, directors, director nominees or 5% stockholders, or their immediate family members, each of whom we refer to as a "related person," has a direct or indirect material interest.

If a related person proposes to enter into such a transaction, arrangement or relationship, which we refer to as a "related person transaction," the related person must report the proposed related person transaction to our General Counsel or Chief Financial Officer, or in each case an individual performing similar functions. The policy calls for the proposed related person transaction to be

reviewed and, if deemed appropriate, approved by our audit committee. Whenever practicable, the reporting, review and approval will occur prior to entry into the transaction. If advance review and approval is not practicable, the audit committee will review, and, in its discretion, may ratify the related person transaction. The policy also permits the chairman of the audit committee to review and, if deemed appropriate, approve proposed related person transactions that arise between committee meetings, subject to ratification by the committee at its next meeting. Any related person transactions that are ongoing in nature will be reviewed annually.

A related person transaction reviewed under the policy will be considered approved or ratified if it is authorized by the audit committee after full disclosure of the related person's interest in the transaction. As appropriate for the circumstances, the committee will review and consider:

- the related person's interest in the related person transaction;
- the approximate dollar value of the amount involved in the related person transaction;
- the approximate dollar value of the amount of the related person's interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of our business;
- whether the terms of the transaction are no less favorable to us than terms that could have been reached with an unrelated third party;
- the purpose of, and the potential benefits to us of, the transaction; and
- any other information regarding the related person transaction or the related person in the context of the proposed transaction that would be material to investors in light of the circumstances of the particular transaction.

The audit committee may approve or ratify the transaction only if the committee determines that, under all of the circumstances, the transaction is in our best interests. The committee may impose any conditions on the related person transaction that it deems appropriate.

In addition to the transactions that are excluded by the instructions to the SEC's related person transaction disclosure rule, our board of directors has determined that the following transactions do not create a material direct or indirect interest on behalf of related persons and, therefore, are not related person transactions for purposes of this policy:

- interests arising solely from the related person's position as an executive officer of another entity (whether or not the person is also a director of such entity) that is a participant in the transaction, where (a) the related person and all other related persons own in the aggregate less than a 10% equity interest in such entity, (b) the related person and his or her immediate family members are not involved in the negotiation of the terms of the transaction and do not receive any special benefits as a result of the transaction and (c) the amount involved in the transaction is less than the greater of \$200,000 or 5% of the annual gross revenues of the company receiving payment under the transaction; and
- a transaction that is specifically contemplated by provisions of our charter or bylaws.

The policy provides that transactions involving compensation of executive officers shall be reviewed and approved by the compensation committee in the manner specified in its charter.

We did not have a written policy regarding the review and approval of related person transactions prior to this offering. Nevertheless, with respect to such transactions, it was our policy for our board of directors to consider the nature of and business reason for such transactions, how the terms of such transactions compared to those which might be obtained from unaffiliated third parties and whether such transactions were otherwise fair to and in the best interests of, or not contrary to, our best interests. In addition, all related person transactions required prior approval, or later ratification, by our board of directors.

PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our common stock as of January 15, 2015, by:

- each of our directors;
- each of our executive officers;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our common stock.

The column entitled "Percentage of Shares Beneficially Owned—Before Offering" is based on a total of 7,905,326 shares of our common stock outstanding as of January 15, 2015, after giving effect to the Corporate Conversion and assuming the conversion of our non-voting shares into voting shares of our common stock upon the closing of this offering. The column entitled "Percentage of Shares Beneficially Owned—After Offering" is based on shares of our common stock to be outstanding after this offering, including the 4,000,000 shares of our common stock that we are selling in this offering, but not including any additional shares issuable upon exercise of outstanding stock options or upon exercise of the underwriters' option to purchase additional shares.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Shares of our common stock subject to options that are currently exercisable or exercisable within 60 days of January 15, 2015 are considered outstanding and beneficially owned by the person holding the options for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock beneficially owned by them, subject to community property laws, where applicable. Except as otherwise set forth below, the address of the beneficial owner is c/o Bellerophon Therapeutics, Inc., 53 Frontage Road, Suite 301, Hampton, New Jersey 08827.

Following the completion of this offering, the New Mountain Entities and Linde will each be entitled to designate one director for nomination to our board of directors and the New Mountain Entities will continue to have approval rights over many corporate actions. For a description of our stockholders agreements and any other material relationships the New Mountain Entities, Linde and the other principal stockholders have with us, see "Certain Relationships and Related Person Transactions."

Our principal stockholders have indicated an interest in purchasing an aggregate of up to approximately \$20 million of shares of common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these stockholders may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase in this offering. It also is possible that these stockholders could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or not to sell any shares to these stockholders. Accordingly, the following table does not reflect any potential purchases by these existing principal stockholders or their affiliated entities. If any shares are purchased by these stockholders, the number and percentage of shares of our common stock beneficially owned by them after this offering will differ from those set forth in the following table.

The table below represents the number of shares owned by each stockholder included in the table (but without taking into account that certain stockholders may be part of a group) to provide investors information concerning the economic ownership of each stockholder.

	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
<u>Name of Beneficial Owner</u>		<u>Before Offering</u>	<u>After Offering</u>
5% Stockholders			
New Mountain Entities(1)	3,789,719	47.9%	31.8%
Linde(2)	1,270,888	16.1%	10.7%
ARCH(3)	752,994	9.5%	6.3%
Venrock(4)	750,499	9.5%	6.3%
Executive Officers and Directors			
Jonathan M. Peacock(5)	90,082	1.1%	*%
Manesh Naidu(6)	16,046	*	*%
Reinilde Heyrman	7,983	*	*%
Martin Meglasson(7)	14,369	*	*%
David Abrams(8)	1,596	*	*%
Matthew S. Holt(9)	3,789,719	47.9%	31.8%
Jens Luehring(10)	1,270,888	16.1%	10.7%
Andre V. Moura	—	*	*%
Robert Nelsen(11)	752,994	9.5%	6.3%
Daniel Tassé(12)	199,700	2.5%	1.7%
Adam B. Weinstein(13)	3,789,719	47.9%	31.8%
All executive officers and directors as a group (11 persons)(14)	6,143,377	75.8%	50.7%

* Less than one percent.

- (1) Consists of 270,569 shares that following the Corporate Conversion will be held by Allegheny New Mountain Partners, L.P., 62,512 shares held by New Mountain Affiliated Investors II, L.P., 2,996,494 shares held by New Mountain Partners II (AIV-A), L.P. and 460,144 shares held by New Mountain Partners II (AIV-B), L.P. The general partner of each of the New Mountain Entities is New Mountain Investments II, L.L.C. and the manager of each of the New Mountain Entities is New Mountain Capital L.L.C. Steven Klinsky is the managing member of New Mountain Investments II, L.L.C. Adam Weinstein, a member of our board of directors, is a member of New Mountain Investments II, L.L.C. Matthew Holt, a member of our board of directors, is a member of New Mountain Investments II, L.L.C. New Mountain Investments II, L.L.C. has decision-making power over the disposition and voting of shares of portfolio investments of each of the New Mountain Entities. New Mountain Capital, L.L.C. also has voting power over the shares of portfolio investments of the New Mountain Entities in its role as the investment advisor. New Mountain Capital, L.L.C. is a wholly-owned subsidiary of New Mountain Capital Group, L.L.C. New Mountain Capital Group, L.L.C. is 100% owned by Steven Klinsky. Since New Mountain Investments II, L.L.C. has decision-making power over the New Mountain Entities, Mr. Klinsky may be deemed to beneficially own the shares that the New Mountain Entities hold of record or may be deemed to beneficially own. Mr. Klinsky, Mr. Weinstein, Mr. Holt, New Mountain Investments II, L.L.C. and New Mountain Capital, L.L.C. disclaim beneficial ownership over the shares held by the New Mountain Entities, except to the extent of their pecuniary interest therein.
- (2) Consists of 1,270,888 shares held by Linde North America, Inc., an indirect wholly-owned subsidiary of Linde AG. Jens Luehring, a member of our board of directors, is a director and

officer of Linde North America, Inc. Mr. Luehring disclaims beneficial ownership of all shares held by Linde, except to the extent of his pecuniary interest therein, if any.

- (3) Consists of 752,994 shares that following the Corporate Conversion will be held by ARCH Venture Fund VI, L.P., or ARCH VI. ARCH Venture Partners VI, L.P., or the GPLP, as the sole general partner of ARCH VI, may be deemed to beneficially own certain of the shares held of record by ARCH VI. The GPLP disclaims beneficial ownership of all shares held of record by ARCH VI in which the GPLP does not have an actual pecuniary interest. ARCH Venture Partners VI, LLC, or the GPLLC, as the sole general partner of the GPLP, may be deemed to beneficially own certain of the shares held of record by ARCH VI. The GPLLC disclaims beneficial ownership of all shares held of record by ARCH VI in which it does not have an actual pecuniary interest. Keith Crandell, Clinton Bybee and Robert Nelsen, a member of our board of directors, are the managing directors of the GPLLC and may be deemed to beneficially own certain of the shares held of record by ARCH VI. The managing directors disclaim beneficial ownership of all shares held of record by ARCH VI in which they do not have an actual pecuniary interest.
- (4) Consists of 610,907 shares that following the Corporate Conversion will be held by Venrock Associates IV, L.P.; 124,583 shares that will be held by Venrock Partners, L.P. and 15,009 shares that will be held by Venrock Entrepreneurs Fund IV, L.P. Venrock Management IV, LLC, Venrock Partners Management, LLC and VEF Management IV, LLC are the sole general partners of Venrock Associates IV, L.P., Venrock Partners, L.P. and Venrock Entrepreneurs Fund IV, L.P., respectively. Venrock Management IV, LLC, Venrock Partners Management, LLC and VEF Management IV, LLC disclaim beneficial ownership of all shares held by Venrock Associates IV, L.P., Venrock Partners, L.P. and Venrock Entrepreneurs Fund IV, L.P., except to the extent of their pecuniary interest therein.
- (5) Consists of 90,082 shares of common stock issuable upon the exercise of options exercisable within 60 days after January 15, 2015.
- (6) Includes 6,227 shares of common stock issuable upon the exercise of options exercisable within 60 days after January 15, 2015.
- (7) Includes 7,983 shares of common stock issuable upon the exercise of options exercisable within 60 days after January 15, 2015.
- (8) Includes 1,596 shares of common stock issuable upon the exercise of options exercisable within 60 days after January 15, 2015.
- (9) Consists of 270,569 shares that following the Corporate Conversion will be held by Allegheny New Mountain Partners, L.P., 62,512 shares held by New Mountain Affiliated Investors II, L.P., 2,996,494 shares held by New Mountain Partners II (AIV-A), L.P. and 460,144 shares held by New Mountain Partners II (AIV-B), L.P. The general partner of each of the New Mountain Entities is New Mountain Investments II, L.L.C. and the manager of each of the New Mountain Entities is New Mountain Capital L.L.C. Matthew Holt, a member of our board of directors, is a member of New Mountain Investments II, L.L.C. New Mountain Investments II, L.L.C. has decision-making power over the disposition and voting of shares of portfolio investments of each of the New Mountain Entities. New Mountain Capital, L.L.C. also has voting power over the shares of portfolio investments of the New Mountain Entities in its role as the investment advisor. New Mountain Capital, L.L.C. is a wholly-owned subsidiary of New Mountain Capital Group, L.L.C. Mr. Holt disclaims beneficial ownership over the shares held by the New Mountain Entities, except to the extent of his pecuniary interest therein.
- (10) Consists of 1,270,888 shares held by Linde North America, Inc., an indirect wholly-owned subsidiary of Linde AG. Jens Luehring, a member of our board of directors, is a director and

officer of Linde North America, Inc. Mr. Luehring disclaims beneficial ownership of all shares held by Linde, except to the extent of his pecuniary interest therein, if any.

- (11) Consists of 752,994 shares that following the Corporate Conversion will be held by ARCH Venture Fund VI, L.P., or ARCH VI. ARCH Venture Partners VI, L.P., or the GPLP, as the sole general partner of ARCH VI, may be deemed to beneficially own certain of the shares held of record by ARCH VI. The GPLP disclaims beneficial ownership of all shares held of record by ARCH VI in which the GPLP does not have an actual pecuniary interest. ARCH Venture Partners VI, LLC, or the GPLLC, as the sole general partner of the GPLP, may be deemed to beneficially own certain of the shares held of record by ARCH VI. The GPLLC disclaims beneficial ownership of all shares held of record by ARCH VI in which it does not have an actual pecuniary interest. Robert Nelsen, a member of our board of directors, is a managing director of the GPLLC and may be deemed to beneficially own certain of the shares held of record by ARCH VI. Mr. Nelsen disclaims beneficial ownership of all shares held of record by ARCH VI in which he does not have an actual pecuniary interest.
- (12) Includes 95,802 shares of common stock issuable upon the exercise of options exercisable within 60 days after January 15, 2015.
- (13) Consists of 270,569 shares that following the Corporate Conversion will be held by Allegheny New Mountain Partners, L.P., 62,512 shares held by New Mountain Affiliated Investors II, L.P., 2,996,494 shares held by New Mountain Partners II (AIV-A), L.P. and 460,144 shares held by New Mountain Partners II (AIV-B), L.P. The general partner of each of the New Mountain Entities is New Mountain Investments II, L.L.C. and the manager of each of the New Mountain Entities is New Mountain Capital L.L.C. Adam Weinstein, a member of our board of directors, is a member of New Mountain Investments II, L.L.C. New Mountain Investments II, L.L.C. has decision-making power over the disposition and voting of shares of portfolio investments of each of the New Mountain Entities. New Mountain Capital, L.L.C. also has voting power over the shares of portfolio investments of the New Mountain Entities in its role as the investment advisor. New Mountain Capital, L.L.C. is a wholly-owned subsidiary of New Mountain Capital Group, L.L.C. Mr. Weinstein disclaims beneficial ownership over the shares held by the New Mountain Entities, except to the extent of his pecuniary interest therein.
- (14) Includes 201,690 shares of common stock issuable upon the exercise of options exercisable within 60 days after January 15, 2015.

DESCRIPTION OF CAPITAL STOCK

General

The following description of our capital stock and provisions of our certificate of incorporation and bylaws are summaries and are qualified by reference to the certificate of incorporation and the bylaws that will be in effect upon the closing of this offering. We have filed copies of these documents with the SEC as exhibits to our registration statement of which this prospectus forms a part. The description of the capital stock reflects changes to our capital structure that will occur upon the closing of this offering.

Upon the closing of this offering, our authorized capital stock will consist of 125,000,000 shares of our common stock, \$0.01 par value per share, and 5,000,000 shares of our preferred stock, \$0.01 par value per share, all of which preferred stock will be undesignated.

As of December 31, 2014, after giving effect to the Corporate Conversion, we had issued and outstanding:

- 7,905,326 shares of our voting and non-voting common stock held by 252 stockholders of record; and
- options to purchase 1,086,255 shares of our non-voting common stock, at a weighted average exercise price of \$10.00 per share.

Common Stock

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. Each election of directors by our stockholders will be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

In the event of our liquidation or dissolution, the holders of our common stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any of our outstanding preferred stock. Holders of our common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Preferred Stock

Under the terms of our certificate of incorporation that will become effective upon the closing of this offering, our board of directors is authorized to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. Upon the closing of this offering, there will be no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

Options

As of December 31, 2014, after giving effect to the Corporate Conversion, we had outstanding options to purchase 1,086,255 shares of our common stock, at a weighted average exercise price of \$10.00 per share.

Stockholders Agreements

New Mountain Stockholders Agreement

We intend to enter into a stockholders agreement with the New Mountain Entities, which will remain in effect following this offering. The stockholders agreement will provide that, following the closing of the offering, the New Mountain Entities will be entitled to designate one director for nomination to our board of directors, to designate one director to the board of directors (or equivalent governing body) of each of our subsidiaries and to appoint the lead director, in each case, for so long as the New Mountain Entities or certain of their respective assignees beneficially own (i) 50% or more of the sum of (a) the number of shares of our common stock that they own immediately prior to the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering (subject in each case to adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification or other similar change in our capitalization) and (ii) 15% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). Subject to the same ownership thresholds, following the closing of this offering, the director nominated by the New Mountain Entities will be entitled to serve on each committee of our board of directors and of the board of directors (or equivalent governing body) of each of our subsidiaries and the consent of the New Mountain Entities will be required to establish any new committee of our board of directors or the board of directors (or equivalent governing body) of our subsidiaries, in each case except to the extent prohibited by applicable law or applicable listing exchange rules.

The New Mountain Entities may assign their rights to designate one director for nomination to our board of directors, to designate a director to the board of directors (or equivalent governing body) of each of our subsidiaries and to appoint the lead director of our board of directors, following the completion of this offering, to a person who acquires, in a transaction other than a registered public offering or a sale pursuant to Rule 144 under the Securities Act, at least 50% of the aggregate number of shares of our common stock owned, directly or indirectly, by the New Mountain Entities as of immediately prior to such transaction.

In addition, the stockholders agreement will provide that, following the closing of this offering, we will be required to obtain the prior written approval of the New Mountain Entities to take certain actions, including, among other things, actions to:

- consolidate or merge into or with any other person, sell, lease or transfer all or a significant portion of our assets or capital stock to another person or enter into any other similar business combination transaction, or effect a liquidation;
- authorize, issue, sell, offer for sale or solicit offers to buy any shares of our common stock or any convertible securities or any other equity or debt securities or rights to acquire any of our or our subsidiaries' equity or debt securities, subject to certain exceptions, including among other things, the issuance under our stock incentive plan of grants that have been approved by our board of directors (or a board committee) and at least one director appointed by the New Mountain Entities;
- incur indebtedness or refinance any indebtedness, in each case in an amount in excess of a specified threshold;
- hire or replace our chief executive officer; or
- agree or otherwise commit to do any of the foregoing (unless the commitment is conditioned on obtaining the approval of the New Mountain Entities).

These approval rights of the New Mountain Entities will terminate following the closing of the offering when the New Mountain Entities or certain of assignees beneficially own either (i) less than 50% of the sum of (a) the number of shares of our common stock that they own immediately prior to

the closing of this offering and (b) the number of shares of our common stock, if any, acquired following the closing of this offering (subject in each use to adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification or similar changes in our capitalization) or (ii) less than 15% of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). Following this offering, we expect the New Mountain Entities to hold approximately 31.8% of our outstanding common stock (or 30.3% if the underwriters exercise in full their option to purchase additional shares from us).

Linde Stockholders Agreement

We also intend to enter into a stockholders agreement with Linde, which will remain in effect following this offering. The stockholders agreement will provide that, following the closing of the offering, Linde will be entitled to designate one director for nomination to our board of directors and to designate one director to the board of directors (or equivalent governing body) of each of our subsidiaries, in each case, for so long as Linde or certain of its assignees beneficially own (i) 50% or more of the sum of (a) the number of shares of our common stock that they own immediately prior to the closing of this offering and (b) the number of shares of common stock, if any, acquired following the closing of this offering (subject to in each case adjustment in the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification or other similar change in our capitalization) and (ii) 10% or more of our common stock outstanding (as set forth on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q). Subject to the same ownership thresholds, following the closing of this offering, the director designated by Linde will be entitled to serve on each committee of our board of directors and of the board of directors (or equivalent governing body) of each of our subsidiaries and the consent of Linde will be required to establish any new committee of our board of directors or the board of directors (or equivalent governing body) of any of our subsidiaries, in each case except to the extent prohibited by applicable law or applicable listing exchange rules. Following this offering, we expect Linde to hold approximately 10.7% of our outstanding common stock (or 10.2% if the underwriters exercise in full their option to purchase additional shares from us), without giving effect to any potential purchases by this principal stockholder or its affiliated entities in this offering.

Linde may assign its rights to designate one director for nomination to our board of directors and to designate a director to the board of directors (or equivalent governing body) of each of our subsidiaries, following the completion of this offering, to a person who acquires, in a transaction other than a registered public offering or a sale pursuant to Rule 144 under the Securities Act, at least 50% of the aggregate number of shares of our common stock owned, directly or indirectly, by Linde as of immediately prior to such transaction.

Our principal stockholders have indicated an interest in purchasing an aggregate of up to approximately \$20 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these stockholders may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase in this offering. It also is possible that these stockholders could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or not to sell any shares to these stockholders. Accordingly, the foregoing discussion does not reflect any purchases by these potential purchasers.

Delaware Anti-Takeover Law and Certain Charter and Bylaw Provisions

Delaware Law

From and after the first time that neither the New Mountain Entities and their affiliates, nor any of their qualified transferees, beneficially owns 15% or more of our outstanding common stock (as set

forth as outstanding on the cover of our then most recently filed annual report on Form 10-K or quarterly report on Form 10-Q), we will be subject to Section 203 of the Delaware General Corporation Law. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless either the interested stockholder attained such status with the approval of our board of directors, the business combination is approved by our board of directors and stockholders in a prescribed manner or the interested stockholder acquired at least 85% of our outstanding voting stock in the transaction in which it became an interested stockholder. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person. The restrictions contained in Section 203 are not applicable to any of our existing stockholders that will own 15% or more of our outstanding voting stock upon the closing of this offering.

Staggered Board; Removal of Directors

Our certificate of incorporation and our bylaws divide our board of directors into three classes with staggered three-year terms. In addition, a director may be removed only for cause and only by the affirmative vote of the holders of at least 75% of the outstanding shares of our common stock. In addition, the authorized number of our directors may be changed only by resolution of our directors, and any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

The classification of our board of directors and the limitations on the ability of our stockholders to change the authorized number of directors, remove directors and fill vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Stockholder Action; Special Meeting of Stockholders; Advance Notice Requirements for Stockholder Proposals and Director Nominations

Our certificate of incorporation and our bylaws provide that any action required or permitted to be taken by our stockholders at an annual meeting or special meeting of stockholders may only be taken if it is properly brought before such meeting and may not be taken by written action in lieu of a meeting. Our certificate of incorporation and our bylaws also provide that, except as otherwise required by law, special meetings of the stockholders can only be called by the chairman of our board of directors, our chief executive officer or our board of directors. In addition, our bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to our board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors, or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities. These provisions also could discourage a third party from making a tender offer for our common stock, because even if it acquired a majority of our outstanding voting stock, it would be able to take action as a stockholder, such as electing new directors or approving a merger, only at a duly called stockholder meeting and not by written consent.

Super-Majority Voting

The Delaware General Corporation Law provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our bylaws may be amended or repealed by a majority vote of our board of directors or the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in any election of directors is required to amend, repeal or adopt any provisions inconsistent with any of the provisions of our certificate of incorporation described above.

Exclusive Forum

Our certificate of incorporation will provide that the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of our company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to the company or our stockholders, (iii) any action asserting a claim against our company arising pursuant to any provision of the Delaware General Corporation Law or our certificate of incorporation or bylaws or (iv) any action asserting a claim against our company or any of our directors or officers governed by the internal affairs doctrine. Although our certificate of incorporation contains the provision described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

Registration Rights

We intend to enter into a registration rights agreement with certain holders of our common stock, including the New Mountain Entities and our other 5% stockholders. Upon the completion of this offering, holders of a total of 6,879,964 shares of our common stock as of December 31, 2014, will have rights, subject to specified conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act of 1933, as amended, or the Securities Act.

Demand Registration Rights

At any time or from time to time, subject to specified limitations set forth in the registration rights agreement and to any lock-up period, the New Mountain Entities or the holders of 10% of our then outstanding shares of common stock, may at any time demand in writing that we register all or a portion of the shares having rights under the registration rights agreement, which we refer to as the registrable shares, under the Securities Act if the total amount of registrable shares registered have an aggregate offering price of at least \$10.0 million, unless the registration is of the balance of the registrable shares held by all the parties to the registration rights agreement. We are not obligated to effect a registration pursuant to this provision on more than six occasions in the case of demands made by the New Mountain Entities, or on more than two occasions in the aggregate in the case of demands made by the other parties to the agreement, and we are not obligated to effect a registration pursuant to this provision within 90 days of the effective date of any other registration statement that we may file pursuant to a demand registration.

Form S-3 Registration Rights

In addition, at any time after we become eligible to file a registration statement on Form S-3, subject to specified limitations set forth in the registration rights agreement, either the New Mountain Entities or the holders in the aggregate of 10% or more of our outstanding shares of common stock may demand in writing that we register on Form S-3 all or a portion of the registrable shares so long as the total amount of registrable shares being registered have an aggregate offering price of at least

\$10.0 million, unless the registration is of the balance of the registrable shares held by all the parties to the registration rights agreement.

Incidental Registration Rights

If, at any time after the closing of this offering, we propose to file a registration statement under the Securities Act, subject to certain exceptions set forth in the registration rights agreement, the holders of registrable shares will be entitled to notice of the registration and, subject to specified exceptions in the case of an underwritten offering, including market conditions, have the right to require us to register all or a portion of the registrable shares then held by them.

Underwritten Public Offering

In the event that any registration in which the holders of registrable shares participate pursuant to the registration rights agreement is an underwritten public offering, we agree to enter into an underwriting agreement containing customary representation and warranties and covenants, including without limitation customary provisions with respect to indemnification of the underwriters of such offering. Holders of registrable securities must agree to any such underwriting agreement as a condition to participation in the offering. If the total number of shares, including registrable shares, requested by holders to be included in such offering exceeds the largest number of shares to be sold (other than by us) that the underwriters believe can be sold in an orderly manner in such underwritten public offering, then we shall include shares in the offering in accordance with the priority guidelines set forth in the registration rights agreement.

Expenses and Indemnification

Pursuant to the registration rights agreement, we are required to pay all registration expenses, including registration and filing fees, exchange listing fees, printing expenses and accounting fees and the fees and expenses of one counsel to represent the selling stockholders, other than any underwriting discounts and commissions, that are related to any demand or incidental registration described above. The registration rights agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and the selling stockholders are obligated to provide an undertaking pursuant to which they will indemnify us for material misstatements or omissions in the registration statement attributable to them.

Corporate Opportunity

Our restated certificate of incorporation will provide that the doctrine of "corporate opportunity" will not apply to any of our stockholders or directors, other than in the case of a corporate opportunity that is offered to such person in writing solely in his or her capacity as our director, officer or employee. Accordingly, our stockholders and directors and their respective representatives have no duty to communicate or present corporate opportunities to us and have the right to either hold any corporate opportunity for its (and its representatives') own account and benefit or to recommend, assign or otherwise transfer such corporate opportunity to persons other than us, other than in the case of a corporate opportunity that is offered to such person in writing solely in his or her capacity as our director, officer or employee. As a result, our stockholders, directors and their respective affiliates will not be prohibited from investing in competing businesses or doing business with our customers.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock will be Computershare Trust Company, N.A.

NASDAQ Global Market Listing

We have applied to have our common stock listed on the NASDAQ Global Market under the symbol "BLPH."

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock, and a liquid trading market for our common stock may not develop or be sustained after this offering. Future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding options, or the anticipation of these sales, could adversely affect market prices prevailing from time to time and could impair our ability to raise capital through sales of equity securities.

Upon the closing of this offering, after giving effect to (1) the Corporate Conversion and (2) the conversion of all of our outstanding shares of non-voting common stock to shares of voting common stock, we will have outstanding 11,905,326 shares of our common stock, after giving effect to the issuance of 4,000,000 shares of our common stock in this offering, assuming no exercise by the underwriters of their option to purchase additional shares and no exercise of options outstanding as of December 31, 2014.

Of the shares to be outstanding immediately after the closing of this offering, we expect that all of the shares to be sold in this offering will be freely tradable without restriction under the Securities Act unless purchased by our "affiliates," as that term is defined in Rule 144 under the Securities Act. The remaining 7,905,326 shares of our common stock outstanding after this offering will be "restricted securities" under Rule 144, and we expect that substantially all of these restricted securities will be subject to the 180-day lock-up period under the lock-up agreements as described below. These restricted securities may be sold in the public market upon release or waiver of applicable lock-up agreements and only if registered or pursuant to an exemption from registration, such as Rule 144 or Rule 701 under the Securities Act. We expect the Rule 144 holding period requirements applicable to all of our outstanding shares of common stock will restart upon the Corporate Conversion.

Rule 144

In general, under Rule 144, beginning 90 days after the date of this prospectus, any person who is not our affiliate and has held their shares for at least six months, including the holding period of any prior owner other than one of our affiliates, may sell shares without restriction, subject to the availability of current public information about us. In addition, under Rule 144, any person who is not our affiliate and has not been our affiliate at any time during the preceding three months and has held their shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares immediately upon the closing of this offering without regard to whether current public information about us is available.

Beginning 90 days after the date of this prospectus, a person who is our affiliate or who was our affiliate at any time during the preceding three months and who has beneficially owned restricted shares of our common stock for at least six months, including the holding period of any prior owner other than one of our affiliates, is entitled to sell a number of shares within any three-month period that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately 119,053 shares immediately after this offering; and
- the average weekly trading volume of our common stock on the NASDAQ Global Market during the four calendar weeks preceding the filing of a Notice of Proposed Sale of Securities Pursuant to Rule 144 with respect to the sale.

Sales under Rule 144 by our affiliates are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us.

Rule 701

In general, under Rule 701 of the Securities Act, any of our employees, consultants or advisors, other than our affiliates, who purchased shares from us in connection with a qualified compensatory stock plan or other written agreement is eligible to resell these shares 90 days after the date of this prospectus in reliance on Rule 144, but without compliance with the holding period requirements of Rule 144 and without regard to the volume of such sales or the availability of public information about us. The SEC has indicated that Rule 701 will apply to typical stock options granted by an issuer before it becomes subject to the reporting requirements of the Exchange Act, along with the shares acquired upon exercise of such options, including exercises after an issuer becomes subject to the reporting requirements of the Exchange Act.

Lock-Up Agreements

In connection with this offering, we, our directors, our executive officers and holders of our outstanding common stock, who collectively own approximately 95% of our common stock, based on shares outstanding as of December 31, 2014, have each agreed to enter into lock-up agreements and will be subject to a lock-up period, meaning that we and our permitted transferees will not be permitted to sell any of the shares of our common stock for 180 days after the date of this prospectus, subject to certain exceptions, without the prior written consent of Leerink Partners LLC and Cowen and Company, LLC on behalf of the several underwriters. The lock-up restrictions and specified exceptions are described in more detail under "Underwriting."

Registration Rights

Upon the closing of this offering, the holders of 6,879,964 shares of our common stock as of December 31, 2014 or their transferees will be entitled to various rights with respect to the registration of these shares under the Securities Act. Registration of these shares under the Securities Act would result in these shares becoming fully tradable without restriction under the Securities Act immediately upon the effectiveness of the registration, except for shares purchased by affiliates. See "Description of Capital Stock—Registration Rights" for additional information. Shares covered by a registration statement will be eligible for sale in the public market upon the expiration or release from the terms of lock-up agreements applicable to such shares.

Stock Options

As of December 31, 2014, we had outstanding options to purchase 1,086,255 shares of our common stock (as a result of the conversion of existing options to purchase limited liability company units into options to purchase shares of common stock pursuant to the Corporate Conversion), all of which options were vested. Following this offering, we intend to file one or more registration statements on Form S-8 under the Securities Act to register all of the shares of our common stock subject to outstanding options and options and other awards issuable pursuant to the 2015 equity incentive plan and our other stock incentive plans. See "Executive Compensation—Stock Option and Other Compensation Plans" for additional information regarding these plans. Accordingly, shares of our common stock registered under the registration statements will be available for sale in the open market, subject to Rule 144 volume limitations applicable to affiliates, and subject to any vesting restrictions and lock-up agreements applicable to these shares.

**MATERIAL U.S. FEDERAL TAX CONSIDERATIONS
FOR NON-U.S. HOLDERS OF COMMON STOCK**

The following is a general discussion of material U.S. federal income and estate tax considerations relating to ownership and disposition of shares of our common stock issued pursuant to this offering by a non-U.S. holder. For purposes of this discussion, the term "non-U.S. holder" means a beneficial owner of our common stock that is not, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States or of any political subdivision of the United States;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust if (1) a U.S. court is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have authority to control all substantial decisions of the trust or (2) the trust has a valid election to be treated as a U.S. person under applicable U.S. Treasury Regulations.

This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their common stock through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her or its own tax advisor regarding the tax consequences of acquiring, holding and disposing of our common stock through a partnership or other pass-through entity, as applicable.

This discussion is based on current provisions of the U.S. Internal Revenue Code of 1986, as amended, which we refer to as the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any change could alter the tax consequences to non-U.S. holders described in this prospectus. There can be no assurance that the Internal Revenue Service, or the IRS, will not challenge one or more of the tax consequences described in this prospectus. We assume in this discussion that a non-U.S. holder holds shares of our common stock as a capital asset, generally property held for investment.

This discussion does not address all aspects of U.S. federal income and estate taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any aspects of U.S. state, local or non-U.S. taxes, the alternative minimum tax, or the Medicare tax on net investment income. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt organizations;
- financial institutions;
- brokers or dealers in securities;
- regulated investment companies;
- pension plans;

- controlled foreign corporations;
- passive foreign investment companies;
- persons that have a functional currency other than the U.S. dollar;
- owners deemed to sell our common stock under the constructive sale provisions of the Code;
- owners that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment; and
- certain U.S. expatriates.

This discussion is for general information only and it is not tax advice. Accordingly, all prospective investors should consult their own tax advisors regarding the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock.

Distributions on Common Stock

As discussed in the "Dividend Policy" section of this prospectus, we do not expect to pay dividends in the foreseeable future. If we pay distributions on our common stock, those distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below under the heading "Gain on Sale, Exchange or Other Disposition of Common Stock." Any such distributions will also be subject to the discussion below under the section titled "Withholding and information reporting requirements—FATCA."

Dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States, and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to U.S. persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or successor form) and satisfy applicable certification and other requirements. Non-U.S. holders are urged to consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS.

Gain on Sale, Exchange or Other Disposition of Common Stock

A non-U.S. holder generally will not be subject to U.S. federal income tax on gain recognized on a sale, exchange or other disposition of shares of our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business in the United States, and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment or fixed-base maintained by the non-U.S. holder in the United States; in these cases, the non-U.S. holder will be taxed on a net income basis at the regular graduated rates and in the manner applicable to United States persons (as defined in the Code), and, if the non-U.S. holder is a foreign corporation, an additional branch profits tax at a rate of 30%, or a lower rate as may be specified by an applicable income tax treaty, may also apply;
- the non-U.S. holder is a non-resident alien individual who is present in the United States for 183 days or more in the taxable year of the disposition and certain other requirements are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence) on the net gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder, if any (even though the individual is not considered a resident of the United States, provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses); or
- we are or have been, at any time during the five-year period preceding such disposition (or the non-U.S. holder's holding period, if shorter) a "U.S. real property holding corporation" unless our common stock is regularly traded on an established securities market and the non-U.S. holder held no more than 5% of our outstanding common stock, directly or indirectly, during the shorter of the 5-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. Generally, a corporation is a "U.S. real property holding corporation" if the fair market value of its "U.S. real property interests" equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. We believe that we are not currently, and we do not anticipate becoming, a "U.S. real property holding corporation" for U.S. federal income tax purposes. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above.

Information Reporting and Backup Withholding Tax

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. Non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a U.S. person (as defined in the Code) in order to avoid backup withholding at the applicable rate, currently 28%, with respect to dividends on our common stock. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above in "Distributions on Common Stock," generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding generally will apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions

effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them.

Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

U.S. Federal Estate Tax

Shares of our common stock owned or treated as owned by an individual who is not a citizen or resident of the United States (as specially defined for U.S. federal estate tax purposes) at the time of death are considered U.S. situs assets and will be included in the individual's gross estate for U.S. federal estate tax purposes and, therefore, may be subject to U.S. federal estate tax, unless an applicable estate tax or other treaty provides otherwise.

Withholding and Information Reporting Requirements—FATCA

The Foreign Account Tax Compliance Act, or FATCA, generally imposes a U.S. federal withholding tax at a rate of 30% on payments of dividends on, and gross proceeds from the sale or other disposition of, our common stock if paid to a foreign entity unless (i) if the foreign entity is a "foreign financial institution," the foreign entity undertakes certain due diligence, reporting, withholding, and certain certification obligations, (ii) if the foreign entity is not a "foreign financial institution," the foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA.

Under applicable U.S. Treasury Regulations, withholding under FATCA will only apply to payments of dividends on our common stock made after June 30, 2014 and to payments of gross proceeds from a sale or other disposition of our common stock made after December 31, 2016. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of the tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their own tax advisors regarding the possible implications of this legislation on their investment in our common stock and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30% withholding tax under FATCA.

The preceding discussion of material U.S. federal tax considerations is for general information only. It is not tax advice. Prospective investors should consult their own tax advisors regarding the particular U.S. federal, state, local and non-U.S. tax consequences of purchasing, holding and disposing of our common stock, including the consequences of any proposed changes in applicable laws.

UNDERWRITING

Leerink Partners LLC and Cowen and Company, LLC are acting as representatives of the underwriters. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

<u>Underwriter</u>	<u>Number of Shares</u>
Leerink Partners LLC	
Cowen and Company, LLC	
FBR Capital Markets & Co.	
SunTrust Robinson Humphrey, Inc.	
Total	<u>4,000,000</u>

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officers' certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Our principal stockholders have indicated an interest in purchasing an aggregate of up to approximately \$20 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these stockholders may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It also is possible that these stockholders could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or not to sell any shares to these stockholders.

Directed Share Program

At our request, the underwriters have reserved for sale, at the initial public offering price, up to 10% of the shares offered hereby for employees, directors and other persons associated with us who have expressed an interest in purchasing common stock in the offering. The sales will be made by Fidelity Capital Markets, a division of National Financial Services, LLC, through a directed share program. If purchased by these persons, these shares will be subject to a 180-day lock-up restriction. We do not know if these persons will choose to purchase all or any portion of these reserved shares, but the number of shares available for sale to the general public in the offering will be reduced to the extent these persons purchase the reserved shares. We have agreed to indemnify the underwriters against certain liabilities and expenses in connection with the directed share program. Any reserved shares not so purchased will be offered by the underwriters to the general public on the same terms as the other shares.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover of this prospectus and to dealers at that price less a concession not in excess of \$ _____ per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares of our common stock.

	Per Share	Without Option	With Option
Public offering price	\$	\$	\$
Underwriting discount	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$

The expenses of the offering, not including the underwriting discount, are estimated at \$3.2 million and are payable by us. We have agreed to reimburse the underwriters in an amount not to exceed \$50,000 for expenses related to the clearing of this offering with the Financial Industry Regulatory Authority and all expenses relating to the qualification of our common stock under state securities laws.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to 600,000 additional shares at the public offering price, less the underwriting discount. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and all of our other existing security holders have agreed not to sell or transfer any common stock or securities convertible into or exchangeable or exercisable for common stock, for 180 days after the date of this prospectus without first obtaining the written consent of the representatives. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

- offer, pledge, sell or contract to sell any common stock;
- sell any option or contract to purchase any common stock;
- purchase any option or contract to sell any common stock;
- grant any option, right or warrant for the sale of any common stock;
- otherwise dispose of or transfer any common stock;
- request or demand that we file a registration statement related to the common stock; and
- enter into any swap or other agreement or any transaction that transfers, in whole or in part, the economic consequence of ownership of any common stock, whether any such swap, agreement or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

NASDAQ Global Market Listing

We have applied to have our common stock listed on the NASDAQ Global Market under the symbol "BLPH."

Determination of Offering Price

Before this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price are:

- the valuation multiples of publicly traded companies that the representatives believe to be comparable to us;
- our financial information;
- the history of, and the prospects for, our company and the industry in which we compete;
- an assessment of our management, its past and present operations, and the prospects for, and timing of, our future revenues;
- the present state of our development; and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

An active trading market for the shares may not develop. It is also possible that after the offering the shares will not trade in the public market at or above the initial public offering price.

The underwriters do not expect to sell more than 5% of the shares in the aggregate to accounts over which they exercise discretionary authority.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. "Covered" short sales are sales made in an amount not greater than the underwriters' option described above. The underwriters may close out any covered short position by either exercising their option or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. "Naked" short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the closing of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the NASDAQ Global Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

Some of the underwriters and their affiliates may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They may in the future receive customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each, a "Relevant Member State"), no offer of shares may be made to the public in that Relevant Member State other than:

- A. to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- B. to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives; or
- C. in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares shall require the Company or the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

Each person in a Relevant Member State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed that it is a "qualified investor" within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive. In the case of any shares being offered to a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their

offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Relevant Member State to qualified investors as so defined or in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

The Company, the representatives and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

This prospectus has been prepared on the basis that any offer of shares in any Relevant Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of shares. Accordingly, any person making or intending to make an offer in that Relevant Member State of shares which are the subject of the offering contemplated in this prospectus may only do so in circumstances in which no obligation arises for the Company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive in relation to such offer. Neither the Company nor the underwriters have authorized, nor do they authorize, the making of any offer of shares in circumstances in which an obligation arises for the Company or the underwriters to publish a prospectus for such offer.

For the purpose of the above provisions, the expression "an offer to the public" in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in the Relevant Member State by any measure implementing the Prospectus Directive in the Relevant Member State and the expression "Prospectus Directive" means Directive 2003/71/EC (including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member States) and includes any relevant implementing measure in the Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

LEGAL MATTERS

The validity of the shares of our common stock offered hereby is being passed upon for us by Wilmer Cutler Pickering Hale and Dorr LLP. Goodwin Procter LLP is acting as counsel for the underwriters in connection with this offering.

EXPERTS

The financial statements of Bellerophon Therapeutics LLC as of December 31, 2013 and 2012, and for the years ended December 31, 2013 and 2012 and for the period from August 26, 2009 (inception) to December 31, 2013, have been included herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of our common stock we are offering to sell. This prospectus, which constitutes part of the registration statement, does not include all of the information contained in the registration statement and the exhibits, schedules and amendments to the registration statement. For further information with respect to us and our common stock, we refer you to the registration statement and to the exhibits and schedules to the registration statement. Statements contained in this prospectus about the contents of any contract, agreement or other document are not necessarily complete, and, in each instance, we refer you to the copy of the contract, agreement or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference to such contract, agreement or other document.

You may read and copy the registration statement of which this prospectus is a part at the SEC's public reference room, which is located at 100 F Street, N.E., Room 1580, Washington, DC 20549. You can request copies of the registration statement by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the SEC's public reference room. In addition, the SEC maintains an Internet website, which is located at www.sec.gov, that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. You may access the registration statement of which this prospectus is a part at the SEC's Internet website. Upon completion of this offering, we will be subject to the information reporting requirements of the Exchange Act, and we will file reports, proxy statements and other information with the SEC.

Upon closing of this offering, we will be subject to the informational and periodic reporting requirements of the Exchange Act. We will fulfill our obligations with respect to such requirements by filing periodic reports and other information with the SEC. We intend to furnish our stockholders with annual reports containing consolidated financial statements certified by an independent registered public accounting firm. We also maintain a website at www.bellerophon.com. The information contained in, or which can be accessed through, our website does not constitute a part of this prospectus.

BELLEROPHON THERAPEUTICS LLC**Index to Financial Statements**

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Report of Independent Registered Public Accounting Firm

The Board of Directors
Bellerophon Therapeutics LLC

We have audited the accompanying balance sheets of Bellerophon Therapeutics LLC, a development stage company (the "Company"), as of December 31, 2013 and 2012, and the related statements of operations and comprehensive loss, changes in invested equity (deficit), and cash flows for the years ended December 31, 2013 and 2012 and for the period from August 26, 2009 (inception) to December 31, 2013. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Bellerophon Therapeutics LLC, a development stage company, as of December 31, 2013 and 2012, and the results of its operations and its cash flows for the years ended December 31, 2013 and 2012, and for the period from August 26, 2009 (inception) to December 31, 2013, in conformity with U.S. generally accepted accounting principles.

/s/ KPMG LLP

Short Hills, New Jersey
May 14, 2014, except for Note 13(a), which is as of January 8, 2015

BELLEROPHON THERAPEUTICS LLC

(A Development Stage Company)

Balance Sheets

(Amounts in thousands)

	<u>December 31,</u> <u>2013</u>	<u>December 31,</u> <u>2012</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ —	\$ —
Restricted cash	—	—
Prepaid expenses and other current assets	1,552	319
Total current assets	<u>1,552</u>	<u>319</u>
Restricted cash, non-current	—	—
Property, plant and equipment, net	2,084	1,703
Other assets	—	1,327
Total assets	<u>\$ 3,636</u>	<u>\$ 3,349</u>
Liabilities and Invested Equity (Deficit)		
Current liabilities:		
Accounts payable	\$ 1,368	\$ 1,487
Accrued research and development	7,591	6,634
Employee compensation and benefits	3,194	2,362
Other current liabilities	1,839	728
Total current liabilities	<u>13,992</u>	<u>11,211</u>
Allocated portion of Ikaria special dividend bonus payable	4,273	2,865
Other liabilities	1,108	389
Total liabilities	<u>19,373</u>	<u>14,465</u>
Commitments and contingencies (Note 13)		
Invested equity (deficit):		
Investment by Ikaria, Inc.	160,778	103,401
Deficit accumulated during the development stage	(176,515)	(114,517)
Total invested equity (deficit)	<u>(15,737)</u>	<u>(11,116)</u>
Total liabilities and invested (deficit)	<u>\$ 3,636</u>	<u>\$ 3,349</u>

The accompanying notes are an integral part of these financial statements.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Statements of Operations and Comprehensive Loss****(Amounts in thousands)**

	Year Ended December 31, 2013	Year Ended December 31, 2012	Period from August 26, 2009 (inception) to December 31, 2013
Operating expenses:			
Research and development	\$ 52,985	\$ 38,727	\$ 147,887
General and administrative	9,013	7,185	27,690
Other operating expense	—	315	938
Total operating expenses	(61,998)	(46,227)	(176,515)
Income tax benefit (expense)	—	—	—
Net loss and comprehensive loss	<u>\$ (61,998)</u>	<u>\$ (46,227)</u>	<u>\$ (176,515)</u>

The accompanying notes are an integral part of these financial statements.

BELLEROPHON THERAPEUTICS LLC

(A Development Stage Company)

Statements of Changes in Invested Equity (Deficit)

(Amounts in thousands)

	Investment by Ikaria, Inc.	Deficit Accumulated During the Development Stage	Total Invested Equity (Deficit)
Balance at August 26, 2009 (inception)	\$ —	\$ —	\$ —
Net loss	—	(17,279)	(17,279)
Investment by Ikaria, Inc., net	7,282	—	7,282
Balance at December 31, 2009	7,282	(17,279)	(9,997)
Net loss	—	(13,581)	(13,581)
Investment by Ikaria, Inc., net	22,087	—	22,087
Balance at December 31, 2010	29,369	(30,860)	(1,491)
Net loss	—	(37,430)	(37,430)
Investment by Ikaria, Inc., net	36,459	—	36,459
Balance at December 31, 2011	65,828	(68,290)	(2,462)
Net loss	—	(46,227)	(46,227)
Investment by Ikaria, Inc., net	37,573	—	37,573
Balance at December 31, 2012	103,401	(114,517)	(11,116)
Net loss	—	(61,998)	(61,998)
Investment by Ikaria, Inc., net	57,377	—	57,377
Balance at December 31, 2013	<u>\$ 160,778</u>	<u>\$ (176,515)</u>	<u>\$ (15,737)</u>

The accompanying notes are an integral part of these financial statements.

BELLEROPHON THERAPEUTICS LLC

(A Development Stage Company)

Statements of Cash Flows

(Amounts in thousands)

	Year Ended December 31, 2013	Year Ended December 31, 2012	Period from August 26, 2009 (inception) to December 31, 2013
Cash flows from operating activities:			
Net loss	\$ (61,998)	\$ (46,227)	\$ (176,515)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	429	85	585
Stock-based compensation	1,721	1,449	4,447
Loss on disposal of property, plant and equipment, net	—	2,840	2,841
Other items	149	315	674
Changes in operating assets and liabilities:			
Decrease (increase) in other current assets and other assets	94	(11)	(1,866)
Increase in accounts payable, accrued research and development, and other current liabilities	1,655	5,346	12,153
Increase (decrease) in other liabilities	719	(21)	1,108
Net cash used in operating activities	<u>(57,231)</u>	<u>(36,224)</u>	<u>(156,573)</u>
Cash flows from investing activities:			
Capital expenditures	<u>(727)</u>	<u>(3,478)</u>	<u>(5,427)</u>
Net cash used in investing activities	<u>(727)</u>	<u>(3,478)</u>	<u>(5,427)</u>
Cash flows from financing activities:			
Cash contributions from Ikaria, Inc., net	<u>57,958</u>	<u>39,702</u>	<u>162,000</u>
Net cash provided by financing activities	<u>57,958</u>	<u>39,702</u>	<u>162,000</u>
Net increase in cash and cash equivalents	—	—	—
Cash and cash equivalents, at beginning of year	—	—	—
Cash and cash equivalents, at end of year	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Non-cash investing activities:			
Contribution of property, plant and equipment from Ikaria, Inc., net	<u>83</u>	<u>—</u>	<u>83</u>
Non-cash financing activities:			
Investment by Ikaria, Inc., net	<u>\$ (581)</u>	<u>\$ (2,129)</u>	<u>\$ (1,222)</u>

The accompanying notes are an integral part of these financial statements.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements****(1) Organization and Nature of the Business**

Bellerophon Therapeutics LLC, or the Company, is a clinical stage biotherapeutics company focused on developing innovative products at the intersection of drugs and devices that address significant unmet needs in the treatment of cardiopulmonary and cardiac diseases. During the periods presented in these financial statements, the Company was the research and development operating segment of Ikaria, Inc., or Ikaria. As of December 31, 2013, the Company had two wholly-owned subsidiaries, Bellerophon Pulse Technologies LLC (formerly known as Ikaria Pulse Technologies LLC), a Delaware limited liability company, and Bellerophon BCM LLC (formerly known as Ikaria BCM LLC), a Delaware limited liability company. In January 2014, the Company formed a new wholly-owned subsidiary, Bellerophon Services, Inc., a Delaware corporation. The Company is conducting Phase 2 clinical trials of its inhaled nitric oxide product candidates using its proprietary pulsatile technology, which are referred to as the INOpulse product candidates, for the treatment of pulmonary arterial hypertension, or PAH, and pulmonary hypertension associated with chronic obstructive pulmonary disease, or PH-COPD. In addition, the Company is conducting a clinical trial of bioabsorbable cardiac matrix, or BCM, its product candidate for the prevention of left ventricular remodeling following acute myocardial infarction, or AMI, commonly known as a heart attack, which is intended to prevent progression to congestive heart failure.

The Company's business is subject to significant risks and uncertainties including, but not limited to:

- The risk that the Company will not achieve success in its research and development efforts, including clinical trials conducted by it or its potential collaborative partners.
- The expectation that the Company will experience operating losses for the next several years.
- Decisions by regulatory authorities regarding whether and when to approve the Company's regulatory applications as well as their decisions regarding labeling and other matters which could affect the commercial potential of the Company's products or product candidates.
- The risk that the Company will fail to obtain adequate financing to meet its future capital and financing needs.
- The risk that key personnel will leave the Company and/or that the Company will be unable to recruit and retain senior level officers to manage its business.

During the third quarter of 2013 in conjunction with Ikaria's financing activities, Ikaria began reporting financial information for two operating segments: its research and development business and its commercial business. During the fourth quarter of 2013, Ikaria completed an internal reorganization of the assets and subsidiaries of its two operating segments. In connection with the internal reorganization, Ikaria formed the Company as a new wholly-owned subsidiary and transferred the research and development-related assets related to INOpulse for PAH and INOpulse for PH-COPD to the Company and/or its subsidiaries. See Note 14—*Equity Adjustments, Bellerophon Spin-Out and Merger*.

On December 24, 2013, Ikaria and Madison Dearborn Partners, or MDP, entered into an agreement and plan of merger, under which MDP would acquire a majority ownership position in Ikaria and existing shareholders retained a minority ownership position in Ikaria through certain merger transactions, or the Merger. The Merger was preceded by the pro rata distribution, or

BELLEROPHON THERAPEUTICS LLC

(A Development Stage Company)

Notes to Financial Statements (Continued)

(1) Organization and Nature of the Business (Continued)

Spin-Out, of all of the outstanding units of the Company to existing Ikaria stockholders through a special dividend. The Merger and Spin-Out were completed on February 12, 2014. See Note 14—*Equity Adjustments, Bellerophon Spin-Out and Merger*.

(2) Summary of Significant Accounting Policies

As the Company has not yet earned any revenue from its operations, it considers itself a development stage company as defined under Financial Accounting Standards Board Accounting Standards Codification Topic 915, Development Stage Entities. Pursuant to Topic 915, the Company is required to provide certain additional disclosures regarding cumulative expenses, losses and cash flows, as well as other information, as applicable, from its date of inception. For purposes of the financial statements presented herein, the Company has used August 26, 2009, the date of the Company's license and commercialization agreement for BCM, as the effective inception date of the Company. There was no program-specific research and development activity conducted by Ikaria prior to August 26, 2009 included in the business of the Company.

(a) Basis of Presentation

The financial statements presented herein have been derived from the audited historical financial statements and accounting records of Ikaria. These financial statements include all costs that were directly attributable to the Company plus an allocated amount of Ikaria's general and administrative and certain research and development expenses.

Direct and indirect costs related to the Company for INOpulse for PAH, INOpulse for PH-COPD and BCM clinical programs have been allocated to the Company. All allocations were based on actual costs incurred. For purposes of allocating non-project specific expenses, each departmental head provided information as to the percentage of employee time incurred on behalf of the Company.

Allocations of general and administrative expenses by Ikaria to the Company include allocations of corporate management, finance, information technology, legal, human resources and other overhead expenses, based on an approximate pro-rata headcount of employees.

The Company's balance sheets include assets and liabilities that were specifically identified and those that were allocated by Ikaria to the Company based on an estimate of the benefit derived from the underlying asset or liability. Ikaria has historically used a centralized approach to cash management and financing of its operations. Cash funding for the Company has been accounted for as a capital contribution from Ikaria. See Note 3—*Liquidity*.

Management believes that the statements of operations include a reasonable allocation of costs and expenses incurred by Ikaria which benefited the Company. However, such amounts may not be indicative of the actual level of costs and expenses that would have been incurred by the Company if it had operated as an independent stand-alone company or of the costs and expenses expected to be incurred in the future. As such, the financial information herein may not necessarily reflect the financial position, results of operations and cash flows of the Company expected in the future or what it would have been had it been an independent stand-alone company during the periods presented.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(2) Summary of Significant Accounting Policies (Continued)**

The financial statements have been prepared in accordance with generally accepted accounting principles in the United States, or GAAP. Intercompany transactions have been eliminated.

In addition to the allocation process outlined above, the preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

(b) Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity date of three months or less to be cash equivalents.

(c) Property, Plant and Equipment

Property, plant and equipment are recorded at acquisition cost, which for internally developed assets include labor, materials and overhead. Additions and improvements that increase the value or extend the life of an asset are capitalized. Repairs and maintenance costs are expensed as incurred.

Depreciation is computed using the straight-line method over the estimated useful lives described below:

<u>Asset description</u>	<u>Estimated useful life (years)</u>
Machinery, equipment and furniture	3 - 15

(d) Impairment of Long-Lived Assets

Long-lived assets, such as property, plant and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted expected future cash flows. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be sold are no longer depreciated and are reclassified outside of property, plant and equipment at the lower of the carrying amount or fair value less costs to sell.

(e) Stock-Based Compensation

Stock-based compensation expense for the Company represents an allocation of Ikaria's stock-based compensation expense based on the allocation percentages of the Company's cost centers, which were determined based on specific identification or the proportionate percentage of employee time or headcount to the respective total Ikaria employee time or headcount.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(2) Summary of Significant Accounting Policies (Continued)*****(f) Income Taxes***

During the periods presented in these financial statements, the Company did not file separate tax returns as the Company was included in the tax groupings of other Ikaria entities within the respective entity's tax jurisdiction. As such, the income tax provision included in these financial statements has been calculated using the separate return method, as if the Company filed a separate tax return in each of its respective tax jurisdictions. The income tax provision included in these carve-out financial statements reflects Ikaria's status as a C-corporation. Subsequent to the Spin-Out, and prior to the conversion of the Company from a limited liability company to a corporation, the Company will be taxed as a partnership.

For financial reporting purposes, the Company has historically recorded no tax expense or benefit due to its operating loss position. A valuation allowance has been established on net deferred tax assets because management believes that it is more likely than not that the Company's net deferred tax assets will not be realized.

Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled.

The Company recognizes the benefit of an uncertain tax position that it has taken or expects to take on income tax returns prepared under a separate return method if such tax position is more likely than not to be sustained on examination by the taxing authorities, based on the technical merits of the position. These tax benefits are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution. Unrecognized tax benefits related to net operating loss carryforwards or tax credit carryforwards are presented as a reduction to the related gross deferred tax assets. Unrecognized tax benefits for which a net operating loss carryforward or tax credit carryforward is not available are presented as a liability. A liability for unrecognized tax benefits is classified as non-current unless the liability is expected to be settled in cash within 12 months of the reporting date.

Certain deferred tax assets that arose as a result of Ikaria's past activities and resultant operating losses, such as federal and state net operating loss carryforwards, research and development credit carryforwards and acquired in-process research and development, do not constitute assets of the Company and continued to constitute assets of Ikaria subsequent to the date of the Spin-Out.

(g) Research and Development Expense

Research and development costs are expensed as incurred. These expenses include the costs of the Company's proprietary research and development efforts, as well as costs incurred in connection with certain licensing arrangements. Upfront and milestone payments made to third parties in connection with research and development collaborations are expensed as incurred up to the point of regulatory approval. Payments made to third parties upon or subsequent to regulatory approval are capitalized and amortized over the remaining useful life of the related product. The Company also expenses the cost of purchased technology and equipment in the period of purchase if it believes that the technology

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(2) Summary of Significant Accounting Policies (Continued)**

or equipment has not demonstrated technological feasibility and it does not have an alternative future use. Nonrefundable advance payments for goods or services that will be used or rendered for future research and development activities are deferred and are recognized as research and development expense as the related goods are delivered or the related services are performed.

(h) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of costs and expenses during the reporting period, including accrued research expenses, share-based compensation, income taxes and impairment of long-lived assets. Actual results could differ from those estimates.

(3) Liquidity

In the course of its development activities, the Company has sustained operating losses and expects such losses to continue over the next several years. The Company's ultimate success depends on the outcome of its research and development activities. From August 26, 2009 (inception) to December 31, 2013, the Company's net losses were \$176.5 million. Management expects to incur additional losses in the future to conduct product research and development and recognizes the need to raise additional capital through the potential issuance of additional equity or borrowings or entering into strategic alliances with partner companies. However, if such financing is not available at adequate levels or strategic alliances with partner companies do not occur, the Company will need to reevaluate its plans.

In connection with the Spin-Out, \$80.0 million of cash was distributed to the Company. This cash is expected to be sufficient to satisfy the Company's operating cash needs for at least 12 months from December 31, 2013. At the time of the Spin-Out, \$18.5 million of the \$80.0 million cash held by the Company was deposited in escrow to guarantee payment of the monthly services fees payable by the Company to Ikaria in exchange for the services to be provided by Ikaria pursuant to the transition services agreement during the 24 months following the Spin-Out. The escrowed cash will be classified as restricted cash in periods subsequent to the Spin-Out. See Note 11—*Related-Party Transactions*.

(4) Restructuring Charges

In December 2011, Ikaria announced the planned closure of its Seattle-based facility. Charges allocated to the Company included \$0.6 million for facility lease obligations, which was recorded in other operating expense, \$0.2 million for the impairment of fixed assets and \$0.5 million for severance and related charges, which were recorded in research and development expense. Accrued severance and related charges were paid in 2012. Facility lease obligations extended through March 2014. In 2012, an additional \$0.3 million charge was recorded for the impairment of fixed assets related to the closure of the Seattle-based facility, which was recorded in other operating expense in the Statement of Operations and Comprehensive Loss.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(5) Property, Plant and Equipment**

Property, plant and equipment and accumulated depreciation either specifically identified or allocated to the Company by Ikaria consists of the following (in thousands):

	December 31,	
	2013	2012
Machinery, equipment and furniture	\$ 2,943	\$ 1,859
Less accumulated depreciation	(859)	(156)
	<u>\$ 2,084</u>	<u>\$ 1,703</u>

During 2013, Ikaria transferred to the Company gross fixed assets of \$0.4 million with accumulated depreciation of \$0.3 million in connection with the move of certain assets from Seattle to New Jersey.

(6) Other Current Liabilities

Other current liabilities either specifically identified or allocated to the Company by Ikaria consist of the following accrued expenses (in thousands):

	December 31,	
	2013	2012
Allocated current portion of Ikaria special dividend bonus payable	\$ 1,839	\$ 713
Other accrued liabilities	—	15
Total	<u>\$ 1,839</u>	<u>\$ 728</u>

See Note 8—*Share-Based Compensation*, for a discussion of the Ikaria special dividend bonus payable.

(7) Income Taxes

During the periods presented in these financial statements, the Company did not file separate income tax returns, as the Company was included in the tax groupings of other Ikaria entities within the respective entity's tax jurisdictions. As such, the income tax provisions included in these financial statements have been calculated using the separate return method, as if the Company filed a separate tax return in each of its respective tax jurisdictions, although no tax expense or benefit has been recorded due to its operating loss position. The Company has been treated as a C-corporation, based on Ikaria's tax status, for purposes of these financial statements.

BELLEROPHON THERAPEUTICS LLC
(A Development Stage Company)
Notes to Financial Statements (Continued)
(7) Income Taxes (Continued)

A reconciliation of the statutory federal income tax rate to the Company's effective tax rate for the years ended December 31, 2013 and 2012 is as follows:

	Year Ended December 31, 2013	Year Ended December 31, 2012
U.S. federal statutory rate	35.0%	35.0%
State and local taxes, net of federal tax effect	5.3%	5.2%
Research tax credits	5.0%	5.6%
Valuation allowance	(44.4)%	(44.6)%
Incentive stock options	(0.1)%	(0.2)%
Other	(0.8)%	(1.0)%
	<u>0.0%</u>	<u>0.0%</u>

Deferred taxes reflect the tax effects of the differences between the amounts recorded as assets and liabilities for financial reporting purposes and the comparable amounts recorded for income tax purposes. Significant components of the deferred tax assets (liabilities) at December 31, 2013 and 2012 are as follows (in thousands):

	December 31, 2013		December 31, 2012	
	Assets	(Liabilities)	Assets	(Liabilities)
Net operating loss carryforwards	\$ 62,295	\$ —	\$ 38,510	\$ —
Research tax credit carryforwards	9,615	—	5,511	—
Property, plant and equipment	—	(1,269)	—	(939)
Intangible assets	5,140	—	5,625	—
Accrued compensation	1,103	—	613	—
Other	28	—	141	—
Subtotal	78,181	(1,269)	50,400	(939)
Valuation allowance	(76,912)	—	(49,461)	—
Total deferred tax assets (liabilities)	<u>\$ 1,269</u>	<u>\$ (1,269)</u>	<u>\$ 939</u>	<u>\$ (939)</u>
Net deferred tax assets	<u>\$ 0</u>		<u>\$ 0</u>	

A valuation allowance is provided when it is more likely than not that some portion or all of the deferred tax assets will not be realized. As of December 31, 2013, management believed that it was more likely than not that the deferred tax assets would not be realized, based on future operations, consideration of tax strategies and the reversal of deferred tax liabilities. As of December 31, 2013 and 2012, the Company had gross deferred tax assets of \$78.2 million and \$50.4 million, respectively. The Company maintained a valuation allowance of \$76.9 million and \$49.5 million at December 31, 2013 and 2012, respectively.

As of December 31, 2013 and 2012, the Company had unrecognized tax benefits related to research tax credit carryforwards, which were reflected as an offset to the gross deferred tax asset.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(8) Share-Based Compensation**

Ikaria's employees have received Ikaria share-based compensation awards, and therefore, the following disclosures pertain to share-based compensation and the Ikaria special dividend bonus payable that have been allocated to the Company related to Ikaria share-based awards. See Note 2(a)—*Summary of Significant Accounting Policies—Basis of Presentation*. Accordingly, the amounts presented are not necessarily indicative of future awards and do not necessarily reflect what the Company would have experienced as a stand-alone company for the periods presented.

Ikaria Special Dividend Plan

In October 2011, Ikaria approved dividend equivalent rights for options, restricted stock units, or RSUs, and other equity awards granted under its equity award plans. Pursuant to the special dividend plan, in the event that the Ikaria board declared a dividend, each employee of the Company who held equity awards was eligible to receive a cash payment equal to the amount of the dividend per share, multiplied by the number of equity awards outstanding. The payment was payable as of the declaration date for vested options. For unvested options and unvested RSUs, payment was due upon vesting. As of December 31, 2013, the allocated portion of the special dividend bonus payable was \$6.1 million of which \$1.8 million was reflected in other current liabilities and \$4.3 million was reflected in non-current liabilities. As of December 31, 2012, the allocated portion of the special dividend bonus payable was \$3.6 million of which \$0.7 million was reflected in other current liabilities and \$2.9 million was reflected in non-current liabilities.

Stock Options

Stock options are generally granted by Ikaria with an exercise price equal to the fair value of a share of non-voting common stock on the date of the grant. The fair value of the common stock has been determined by the board of directors after considering a broad range of factors, including, but not limited to, the rights, preferences and privileges of the redeemable convertible preferred stock relative to those of the Ikaria's common stock, Ikaria's operating and financial performance, the introduction of new products, the stage of development of Ikaria's product candidates and the likelihood of regulatory approval, Ikaria's revenue growth, the lack of an active public market for Ikaria's stock, industry information such as market growth and volume, the performance of similarly situated companies in Ikaria's industry, the execution of strategic and development agreements, and the likelihood of achieving a liquidity event, such as an initial public offering, given prevailing market conditions and the nature and history of Ikaria's business. Stock options have a contractual life of ten years and generally have a vesting term of four years. Ikaria issues previously unissued non-voting common stock upon the exercise of stock options.

Compensation expense for stock options granted to employees and directors is based on the estimated grant date fair value of options and is recognized by Ikaria over the requisite service period on a straight-line expense attribution method.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(8) Share-Based Compensation (Continued)***Valuation Assumptions for Stock Options*

The weighted average grant date fair value of stock options granted to employees and directors of Ikaria and the weighted average assumptions used by Ikaria to estimate the grant date fair value of the options using the Black-Scholes-Merton option pricing model were:

	2013	2012
Weighted average grant date fair value	\$1.95	\$2.40
Valuation assumptions:		
Risk-free rate	0.90%	0.83%
Expected volatility	46.5%	47.6%
Expected term	5.00 yrs	5.00 yrs
Dividend yield	—	—

Because Ikaria is not publicly traded and has limited operating history, the expected volatility is based on the median historic volatility for publicly traded industry peers. In addition, Ikaria has minimal historical information to develop expectations about future exercise patterns for its stock option grants. As a result, the expected term is based on an average of the expected term of options granted by Ikaria's publicly traded industry peers. The risk-free interest rate is based on the implied yield on U.S. Treasury zero coupon bonds for periods commensurate with the expected term of the options. The dividend yield on Ikaria's common stock is zero which is consistent with offering dividend equivalent rights for vested options and RSUs. Prior to the dividend equivalent rights program, Ikaria did not intend to pay dividends at the time of grant or during the expected term of its stock options.

Restricted Stock Units

Ikaria has granted RSUs to employees that generally vest over a four-year period. RSUs granted prior to January 1, 2011 vested 25% annually. RSUs granted on and after January 1, 2011 vest 25% on the second and third anniversary of the date of grant and 50% on the fourth anniversary of the date of grant. Shares of Ikaria non-voting common stock are delivered to the employee upon vesting, subject to payment of applicable withholding taxes, which may be paid in cash or an equivalent amount of shares withheld. Compensation expense for all RSUs is based on the grant date fair value of the RSU issued, which is based on the fair value of non-voting common stock. Ikaria recognizes compensation expense for RSUs on a straight-line basis over the requisite service period.

BELLEROPHON THERAPEUTICS LLC

(A Development Stage Company)

Notes to Financial Statements (Continued)

(8) Share-Based Compensation (Continued)

Stock-Based Compensation Expense, Net of Estimated Forfeitures

The following table summarizes allocated stock-based compensation expense by statement of operations line item for the years ended December 31, 2013 and 2012 and for the period from August 26, 2009 (inception) through December 31, 2013 (in thousands):

	2013	2012	Period from August 26, 2009 (inception) through December 31, 2013
Research and development	\$ 1,120	\$ 882	\$ 2,795
General and administrative	601	567	1,652
Total expense	1,721	1,449	4,447
Tax benefit	(232)	(140)	(600)
Expense, net of tax benefit	<u>\$ 1,489</u>	<u>\$ 1,309</u>	<u>\$ 3,847</u>

Long Term Incentive Plan

In August 2012, under Ikaria's Long-Term Incentive Plan, or LTIP, Ikaria granted cash settled awards to its employees. The awards vest over four years, 25% on the second and third anniversary of the grant and 50% on the fourth anniversary of the grant, and are expensed over the requisite service period on a straight-line expense attribution method. The award value is tied to Ikaria's stock price and is adjusted at each reporting period to estimated fair value. Upon vesting, the awards will be settled in cash. The Company recognized a de minimis amount of allocated expense in 2013 and 2012 and the period from August 26, 2009 (inception) through December 31, 2013 for the LTIP.

(9) Investment by Ikaria, Inc.

The Company's historical operating cash requirements have been provided by Ikaria. The balances in the investment by Ikaria account as of December 31, 2013 and 2012 of \$160.8 million and \$103.4 million, respectively, represent the investment by Ikaria in the Company, including cash funding as well as the impact of share-based compensation awards which increases equity and the Ikaria special dividend bonus payable allocated to the Company which decreases equity.

(10) Product Acquisitions and Other Agreements

The Company has entered, and will consider entering, into agreements to develop and commercialize product candidates, which may include research and development, marketing and selling, manufacturing and distribution agreements. These agreements often require milestone and royalty or profit share payments, contingent upon the occurrence of certain future events linked to the success of the asset in development, as well as expense reimbursements. Costs incurred pursuant to these agreements are reported in their respective expense line items in the Statements of Operations.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(10) Product Acquisitions and Other Agreements (Continued)***BioLineRx Ltd.*

On August 26, 2009, the Company entered into an agreement with BioLineRx Ltd. and BioLine Innovations Jerusalem L.P., which are referred to collectively as BioLine, under which the Company obtained the worldwide exclusive rights to BCM. The Company paid BioLine a \$7.0 million upfront payment in 2009 and a \$10.0 million milestone payment in 2010.

Under the terms of the license agreement, the Company is obligated to use commercially reasonable efforts to develop and commercialize at least one product containing BCM. Under the terms of the license agreement, if the Company achieves certain clinical and regulatory events specified in the license agreement, the Company will be obligated to pay milestone payments to BioLine that could total, in the aggregate, up to \$115.5 million, and if the Company achieves certain commercialization targets specified in the license agreement, the Company will be obligated to pay additional milestone payments to BioLine that could total, in the aggregate, up to \$150.0 million. In addition, the Company is obligated to pay BioLine a specified percentage of any upfront consideration it receives for sublicensing BCM, as well as royalties in the low double digits below 20% on net sales, if any, of any approved product containing BCM, subject to offsets for specified payments to third parties made in connection with BCM. The Company's obligation to pay BioLine royalties will expire on a product-by-product and country-by-country basis on the date on which BCM is no longer covered by a valid claim in the licensed patent rights in a given country.

BioLine has the option, exercisable under specified circumstances, to manufacture any product containing BCM for the Company pursuant to terms to be negotiated by the parties. If BioLine exercises this option, the Company would be obligated to purchase at least a specified percentage of its BCM requirements from BioLine at a price calculated using a pre-agreed methodology.

Except under specified circumstances, the Company may not directly or indirectly acquire more than a specified percentage of the equity or debt securities of BioLine, or urge, induce, entice or solicit any other party to acquire such securities.

The Company and BioLine have the right to terminate the license agreement for an uncured material breach by the other party. In addition, the Company has the right to terminate the license agreement if at any time the Company determines that further development of products containing BCM is not warranted. See Note 13—*Commitments and Contingencies*.

(11) Related-Party Transactions

In connection with the Spin-Out, in February 2014, the Company and Ikaria entered into a separation and distribution agreement which sets forth provisions relating to the separation of the Company's business from Ikaria's other businesses. The separation and distribution agreement described the assets and liabilities that remained with or were transferred to the Company and those that remained with or were transferred to Ikaria. The separation and distribution agreement provides for a full and complete release and discharge of all liabilities between Ikaria and the Company, except as expressly set forth in the agreement. The Company and Ikaria each agreed to indemnify, defend and hold harmless the other party and its subsidiaries, and each of their respective past and present directors, officers and employees, and each of their respective permitted successors and assigns, from any and all damages relating to, arising out of or resulting from, among other things, our business and certain additional specified liabilities or Ikaria's business and certain additional specified liabilities, as applicable.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(11) Related-Party Transactions (Continued)**

In February 2014, the Company entered into a cross-license, technology transfer and regulatory matters agreement with a subsidiary of Ikaria. Pursuant to the terms of the license agreement, Ikaria granted to the Company a fully paid-up, non-royalty-bearing, exclusive license under specified intellectual property rights controlled by Ikaria to engage in the development, manufacture and commercialization of nitric oxide, devices to deliver nitric oxide and related services for or in connection with out-patient, chronic treatment of patients who have PAH, PH-COPD or idiopathic pulmonary fibrosis, or PH-IPF. Pursuant to the terms of the license agreement, the Company granted Ikaria a fully paid-up, non-royalty-bearing, exclusive license under specified intellectual property rights that the Company controls to engage in the development, manufacture and commercialization of products and services for or used in connection with the diagnosis, prevention or treatment, whether in- or out-patient, of certain conditions and diseases other than PAH, PH-COPD or PH-IPF and for the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital. The Company agreed that, during the term of the license agreement, it will not, without the prior written consent of Ikaria, grant a sublicense under any of the intellectual property licensed to the Company under the license agreement to any of its affiliates or any third party, in either case, that directly or indirectly competes with Ikaria's nitric oxide business.

In September 2013, October 2013 and February 2014, the Company and each of its subsidiaries entered into an agreement not to compete with a subsidiary of Ikaria, or, collectively, the agreements not to compete. Pursuant to the agreements not to compete, the Company and each of its subsidiaries agreed not to engage, anywhere in the world, in any manner, directly or indirectly, until the earlier of five years after the effective date of such agreement not to compete or the date on which Ikaria and all of its subsidiaries are no longer engaged in such business, in:

(1) the development, manufacture, commercialization, promotion, sale, import, export, servicing, repair, training, storage, distribution, transportation, licensing, or other handling or disposition of any product or service (including, without limitation, any product or service that utilizes, contains or includes nitric oxide for inhalation, a device intended to deliver nitric oxide or a service that delivers or supports the delivery of nitric oxide), bundled or unbundled, for or used in connection with (a) the diagnosis, prevention, or treatment, in both adult and/or pediatric populations, and whether in- or out-patient, of: (i) hypoxic respiratory failure associated with pulmonary hypertension, (ii) pulmonary hypertensive episodes and right heart failure associated with cardiovascular surgery, (iii) bronchopulmonary dysplasia, (iv) the management of ventilation—perfusion mismatch in acute lung injury, (v) the management of ventilation—perfusion mismatch in acute respiratory distress syndrome, (vi) the management of pulmonary hypertension episodes and right heart failure in congestive heart failure, (vii) pulmonary edema from high altitude sickness, (viii) the management of pulmonary hypertension episodes and right heart failure in pulmonary or cardiac surgery, (ix) the management of pulmonary hypertension episodes and right heart failure in organ transplant, (x) sickle cell vaso-occlusive crisis, (xi) hypoxia associated with pneumonia, or (xii) ischemia-reperfusion injury, or (b) the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital; or

(2) any and all development, manufacture, commercialization, promotion, sale, import, export, storage, distribution, transportation, licensing, or other handling or disposition of any terlipressin or any other product within the pressin family, (a) intended to treat (i) hepatorenal syndrome in any form (HRS), (ii) bleeding esophageal varices, or (iii) septic shock, or (b) for or in connection with the management of low blood pressure.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(11) Related-Party Transactions (Continued)**

In February 2014, the Company and Ikaria entered into a transition services agreement, pursuant to which Ikaria agreed to use commercially reasonable efforts to provide certain transition services to the Company for a two-year period, which services include management/executive, human resources, real estate, information technology, accounting, financial planning and analysis, legal, quality and regulatory support. Ikaria also has agreed to use reasonable efforts to provide the Company with the use of office space at Ikaria's headquarters in Hampton, New Jersey pursuant to the terms of the transition services agreement. In exchange for the services, beginning in February 2014, the Company is obligated to pay Ikaria monthly services fees in the amount of \$772,000 plus out of pocket expenses and certain other expenses. At the time of the Spin-Out, the Company deposited the sum of \$18.5 million, representing the aggregate of the \$772,000 monthly service fees payable by the Company under the transition services agreement, in escrow to guarantee payment of the monthly services fees by the Company. The escrowed cash will be classified as restricted cash in periods subsequent to the Spin-Out.

In February 2014, the Company entered into drug supply and device supply agreements with a subsidiary of Ikaria. Under these agreements, Ikaria has agreed to use commercially reasonable efforts to supply inhaled nitric oxide and nitric oxide delivery devices for use in the Company's clinical trials, in each case at Ikaria's manufacturing cost plus a 20% mark-up, and in the case of the drug supply agreement, the Company has agreed to purchase its clinical supply of inhaled nitric oxide from Ikaria. The Company also granted Ikaria a right of first negotiation in the event that the Company desires to enter into a commercial supply agreement with a third party for supply of nitric oxide for inhalation.

In February 2014, the Company and Ikaria entered into an employee matters agreement, pursuant to which the employment of certain Ikaria employees was transferred to the Company or its subsidiaries on the terms and conditions set forth in the employee matters agreement. Under the employee matters agreement, the Company agreed to assume and pay, perform, fulfill and discharge, in accordance with the terms of the employee matters agreement, all liabilities to or relating to such transferred employees.

(12) Segments and Geographic Information

The Company operates in one reportable segment and solely within the United States. Accordingly, no segment or geographic information has been presented.

(13) Commitments and Contingencies***(a) Legal Proceedings***

The Company periodically becomes subject to legal proceedings and claims arising in connection with its business. The ultimate legal and financial liability of the Company in respect to all proceedings, claims and lawsuits, pending or threatened, cannot be estimated with any certainty.

BioLine previously indicated to the Company that it believed that the Company had breached the license agreement in several ways, including, but not limited to, failure to use commercially reasonable efforts to develop BCM, failure to provide BioLine with material information concerning the development and commercialization plans for BCM and failure to notify BioLine in advance of material public disclosures regarding BCM. The Company and BioLine also previously disagreed about the timing of a certain milestone payment that the Company would owe BioLine based upon progress in the Company's BCM clinical development program. The Company believed it had complied with its

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(13) Commitments and Contingencies (Continued)**

obligations under the license agreement to use commercially reasonable efforts to develop BCM and was not in breach of its other obligations under the license agreement. No amounts were previously accrued for this matter since no loss was probable as of December 31, 2013. On January 8, 2015, the Company and BioLine agreed to amend the license agreement, which resolved the prior disputes and provided for a release of claims by BioLine. The amendment also changed certain milestones and related payments, but the total potential milestone payments to be paid to BioLine under the license agreement remained the same. No additional milestones have been met as of January 8, 2015.

As of this report, there is no proceeding, claim or litigation, pending or threatened, that could, individually or in the aggregate, have a material adverse effect on the Company's business, operating results, financial condition and/or liquidity.

(b) Operating Lease

The Company leases an operating facility located in North Brunswick, New Jersey under an operating lease arrangement. Future minimum rental commitments under the Company's non-cancellable operating lease in effect as of December 31, 2013 are as follows (in thousands):

2014	\$ 28
Thereafter	—
Total	<u>\$ 28</u>

The amounts in the table do not include (i) approximately \$100,000 of milestone rent payable upon the closing of an initial public offering by the Company or (ii) our rent obligation of \$113,400 through March 15, 2015, under a lease that the Company signed subsequent to December 31, 2013.

Rent expense, including direct and allocated expenses, is calculated on the straight-line basis and amounted to approximately \$0.5 million for each of the years ended December 31, 2013 and 2012.

(14) Equity Adjustments, Bellerophon Spin-Out and Merger***Equity Adjustments******Stock Options***

In February 2014, prior to the Spin-Out, each Ikaria stock option, other than options held by non-accredited investors who were also not employees of Ikaria, was adjusted such that it became an option to acquire the same number of shares of Ikaria non-voting common stock as were subject to the Ikaria stock option, or an Adjusted Ikaria Option, and an option to acquire the same number of non-voting limited liability company units of the Company as the number of shares of Ikaria non-voting common stock that were subject to the Ikaria stock option, or a Bellerophon Option. The exercise price of each option was adjusted by allocating the relative post Spin-Out estimated fair values of Ikaria and the Company in a ratio of 85% and 15%, respectively, reflecting the relative value of each entity. The expiration date of the options was not modified. In connection with the Spin-Out, each Adjusted Ikaria Option and each Bellerophon Option was fully accelerated.

BELLEROPHON THERAPEUTICS LLC**(A Development Stage Company)****Notes to Financial Statements (Continued)****(14) Equity Adjustments, Bellerophon Spin-Out and Merger (Continued)***Restricted Stock Units*

In February 2014, prior to the Spin-Out, each Ikaria RSU was adjusted such that it became an RSU with respect to the same number of shares of Ikaria non-voting common stock as were subject to the Ikaria RSU, or an Adjusted Ikaria RSU, and an RSU with respect to the same number of non-voting limited liability company units of the Company as were subject to the Ikaria RSU. In connection with the Spin-Out, the vesting of each Adjusted Ikaria RSU and Bellerophon RSU was fully accelerated.

Bellerophon Spin-Out

On February 12, 2014, prior to the Merger, Ikaria distributed all of the Company's outstanding units to Ikaria's stockholders in a pro rata distribution through a special dividend. In the Spin-Out, each holder of Ikaria common stock received one voting limited liability company interest in the Company for each share of Ikaria common stock held. Following acceleration of the vesting of the Bellerophon RSUs, each Bellerophon RSU was settled through delivery of one non-voting limited liability company interest in the Company.

Merger

On February 12, 2014, through a series of merger subsidiary transactions, MDP acquired a majority ownership of Ikaria and Ikaria's existing shareholders retained a minority ownership position in Ikaria. In connection with the Merger, all amounts due under Ikaria's LTIP and special dividend bonus plan became vested and were settled in cash for \$11.1 million and \$34.7 million, respectively.

(15) Subsequent Events

The Company has evaluated events from the balance sheet date through May 14, 2014, the date at which the financial statements were available to be issued, and also evaluated subsequent events from May 15, 2014 through January 8, 2015. There were no material subsequent events that required recognition or disclosure in these financial statements, except for the disclosures included in Note 1—*Organization and Nature of the Business*, Note 11—*Related-Party Transactions*, Note 13(a)—*Commitments and Contingencies* and Note 14—*Equity Adjustments, Bellerophon Spin-Out and Merger*.

BELLEROPHON THERAPEUTICS LLC

Condensed Consolidated Balance Sheets

(Amounts in thousands)

	Unaudited Pro Forma September 30, 2014 (Note 11)	September 30, 2014 (unaudited)	December 31, 2013
Assets			
Current assets:			
Cash and cash equivalents	\$ 30,605	\$ 30,605	\$ —
Restricted cash	9,264	9,264	—
Prepaid expenses and other current assets	1,571	1,571	1,552
Total current assets	41,440	41,440	1,552
Restricted cash, non-current	3,863	3,863	—
Deferred transaction costs	1,541	1,541	—
Property and equipment, net	1,790	1,790	2,084
Total assets	\$ 48,634	\$ 48,634	\$ 3,636
Liabilities and members' equity and invested equity (deficit)			
Current liabilities:			
Accounts payable	\$ 882	\$ 882	\$ 1,368
Accrued research and development	6,940	6,940	7,591
Employee compensation and benefits	5,081	5,081	3,194
Due to Ikaria, Inc.	631	631	—
Other current liabilities	—	—	1,839
Total current liabilities	13,534	13,534	13,992
Allocated portion of Ikaria special dividend payable	—	—	4,273
Other liabilities	—	—	1,108
Total liabilities	13,534	13,534	19,373
Commitments and contingencies (Note 9)			
Members'/stockholders' equity and invested equity (deficit):			
Members'/stockholders' equity	76,550	76,550	—
Invested deficit, net	—	—	(15,737)
Accumulated deficit	(41,450)	(41,450)	—
Total members'/stockholders' equity and invested equity (deficit)	35,100	35,100	(15,737)
Total liabilities and members'/stockholders' equity and invested equity (deficit)	\$ 48,634	\$ 48,634	\$ 3,636

The accompanying notes are an integral part of these financial statements.

BELLEROPHON THERAPEUTICS LLC**Condensed Consolidated Statements of Operations and Comprehensive Loss****(Unaudited)****(Amounts in thousands, except share and per share amounts)**

	Nine Months Ended September 30,	
	2014	2013
Operating expenses:		
Research and development	\$ 36,368	\$ 39,068
General and administrative	10,537	6,155
Total operating expenses	46,905	45,223
Income tax benefit (expense)	—	—
Net loss and comprehensive loss	<u>\$ (46,905)</u>	<u>\$ (45,223)</u>
Net loss per unit:		
Basic and diluted	<u>\$ (5.94)</u>	
Weighted average units outstanding:		
Basic and diluted	<u>7,898,041</u>	

The accompanying notes are an integral part of these financial statements.

BELLEROPHON THERAPEUTICS LLC

**Condensed Consolidated Statements of Changes in Members'
Equity and Invested Equity (Deficit)**

(Unaudited)

(Amounts in thousands)

	Investment by Ikaria, Inc.	Accumulated deficit	Total invested equity (deficit)	Members' equity	Total members' equity
Balance December 31, 2013	\$ 160,778	\$ (176,515)	\$ (15,737)		
Net loss from January 1, 2014 through February 11, 2014, prior to Spin-Out	—	(5,455)	(5,455)		
Investment by Ikaria, Inc., net prior to Spin-Out	7,547	—	7,547		
Additional investment by Ikaria, Inc. for settlement of liabilities prior to Spin-Out	9,196	—	9,196		
Balance, February 11, 2014	177,521	(181,970)	(4,449)		
Contribution by Ikaria, Inc. of net assets to Bellerophon in connection with Spin-Out	(177,521)	181,970	4,449	\$ 75,551	\$ 75,551
Net loss from February 12, 2014 through September 30, 2014	—	(41,450)	—	—	(41,450)
Stock-based compensation	—	—	—	1,028	1,028
Repurchase of units	—	—	—	(29)	(29)
Balance September 30, 2014	<u>\$ —</u>	<u>\$ (41,450)</u>	<u>\$ —</u>	<u>\$ 76,550</u>	<u>\$ 35,100</u>

The accompanying notes are an integral part of these financial statements.

BELLEROPHON THERAPEUTICS LLC
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(Amounts in thousands)

	Nine Months Ended September 30,	
	2014	2013
Cash flows from operating activities:		
Net loss	\$ (46,905)	\$ (45,223)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	294	597
Other items	—	149
Stock-based compensation	1,299	1,463
Changes in operating assets and liabilities:		
(Increase) decrease in other current assets and other assets	(19)	23
Increase in restricted cash	(13,127)	—
Decrease in accounts payable, accrued research and development, and employee compensation and benefits	(344)	(1,651)
Increase (decrease) in amounts due to Ikaria, Inc.	631	(72)
Net cash used in operating activities	<u>(58,171)</u>	<u>(44,714)</u>
Cash flows from investing activities:		
Capital expenditures	—	(1,077)
Net cash used in investing activities	<u>—</u>	<u>(1,077)</u>
Cash flows from financing activities:		
Cash contribution from Ikaria, Inc. in connection with Spin-Out	80,000	—
Cash contributions from Ikaria, Inc., net	9,252	45,791
Transaction costs paid	(447)	—
Repurchase of units	(29)	—
Net cash provided by financing activities	<u>88,776</u>	<u>45,791</u>
Net change in cash and cash equivalents	30,605	—
Cash and cash equivalents at beginning of period	—	—
Cash and cash equivalents at end of period	<u>\$ 30,605</u>	<u>\$ —</u>
Non-cash financing activities:		
Investment by Ikaria, Inc., net	<u>\$ 7,491</u>	<u>\$ (1,987)</u>

The accompanying notes are an integral part of these financial statements.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements****(1) Organization, Nature of the Business and Management's Plans Regarding Financing of Future Operations**

Bellerophon Therapeutics LLC, or the Company, is a clinical-stage therapeutics company focused on developing innovative products at the intersection of drugs and devices that address significant unmet medical needs in the treatment of cardiopulmonary and cardiac diseases. The Company has two programs in advanced clinical development. The first program, INOpulse, is based on the Company's proprietary pulsatile nitric oxide delivery device. The Company is currently developing two product candidates under its INOpulse program: one for the treatment of pulmonary arterial hypertension, or PAH, for which the Company intends to commence Phase 3 clinical trials in the second half of 2015, and the other for the treatment of pulmonary hypertension associated with chronic obstructive pulmonary disease, or PH COPD, which is in Phase 2 development. The Company's second program is bioabsorbable cardiac matrix, or BCM, which is currently in a placebo-controlled clinical trial designed to support CE mark registration in the European Union. Enrollment of this trial is almost complete with more than 290 out of 306 patients enrolled, as of November 15, 2014. Assuming positive results from this trial, the Company intends to conduct a pivotal pre-market approval trial of BCM beginning in the first half of 2016, which will be designed to support registration in the United States. The Company is developing BCM for the prevention of cardiac remodeling, which often leads to congestive heart failure following an ST-segment elevated myocardial infarction, or STEMI.

The Company's business is subject to significant risks and uncertainties, including but not limited to:

- The risk that the Company will not achieve success in its research and development efforts, including clinical trials conducted by it or its potential collaborative partners.
- The expectation that the Company will experience operating losses for the next several years.
- Decisions by regulatory authorities regarding whether and when to approve the Company's regulatory applications as well as their decisions regarding labeling and other matters which could affect the commercial potential of the Company's products or product candidates.
- The risk that the Company will fail to obtain adequate financing to meet its future capital and financing needs.
- The risk that key personnel will leave the Company and/or that the Company will be unable to recruit and retain senior level officers to manage its business.

The Company was formerly the research and development operating segment of Ikaria Inc., or Ikaria. During the third quarter of 2013 in conjunction with Ikaria's financing activities, Ikaria began reporting financial information for two operating segments: its research and development business and its commercial business. During the fourth quarter of 2013, Ikaria completed an internal reorganization of the assets and subsidiaries of its two operating segments. In connection with the internal reorganization, Ikaria formed the Company as a new wholly-owned subsidiary and transferred the research and development-related assets related to INOpulse for PAH and INOpulse for PH-COPD to the Company and/or its subsidiaries.

On December 24, 2013, Ikaria and Madison Dearborn Partners, or MDP, entered into an agreement and plan of merger, under which MDP would acquire a majority ownership position in Ikaria and existing shareholders retained a minority ownership position in Ikaria through certain merger transactions, or the Merger.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(1) Organization, Nature of the Business and Management's Plans Regarding Financing of Future Operations (Continued)**

On February 12, 2014, prior to the Merger, Ikaria distributed all of the Company's outstanding units to Ikaria's stockholders in a pro rata distribution through a special dividend, which we refer to as the Spin-Out. In the Spin-Out, each holder of Ikaria common stock received one voting limited liability company interest in the Company for each share of Ikaria common stock held. There were 7,897,143 units outstanding as of September 30, 2014.

On February 12, 2014, through a series of merger subsidiary transactions, MDP acquired a majority ownership of Ikaria and Ikaria's existing shareholders retained a minority ownership position in Ikaria.

In connection with the Spin-Out, \$80.0 million of cash was distributed to the Company. At the time of the Spin-Out, \$18.5 million of the \$80.0 million cash held by the Company was deposited in escrow to guarantee payment of the monthly services fees payable by the Company to Ikaria in exchange for the services to be provided by Ikaria pursuant to the Company's transition services agreement with Ikaria, or the TSA, during the 24 months following the Spin-Out. At September 30, 2014, the escrowed cash balance was \$13.2 million and is classified as restricted cash on the condensed consolidated balance sheet at September 30, 2014, with \$9.3 million reflected as current and \$3.9 million reflected as non-current. See Note 7—*Related-Party Transactions*.

In the course of its development activities, the Company has sustained operating losses and expects such losses to continue over the next several years. As of September 30, 2014, the Company has an accumulated deficit of approximately \$41.5 million. The Company's ultimate success depends on the outcome of its research and development activities. Management expects to incur additional losses in the future to conduct product research and development and recognizes the need to raise additional capital through the potential issuance of additional equity or borrowings or entering into strategic alliances with partner companies. However, if such financing is not available at adequate levels or strategic alliances with partner companies do not occur, the Company will need to reevaluate its plans.

As of September 30, 2014, the Company has cash, cash equivalents and restricted cash of approximately \$43.7 million and expects that the \$43.7 million will fund its operating expenses and capital expenditure requirements through March 31, 2015. The Company's estimates and assumptions may prove to be wrong, and the Company may exhaust its capital resources sooner than expected. The process of testing product candidates in clinical trials is costly, and the timing of progress in clinical trials is uncertain. Because the product candidates are in clinical development and the outcome of these efforts is uncertain, the Company cannot estimate the actual amounts that will be necessary to successfully complete the development and commercialization of the product candidates or whether, or when, the Company may achieve profitability.

The inability to obtain additional financing could adversely affect the Company's short- and long-term ability to achieve its intended business objectives. These uncertainties raise substantial doubt as to the Company's ability to continue as a going concern. The financial statements do not include any adjustments that might be necessary if the Company were unable to continue as a going concern.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(2) Summary of Significant Accounting Policies*****(a) Basis of Presentation***

The accompanying unaudited condensed consolidated financial statements were prepared following the requirements of the Securities and Exchange Commission, or the SEC, for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by accounting principles generally accepted in the United States of America, or U.S. GAAP, can be condensed or omitted.

The Company is responsible for the unaudited condensed consolidated financial statements. The condensed consolidated financial statements include all normal and recurring adjustments that are considered necessary for the fair presentation of the Company's financial position at September 30, 2014 and its results of operations and its cash flows for the nine months ended September 30, 2014 and 2013. These condensed consolidated financial statements should be read in conjunction with the Company's audited financial statements for the year ended December 31, 2013. The results of operations for the period from January 1 to September 30, 2014 for the Company are not necessarily indicative of the results expected for the full year.

As discussed below, for periods prior to the Spin-Out, the financial statements were carved out of the consolidated financial statements of Ikaria. Although the financial statements prior to the Spin-Out were prepared on a combined carve-out basis, the financial statements for all periods presented have been labeled "consolidated" financial statements for ease of reference since the most recent balance sheet at September 30, 2014 is a consolidated balance sheet. At the date of the Spin-Out, the historical accumulated deficit of approximately \$182.0 million based on the carve-out financial statements through February 11, 2014 was eliminated in the transfer of net assets to the Company. The net loss for the period February 12, 2014 through September 30, 2014 of \$41.5 million has been reflected as the accumulated deficit on the September 30, 2014 condensed consolidated balance sheet, representing the net loss since the date of the Spin-Out. Net assets contributed to the Company in the Spin-Out were \$75.6 million, including cash of \$80.0 million. The results of operations and cash flows from February 12, 2014 through September 30, 2014 and the balance sheet as of September 30, 2014 represent actual results and the financial position of the Company on a stand-alone basis.

Management believes that the statements of operations for periods prior to the Spin-Out include a reasonable allocation of costs and expenses incurred by Ikaria which benefited the Company. However, such amounts may not be indicative of the actual level of costs and expenses that would have been incurred by the Company if it had operated as an independent stand-alone company or of the costs and expenses expected to be incurred in the future. As such, the financial information herein may not necessarily reflect the financial position, results of operations and cash flows of the Company expected in the future or what it would have been had it been an independent stand-alone company during the periods presented. The accompanying condensed consolidated financial statements include the accounts of the Company and its three wholly-owned subsidiaries. Intercompany transactions have been eliminated on consolidation.

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of costs and expenses during the reporting period, including accrued research and development expenses, stock-based compensation, income taxes and valuation of long-lived assets. Actual results could differ from those estimates.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(2) Summary of Significant Accounting Policies (Continued)**

Prior to February 12, 2014, the balance sheets, statements of operations and statements of cash flows were carved out of the consolidated financial statements of Ikaria and are, therefore, presented on a carve-out basis. The financial statements for periods prior to February 12, 2014 presented herein were derived from the historical financial statements and accounting records of Ikaria. These carve-out financial statements include all costs that were directly attributable to the Company plus an allocated amount of Ikaria's general and administrative and certain research and development expenses. These carve-out financial statements do not purport to reflect what the results of operations, comprehensive loss, financial position, equity (deficit) or cash flows would have been had the Company operated as a stand-alone company during the periods presented.

Direct and indirect costs related to the Company for INOpulse for PAH, INOpulse for PH-COPD and BCM clinical programs have been allocated to the Company for periods prior to February 12, 2014. These allocations were based on either a specific identification basis or, when specific identification is not practicable, proportional cost allocation methods, such as time and wage studies, depending on the nature of the expense. All allocations were based on actual costs incurred. For purposes of allocating non-project specific expenses, each departmental head provided information as to the percentage of employee time incurred on behalf of the Company.

Allocations of general and administrative expenses by Ikaria to the Company for periods prior to February 12, 2014 include allocations of corporate management, finance, information technology, legal, human resources and other overhead expenses, based on an approximate pro-rata headcount of employees.

The Company's balance sheet at December 31, 2013 includes assets and liabilities that were specifically identified and those that were allocated by Ikaria to the Company based on an estimate of the benefit derived from the underlying asset or liability. Ikaria has historically used a centralized approach to cash management and financing of its operations. Prior to the date of the Spin-Out, cash funding for the Company from Ikaria had been accounted for as a capital contribution from Ikaria.

(b) Restricted Cash

Restricted cash represents amounts held on deposit with a bank in relation to the TSA. The funds are held in an account to settle the required payment to Ikaria for services to be provided in connection with the TSA. The required payments to be paid in excess of one year from the balance sheet date are classified as long-term restricted cash. See Note 7—*Related-Party Transactions*.

(c) Stock-Based Compensation

The Company accounts for its stock-based compensation in accordance with Accounting Standards Codification 718, Compensation—Stock Compensation, which establishes accounting for stock-based awards exchanged for services and requires companies to expense the estimated fair value of these awards over the requisite service period. The Company recognizes stock-based compensation expense in operations based on the fair value of the award on the date of the grant. The resulting compensation expense is recognized on a straight-line basis over the requisite service period, generally four years or sooner if awards are immediately vested. The Company determines the fair value of stock options issued using a Black-Scholes-Merton option pricing model. Certain assumptions used in the model include expected volatility, dividend yield, risk-free interest rate and expected term. See Note 5—*Stock-Based Compensation* for a description of these assumptions.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(2) Summary of Significant Accounting Policies (Continued)**

Prior to the date of the Spin-Out, stock-based compensation expense for the Company represented an allocation of Ikaria's stock-based compensation expense based on the allocation percentages of the Company's cost centers, which were determined based on specific identification or the proportionate percentage of employee time or headcount to the respective total Ikaria employee time or headcount.

(d) Deferred Transaction Costs

Deferred transaction costs are costs related to the Company's initial public offering, which primarily consist of third-party professional legal, accounting and printing fees associated with the Company's registration statement. These initial public offering costs are deferred and charged against the gross proceeds of an offering when the public offering of equity securities is complete as a reduction of additional paid-in capital. Any deferred costs related to an unsuccessful public offering are expensed in the period in which the company elects to abort the public offering. The Company had deferred transaction costs of \$1.5 million as of September 30, 2014, of which \$0.4 million had been paid as of September 30, 2014.

(e) New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update No. 2014-09, or ASU 2014-09, Revenue from Contracts with Customers (Topic 606). ASU 2014-09 supersedes the revenue recognition requirements in Accounting Standards Update No. 2009-13, Revenue Recognition (Topic 605) and requires entities to recognize revenue in a way that depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period, and is to be applied either retrospectively to each prior reporting period presented or retrospectively with the cumulative effect recognized at the date of initial application. Early application is not permitted. Although the Company does not generate revenues currently, management is in the process of evaluating the potential impact from the adoption of this guidance.

In June 2014, the FASB issued Accounting Standards Update No. 2014-10, or ASU 2014-10, Development Stage Entities (Topic 915): Elimination of Certain Financial Reporting Requirements, Including an Amendment to Variable Interest Entities Guidance in Topic 810, Consolidation. ASU 2014-10 eliminates the distinction of a development stage entity as well as certain related disclosure requirements, including the elimination of inception-to-date information on the statements of operations, members' equity and cash flows. For public business entities, the amendments in ASU 2014-10 are effective prospectively for annual reporting periods beginning after December 15, 2014, and interim periods within those annual periods, and for other entities, the amendments are effective for annual reporting periods beginning after December 15, 2014, and interim reporting periods beginning after December 15, 2015. Early application is permitted. The Company has adopted ASU 2014-10 for the reporting period ended September 30, 2014.

In June 2014, the FASB issued Accounting Standards Update No. 2014-12 "Compensation—Stock Compensation (Topic 718): Accounting for Share-Based Payments When the Terms of an Award Provide That a Performance Target Could Be Achieved after the Requisite Service Period," or ASU 2014-12. ASU 2014-12 clarifies the proper method of accounting for share-based payments when the terms of an award provide that a performance target could be achieved after the requisite service

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(2) Summary of Significant Accounting Policies (Continued)**

period. ASU 2014-12 requires that a performance target that affects vesting and that could be achieved after the requisite service period be treated as a performance condition. The performance target should not be reflected in estimating the grant-date fair value of the award. Compensation cost should be recognized in the period in which it becomes probable that the performance target will be achieved and should represent the compensation cost attributable to the period(s) for which the requisite service has already been rendered. The amendments in ASU 2014-12 are effective for annual periods and interim periods within those annual periods beginning after December 15, 2015. Earlier adoption is permitted. The Company will adopt this guidance if and when share-based awards with performance targets are issued.

In August 2014, the FASB issued Accounting Standards Update No. 2014-15—"Presentation of Financial Statements—Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern," or ASU No. 2014-15. ASU No. 2014-15 should reduce diversity in the timing and content of footnote disclosures. ASU No. 2014-15 requires management to assess an entity's ability to continue as a going concern by incorporating and expanding upon certain principles that are currently in U.S. auditing standards. Specifically, it (1) provides a definition of the term substantial doubt, (2) requires an evaluation every reporting period including interim periods, (3) provides principles for considering the mitigating effect of management's plans, (4) requires certain disclosures when substantial doubt is alleviated as a result of consideration of management's plans, (5) requires an express statement and other disclosures when substantial doubt is not alleviated, and (6) requires an assessment for a period of one year after the date that the financial statements are issued (or available to be issued). The amendments in ASU No. 2014-15 are effective for the annual period ending after December 15, 2016, and for annual periods and interim periods thereafter. Early application is permitted. The Company is currently evaluating the impact the adoption of ASU No. 2014-15 will have on its financial statements.

(3) Property, Plant and Equipment

At the date of the Spin-Out, Ikaria transferred specifically identified assets to the Company at the carrying amount of the assets as of February 12, 2014. Prior to the date of the Spin-Out, property, plant and equipment and accumulated depreciation were either specifically identified or allocated to the Company by Ikaria. Property and equipment as of September 30, 2014 and December 31, 2013 consist of the following (in thousands):

	September 30, 2014 (Unaudited)	December 31, 2013
Machinery, equipment and furniture	\$ 2,943	\$ 2,943
Less accumulated depreciation	(1,153)	(859)
	<u>\$ 1,790</u>	<u>\$ 2,084</u>

(4) Income Taxes

On the date of the Spin-Out, the Company became a stand-alone limited liability company taxed as a partnership. Under this structure, the Company is not subject to income tax at the federal level, with the exception of its C-corporation subsidiary (see below), as its members are liable for the taxes

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(4) Income Taxes (Continued)**

on the Company's income or loss. The Company is subject to various taxes imposed within the states where it operates, however, currently those states do not have a partnership tax. Although the Company is a limited liability company, one of its subsidiaries is a C-corporation that is subject to federal and state income taxes. The Company recorded no income tax expense for the period from February 12, 2014, the date of the Spin-Out, to September 30, 2014. The Company did not receive any deferred tax assets or liabilities as a result of the Spin-Out. Net operating losses are transferred to members as they are incurred.

Prior to the date of the Spin-Out, the Company did not file separate income tax returns, as the Company was included in the tax groupings of other Ikaria entities within the respective entity's tax jurisdictions. As such, the income tax provisions included in these financial statements for periods prior to the Spin-Out have been calculated using the separate return method, as if the Company filed a separate tax return in each of its respective tax jurisdictions, although no tax expense or benefit has been recorded due to its operating loss position. Prior to the date of the Spin-Out, the Company had been treated as a C-corporation, based on Ikaria's tax status, for purposes of its financial statements. Subsequent to the date of the Spin-Out, the Company is taxed as a partnership and does not record deferred tax assets or liabilities. Certain deferred tax assets that arose as a result of Ikaria's past activities and resultant operating losses, such as federal and state net operating loss carryforwards, research and development credit carryforwards and acquired in-process research and development, do not constitute assets of the Company as they were retained by Ikaria subsequent to the date of the Spin-Out.

As of September 30, 2014, there were no material uncertain tax positions. There are no tax positions for which a material change in any unrecognized tax benefit liability is reasonably possible in the next twelve months.

(5) Stock-Based Compensation

Determining the appropriate fair value of stock-based awards requires the input of subjective assumptions, including the fair value of the Company's units and for options, the expected life of the option and expected volatility. The Company uses the Black-Scholes-Merton option pricing model to value its stock option awards. The assumptions used in calculating the fair value of stock-based awards represent management's best estimates and involve inherent uncertainties and the application of management's judgment. As a result, if factors change and management uses different assumptions, stock-based compensation expense could be materially different for future awards. The expected life of stock options was estimated using the "simplified method," as the Company has no historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior for its stock options grants. The simplified method is based on the average of the vesting tranches and the contractual life of each grant. For volatility, the Company uses comparable public companies as a basis for its expected volatility to calculate the fair value of options grants. The risk-free interest rate is based on U.S. Treasury notes with a term approximating the expected life of the option. The estimation of the number of stock awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from the Company's current estimates, such amounts will be recorded as an adjustment in the period in which estimates are revised.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(5) Stock-Based Compensation (Continued)*****Bellerophon 2014 Equity Incentive Plan***

During the nine months ended September 30, 2014, the Company adopted the 2014 Equity Incentive Plan, or the Plan, which provides for the grant of options. The Company is authorized to issue options in an amount up to an aggregate of 558,851 non-voting units to eligible employees, directors and consultants, subject to the Board approval and amendments. The granted awards generally have a vesting period of four years, of which 25% of the awards vest on the second anniversary of grant date, 25% vest on the third anniversary and the remaining 50% vest on the fourth anniversary of the grant date.

During the period, the Company awarded a total of 514,266 options to its executives and employees to purchase the equivalent number of non-voting units with an exercise price of \$13.28 per unit. Options for non-voting units are granted to employees at exercise prices equal to the fair value of the Company's non-voting units based on an independent third party appraisal report. Approximately 90,000 options granted were fully vested at the grant date, with the remaining options to vest over a four year period from the date of the Spin-Out. Compensation expense is measured based on the fair value of the option on the grant date and is recognized on a straight-line basis over the requisite service period, or sooner if vesting occurs sooner than on a straight-line basis. Options are forfeited if the employee ceases to be employed by the Company prior to vesting.

The following are the assumptions used in estimating the fair value of options issued during the nine months ended September 30, 2014.

	Nine Months Ended September 30, 2014
Valuation assumptions:	
Risk-free interest rate	1.71%
Expected volatility	90.00%
Expected term (in years)	6.1
Expected dividend yield	0.00%

The weighted average grant date fair value of options granted during the period subsequent to the date of the Spin-Out was \$9.90 per option.

BELLEROPHON THERAPEUTICS LLC

Notes to Unaudited Condensed Consolidated Financial Statements (Continued)

(5) Stock-Based Compensation (Continued)

A summary of option activity under the Plan for the nine months ended September 30, 2014 is presented below:

	Bellerophon 2014 Equity Incentive Plan			
	Shares	Exercise Price	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)
Options outstanding as of February 12, 2014	—		—	
Granted	514,266	\$ 13.28	\$ 13.28	
Exercised	—			
Forfeited	(5,986)	13.28	13.28	
Options outstanding as of September 30, 2014	508,280	13.28	13.28	9.7
Options vested and exercisable as of September 30, 2014	90,082	\$ 13.28	\$ 13.28	9.7

As of September 30, 2014, there was approximately \$4.0 million of total unrecognized compensation expense related to non-vested options. This expense is expected to be recognized over a weighted-average period of approximately 3.7 years.

Ikaria Equity Incentive Plans for Periods Prior to February 12, 2014

The Company presented allocated stock-based compensation expenses from Ikaria for the period prior to February 12, 2014, the date of Spin-Out on its condensed consolidated statements of operations and comprehensive loss for the nine months ended September 30, 2014 and 2013. These allocated expenses are derived from Ikaria's historical financial statements. See Note 2(a)—*Summary of Significant Accounting Policies—Basis of Presentation*. The following disclosures for dates prior to the date of the Spin-Out pertain to stock-based compensation and the Ikaria special dividend bonus payable that were allocated to the Company related to Ikaria stock-based awards.

In February 2014, prior to the Spin-Out, each Ikaria stock option, other than options held by non-accredited investors who were also not employees of Ikaria, was adjusted such that it became an option to acquire the same number of shares of Ikaria non-voting common stock as were subject to the Ikaria stock option, or an Adjusted Ikaria Option, and an option to acquire the same number of non-voting limited liability company units of the Company as the number of share of Ikaria non-voting common stock that were subject to the Ikaria stock option, or a Bellerophon Option. There were 618,212 Bellerophon Options issued as a result of the adjustment of Ikaria stock options. Each Adjusted Ikaria Option and Bellerophon Option was fully accelerated on the date of the Spin-Out and all related compensation expense was recognized as an expense by Ikaria.

Ikaria Special Dividend Plan

In October 2011, Ikaria approved dividend equivalent rights for options, RSUs and other equity awards granted under its equity award plans. Pursuant to the special dividend plan, in the event that the Ikaria board declared a dividend, each employee of the Company who held equity awards was eligible to receive a cash payment equal to the amount of the dividend per share, multiplied by the number of equity awards outstanding. The payment was payable as of the declaration date for vested

BELLEROPHON THERAPEUTICS LLC

Notes to Unaudited Condensed Consolidated Financial Statements (Continued)

(5) Stock-Based Compensation (Continued)

options. For unvested options and unvested RSUs, payment was due upon vesting. As of December 31, 2013, the Company's allocated portion of the special dividend bonus payable was \$6.1 million of which \$1.8 million was reflected in other current liabilities and \$4.3 million was reflected in non-current liabilities. The entire allocated portion of the special dividend bonus payable as of February 11, 2014 was settled in cash on the Company's behalf by Ikaria.

Stock Options

Prior to and in connection with the Spin-Out, the exercise price of each Adjusted Ikaria Option and Bellerophon Option was adjusted by allocating the relative post Spin-Out estimated fair values of Ikaria and the Company in a ratio of 85% and 15%, respectively, to the original Ikaria option exercise price. The expiration date of the options was not modified. The Company's allocable portion of Ikaria's stock-based compensation expense related to options for the period from January 1, 2014 through February 11, 2014 and the nine months ended September 30, 2013 was approximately \$0.1 million and \$0.4 million, respectively.

There were 589,749 options outstanding resulting from the Adjusted Ikaria Options and Bellerophon Options as of September 30, 2014 at exercise prices ranging from \$0.26 to \$17.92 per unit. All options outstanding were fully vested at the time of the Spin-Out.

A summary of option activity related to the Bellerophon Options for the nine months ended September 30, 2014 is presented below:

	Ikaria Equity Incentive Plans for Periods Prior to February 12, 2014			
	Shares	Range of Exercise Price	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)
Options issued and vested at date of Spin-Out as of February 12, 2014	618,212	\$ 0.26 - 17.92	\$ 7.24	
Granted	—			
Exercised	—			
Forfeited	(28,463)	7.77 - 14.91	9.59	
Options outstanding, vested and exercisable as of September 30, 2014	<u>589,749</u>	<u>\$ 0.26 - 17.92</u>	<u>\$ 7.12</u>	<u>4.9</u>

Restricted Stock Units

In February 2014, prior to the Spin-Out, each Ikaria RSU was adjusted such that it became an RSU with respect to the same number of shares of Ikaria non-voting common stock as were subject to the Ikaria RSU, or an Adjusted Ikaria RSU, and an RSU with respect to the same number of non-voting limited liability company units of the Company as were subject to the Ikaria RSU, or a Bellerophon RSU. In connection with the Merger and the Spin-Out, the vesting of each Adjusted Ikaria RSU and Bellerophon RSU was fully accelerated. The compensation expense incurred upon the acceleration of the RSUs was recognized by Ikaria. Fully vested Bellerophon RSUs of 372,947 became Bellerophon non-voting units as of the date of the Spin-Out.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(5) Stock-Based Compensation (Continued)**

Ikaria had granted RSUs to employees that generally vested over a four-year period. RSUs granted prior to January 1, 2011 vested 25% annually. RSUs granted on and after January 1, 2011 vested 25% on the second and third anniversary of the date of grant and 50% on the fourth anniversary of the date of grant. Shares of Ikaria non-voting common stock were delivered to the employee upon vesting, subject to payment of applicable withholding taxes, which may be paid in cash or an equivalent amount of shares withheld. Compensation expense for all RSUs was based on the grant date fair value of the RSU issued, which was based on the fair value of common stock of Ikaria. Compensation expense for RSUs is recognized by Ikaria on a straight-line basis over the requisite service period. The RSU expense allocated from Ikaria totaled \$0.2 million for the period from January 1, 2014 through February 11, 2014 and \$1.1 million for the nine months ended September 30, 2013.

Stock-Based Compensation Expense, Net of Estimated Forfeitures

The following table summarizes the stock-based compensation expense by the condensed consolidated statement of operations and comprehensive loss line item for the nine months ended September 30, 2014 and 2013. For comparison purposes, the following disclosures include stock-based compensation expense recognized under the Plan and stock-based compensation expense for dates prior to the Spin-Out that were allocated to the Company related to Ikaria stock-based awards.

<u>(in thousands)</u>	<u>Nine Months Ended September 30,</u>	
	<u>2014</u>	<u>2013</u>
Research and development	\$ 271	\$ 1,015
General and administrative	1,028	448
Total expense	<u>1,299</u>	<u>1,463</u>

(6) Investment by Ikaria, Inc.

The Company's historical operating cash requirements prior to the date of the Spin-Out were provided by Ikaria. The balance in the investment by Ikaria account as of the date of the Spin-Out of \$177.5 million represented the investment by Ikaria in the Company, including cash funding as well as the impact of stock-based compensation awards, which increases equity, and the Ikaria special dividend bonus payable allocated to the Company, which decreases equity. This amount was eliminated with the transfer of net assets at the date of the Spin-Out.

(7) Related-Party Transactions*Separation and Distribution Agreement*

In connection with the Spin-Out, in February 2014, the Company and Ikaria entered into a separation and distribution agreement which sets forth provisions relating to the separation of the Company's business from Ikaria's other businesses. The separation and distribution agreement described the assets and liabilities that remained with or were transferred to the Company and those that remained with or were transferred to Ikaria. The separation and distribution agreement provides for a full and complete release and discharge of all liabilities between Ikaria and the Company, except

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(7) Related-Party Transactions (Continued)**

as expressly set forth in the agreement. The Company and Ikaria each agreed to indemnify, defend and hold harmless the other party and its subsidiaries, and each of their respective past and present directors, officers and employees, and each of their respective permitted successors and assigns, from any and all damages relating to, arising out of or resulting from, among other things, our business and certain additional specified liabilities or Ikaria's business and certain additional specified liabilities, as applicable.

License Agreement

In February 2014, the Company entered into a cross-license, technology transfer and regulatory matters agreement with a subsidiary of Ikaria. Pursuant to the terms of the license agreement, Ikaria granted to the Company a fully paid-up, non-royalty-bearing, exclusive license under specified intellectual property rights controlled by Ikaria to engage in the development, manufacture and commercialization of nitric oxide, devices to deliver nitric oxide and related services for or in connection with out-patient, chronic treatment of patients who have PAH, PH-COPD or idiopathic pulmonary fibrosis, or PH-IPF. Pursuant to the terms of the license agreement, the Company granted Ikaria a fully paid-up, non-royalty-bearing, exclusive license under specified intellectual property rights that the Company controls to engage in the development, manufacture and commercialization of products and services for or used in connection with the diagnosis, prevention or treatment, whether in- or out-patient, of certain conditions and diseases other than PAH, PH-COPD or PH-IPF and for the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital. The Company agreed that, during the term of the license agreement, it will not, without the prior written consent of Ikaria, grant a sublicense under any of the intellectual property licensed to the Company under the license agreement to any of its affiliates or any third party, in either case, that directly or indirectly competes with Ikaria's nitric oxide business.

Agreements Not to Compete

In September 2013, October 2013 and February 2014, the Company and each of its subsidiaries entered into an agreement not to compete with a subsidiary of Ikaria, or, collectively, the agreements not to compete. Pursuant to the agreements not to compete, the Company and each of its subsidiaries agreed not to engage, anywhere in the world, in any manner, directly or indirectly, until the earlier of five years after the effective date of such agreement not to compete or the date on which Ikaria and all of its subsidiaries are no longer engaged in such business, in:

- the development, manufacture, commercialization, promotion, sale, import, export, servicing, repair, training, storage, distribution, transportation, licensing, or other handling or disposition of any product or service (including, without limitation, any product or service that utilizes, contains or includes nitric oxide for inhalation, a device intended to deliver nitric oxide or a service that delivers or supports the delivery of nitric oxide), bundled or unbundled, for or used in connection with (a) the diagnosis, prevention, or treatment, in both adult and/or pediatric populations, and whether in- or out-patient, of: (i) hypoxic respiratory failure associated with pulmonary hypertension, (ii) pulmonary hypertensive episodes and right heart failure associated with cardiovascular surgery, (iii) bronchopulmonary dysplasia, (iv) the management of ventilation—perfusion mismatch in acute lung injury, (v) the management of ventilation—perfusion mismatch in acute respiratory distress syndrome, (vi) the management of pulmonary hypertension episodes and right heart failure in congestive heart failure, (vii) pulmonary edema

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(7) Related-Party Transactions (Continued)**

from high altitude sickness, (viii) the management of pulmonary hypertension episodes and right heart failure in pulmonary or cardiac surgery, (ix) the management of pulmonary hypertension episodes and right heart failure in organ transplant, (x) sickle cell vaso-occlusive crisis, (xi) hypoxia associated with pneumonia, or (xii) ischemia-reperfusion injury, or (b) the use of nitric oxide to treat or prevent conditions that are primarily managed in the hospital; or

- any and all development, manufacture, commercialization, promotion, sale, import, export, storage, distribution, transportation, licensing, or other handling or disposition of any terlipressin or any other product within the pressin family, (a) intended to treat (i) hepatorenal syndrome in any form (HRS), (ii) bleeding esophageal varices or (iii) septic shock or (b) for or in connection with the management of low blood pressure.

Transition Services Agreement

In February 2014, the Company and Ikaria entered into the TSA, pursuant to which Ikaria agreed to use commercially reasonable efforts to provide certain transition services to the Company for a twenty-four month term, which services include management/executive, human resources, real estate, information technology, accounting, financial planning and analysis, legal, quality and regulatory support. Ikaria also has agreed to use reasonable efforts to provide the Company with the use of office space at Ikaria's headquarters in Hampton, New Jersey pursuant to the terms of the TSA. In exchange for the services, beginning in February 2014, the Company is obligated to pay Ikaria monthly services fees in the amount of \$772,000 plus out of pocket expenses and certain other expenses. At the time of the Spin-Out, the Company deposited the sum of \$18.5 million, representing the aggregate of the \$772,000 monthly service fees payable by the Company under the TSA, in escrow to guarantee payment of the monthly services fees by the Company. The escrowed cash is classified as restricted cash as of September 30, 2014. The Company recorded expenses of \$5.9 million from the date of the Spin-Out through September 30, 2014 in connection with the TSA. At September 30, 2014, the Company had accrued expenses due to Ikaria of \$0.5 million in connection with the TSA.

Supply Agreements

In February 2014, the Company entered into drug supply and device supply agreements with a subsidiary of Ikaria. Under these agreements, Ikaria has agreed to use commercially reasonable efforts to supply inhaled nitric oxide and nitric oxide delivery devices for use in the Company's clinical trials, in each case at Ikaria's manufacturing cost plus a 20% mark-up, and in the case of the drug supply agreement, the Company has agreed to purchase its clinical supply of inhaled nitric oxide from Ikaria. The Company also granted Ikaria a right of first negotiation in the event that the Company desires to enter into a commercial supply agreement with a third party for supply of nitric oxide for inhalation. The amount due to Ikaria under this agreement as of September 30, 2014 was approximately \$0.1 million.

(8) Segments and Geographic Information

The Company operates in one reportable segment and solely within the United States. Accordingly, no segment or geographic information has been presented.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(9) Commitments and Contingencies***Legal Proceedings*

The Company periodically becomes subject to legal proceedings and claims arising in connection with its business. The ultimate legal and financial liability of the Company in respect to all proceedings, claims and lawsuits, pending or threatened, cannot be estimated with any certainty.

BioLine previously indicated to the Company that it believed that the Company had breached the license agreement in several ways, including, but not limited to, failure to use commercially reasonable efforts to develop BCM, failure to provide BioLine with material information concerning the development and commercialization plans for BCM and failure to notify BioLine in advance of material public disclosures regarding BCM. The Company and BioLine also previously disagreed about the timing of a certain milestone payment that the Company would owe BioLine based upon progress in the Company's BCM clinical development program. The Company believed it had complied with its obligations under the license agreement to use commercially reasonable efforts to develop BCM and was not in breach of its other obligations under the license agreement. No amounts were previously accrued for this matter since no loss was probable as of September 30, 2014. On January 8, 2015, the Company and BioLine agreed to amend the license agreement, which resolved the prior disputes and provided for a release of claims by BioLine. The amendment also changed certain milestones and related payments, but the total potential milestone payments to be paid to BioLine under the license agreement remained the same. No additional milestones have been met as of January 8, 2015.

As of this report, there is no proceeding, claim or litigation, pending or threatened, that could, individually or in the aggregate, have a material adverse effect on the Company's business, operating results, financial condition and/or liquidity.

(10) Net Loss Per Unit

Basic net loss per unit is calculated by dividing net loss by the weighted average number of units outstanding during the period. Diluted net loss per unit is calculated by dividing net loss by the weighted average number of units outstanding, adjusted to reflect potentially dilutive securities (options) using the treasury stock method, except when the effect would be anti-dilutive. No net loss per unit information is presented for periods prior to the Spin-Out.

The weighted average units outstanding for basic and diluted net loss per unit for the nine months ended September 30, 2014 was 7,898,041, which represents the weighted average number of units outstanding for the period from February 12, 2014 through September 30, 2014.

The Company is reporting a net loss for the nine months ended September 30, 2014, therefore diluted net loss per unit is the same as the basic net loss per unit.

As of September 30, 2014, the Company had 1,098,029, options to purchase units outstanding that have been excluded from the computation of diluted weighted average units outstanding, because such securities had an antidilutive impact due to the loss reported.

BELLEROPHON THERAPEUTICS LLC**Notes to Unaudited Condensed Consolidated Financial Statements (Continued)****(11) Unaudited Pro Forma Balance Sheet**

The unaudited pro forma balance sheet gives effect to the following transactions, which are expected to occur in connection with the Company's initial public offering, as if they had occurred on September 30, 2014:

- (i) Conversion of all outstanding voting units to 7,524,196 shares of voting common stock, par value \$0.01 per share
- (ii) Conversion of all outstanding non-voting units to 372,947 shares of non-voting common stock, par value \$0.01 per share
- (iii) Conversion of the limited liability company to a C-corporation

(12) Subsequent Events

The Company has evaluated events from the balance sheet date through November 21, 2014, the date at which the financial statements were available to be issued, and also evaluated subsequent events from November 22, 2014, through February 2, 2015. There were no material subsequent events that required recognition or disclosure in these unaudited condensed consolidated financial statements, except for the disclosures included in Note 9—*Commitments and Contingencies* and as set forth immediately below.

Effective as of January 1, 2015, the Company entered into a services agreement with Ikaria (the 2015 Services Agreement), pursuant to which the Company has agreed to use commercially reasonable efforts to provide certain services to Ikaria, including services related to regulatory matters, drug and device safety, clinical operations, biometrics and scientific affairs. Upon execution of the 2015 Services Agreement, Ikaria became obligated to pay the Company a one-time service fee in the amount of \$916,666 and will be obligated to pay the Company a service fee in the amount of \$83,333 per month, subject to performance of the services. In addition, pursuant to the terms and conditions of the 2015 Services Agreement, Ikaria has agreed to use commercially reasonable efforts to provide certain services to the Company, including services related to information technology, and servicing and upgrades of INOpulse devices. The Company is obligated to pay Ikaria certain fees under the 2015 Services Agreement that total, in the aggregate, approximately \$215,000, subject to termination of the 2015 Services Agreement. The 2015 Services Agreement will terminate in February 2016.

On February 2, 2015, the Company effected a reverse unit split of its outstanding units at a ratio of one unit for every 12.5257 units previously held. All unit, per unit, common stock and per share data included in these financial statements reflect the reverse unit split (and in the case of common stock and per share data, the reverse unit split and the conversion of the Company from a limited liability company to a C-corporation).

4,000,000 Shares



Common Stock

Leerink Partners

Cowen and Company

FBR

SunTrust Robinson Humphrey

Until _____, 2015 (25 days after the date of this prospectus) all dealers that buy, sell or trade in our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

Part II**INFORMATION NOT REQUIRED IN PROSPECTUS****Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth the expenses to be incurred in connection with the offering described in this registration statement, other than underwriting discounts and commissions, all of which will be paid by us. All amounts are estimates except the Securities and Exchange Commission's registration fee and the Financial Industry Regulatory Authority, Inc., or FINRA, filing fee and the NASDAQ Global Market listing fee.

	<u>Amount</u>
Securities and Exchange Commission registration fee	\$ 8,553
FINRA filing fee	11,540
NASDAQ Global Market listing fee	125,000
Accountants' fees and expenses	600,000
Legal fees and expenses	2,000,000
Blue Sky fees and expenses	5,000
Transfer Agent's fees and expenses	10,000
Printing and engraving expenses	350,000
Miscellaneous fees and expenses	89,907
Total expenses	<u>\$ 3,200,000</u>

Item 14. Indemnification of Directors and Officers.

Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of its directors or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our certificate of incorporation provides that no director shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the Delaware General Corporation Law prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Upon completion of this offering, our certificate of incorporation provides that we will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than

an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnatee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnatee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Our certificate of incorporation also provides that we will indemnify any Indemnatee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnatee is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnatee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnatee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If we do not assume the defense, expenses must be advanced to an Indemnatee under certain circumstances.

We have entered into indemnification agreements with our directors and executive officers. In general, these agreements provide that we will indemnify the director or executive officer to the fullest extent permitted by law for claims arising in his or her capacity as a director or officer of our company or in connection with their service at our request for another corporation or entity. The indemnification agreements also provide for procedures that will apply in the event that a director or executive officer makes a claim for indemnification and establish certain presumptions that are favorable to the director or executive officer.

We maintain a general liability insurance policy which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

The underwriting agreement we will enter into in connection with the offering of common stock being registered hereby provides that the underwriters will indemnify, under certain conditions, our directors and officers (as well as certain other persons) against certain liabilities arising in connection with such offering.

Item 15. Recent Sales of Unregistered Securities.

Prior to the effectiveness of this registration statement, we will complete transactions pursuant to which we will convert into a Delaware corporation. In connection with the conversion, all of our outstanding voting units and non-voting units will convert into shares of voting common stock and non-voting common stock, respectively, and options to purchase our non-voting units will become options to purchase non-voting shares of our common stock. Pursuant to their terms, upon the consummation of this offering, the non-voting common stock will be converted into voting common stock and options to purchase non-voting common stock will become options to purchase voting common stock.

Except as set forth below, in the three years preceding the filing of this registration statement, we have not issued any securities that were not registered under the Securities Act of 1933, as amended, or the Securities Act.

On February 9, 2014, we, Ikaria, Inc., or Ikaria, and Ikaria Acquisition Inc. entered into a separation and distribution agreement which provided for and contained the key terms of our separation from Ikaria, which we refer to as the Spin-Out. Prior to the Spin-Out, we issued to certain employees and directors of ours or of our then parent company, Ikaria, and certain accredited investors, options to purchase an aggregate of 618,212 of our non-voting units, at a weighted average exercise price of \$7.24 per unit, of which as of February 2, 2015, options to purchase 8,182 of our non-voting units had been exercised, options to purchase 32,055 of our non-voting units had been forfeited and options to purchase 578,042 of our non-voting units remained outstanding at a weighted average exercise price of \$7.14 per unit. Between February 10, 2014 and February 2, 2015, we issued to certain employees options to purchase an aggregate of 514,266 of our non-voting units, at a weighted average exercise price of \$13.28 per unit, of which as of January 12, 2015, no options to purchase our non-voting units had been exercised, options to purchase 5,986 of our non-voting units had been forfeited and options to purchase 508,280 of our non-voting units remained outstanding at a weighted average exercise price of \$13.28 per unit.

Prior to the Spin-Out, in February 2014, we issued to certain employees and directors of ours or of Ikaria and certain accredited investors restricted stock units in respect of an aggregate of 372,947 of our non-voting units, which we refer to as the Bellerophon RSUs. We subsequently settled such Bellerophon RSUs by issuing and delivering an aggregate of 372,947 non-voting units to the holders of Bellerophon RSUs.

Each of the foregoing issuances was made by us in a transaction not involving a public offering pursuant to an exemption from the registration requirements of the Securities Act in reliance upon Section 4(a)(2) of the Securities Act or Rule 701 promulgated under Section 3(b) of the Securities Act. We did not pay or give, directly or indirectly, any commission or other remuneration, including underwriting discounts or commissions, in connection with any of the issuances of securities listed above, and no underwriters were involved in the foregoing issuances of securities. All recipients either received adequate information about the registrant or had access, through employment or other relationships, to such information.

Item 16. Exhibits and Financial Statement Schedules.

The exhibits to the registration statement are listed in the Exhibit Index attached hereto and incorporated by reference herein.

Item 17. Undertakings.

- (a) The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.
- (b) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by

controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(c) The undersigned registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Borough of Hampton, State of New Jersey, on this 3rd day of February, 2015.

BELLEROPHON THERAPEUTICS LLC

By: /s/ JONATHAN M. PEACOCK
Jonathan M. Peacock
Chairman, President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to the Registration Statement has been signed by the following persons in the capacities held on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ JONATHAN M. PEACOCK</u> Jonathan M. Peacock	Chairman, President and Chief Executive Officer (principal executive officer)	February 3, 2015
<u>/s/ DAVID ABRAMS</u> David Abrams	Treasurer (principal financial and accounting officer)	February 3, 2015
<u>*</u> Matthew Holt	Director	February 3, 2015
<u>*</u> Jens Luehring	Director	February 3, 2015
<u>*</u> Andre V. Moura	Director	February 3, 2015

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<div><div>*</div><div>Robert R. Nelsen</div></div>	Director	February 3, 2015
<div><div>*</div><div>Daniel Tassé</div></div>	Director	February 3, 2015
<div><div>*</div><div>Adam Weinstein</div></div>	Director	February 3, 2015

*By: /s/ JONATHAN M. PEACOCK

Jonathan M. Peacock

Attorney-in-Fact

Exhibit Index

Exhibit Number	Description of Exhibit
1.1	Form of Underwriting Agreement
2.1	Form of Plan of Conversion
2.2	Form of Agreement and Plan of Merger (to be entered into in connection with the Registrant's conversion from a limited liability company to a corporation)
3.1	Certificate of Incorporation of the Registrant (to be effective upon completion of the Registrant's conversion from a limited liability company to a corporation)
3.2	Bylaws of the Registrant (to be effective upon completion of the Registrant's conversion from a limited liability company to a corporation)
3.3	Form of Restated Certificate of Incorporation of the Registrant (to be effective upon the closing of this offering)
3.4	Form of Amended and Restated Bylaws of the Registrant (to be effective upon the closing of this offering)
4.1	Specimen Stock Certificate evidencing the shares of common stock
4.2	Form of Linde Stockholders Agreement (to be entered into in connection with the Registrant's conversion from a limited liability company to a corporation)
4.3	Form of New Mountain Stockholders Agreement (to be entered into in connection with the Registrant's conversion from a limited liability company to a corporation)
5.1	Opinion of Wilmer Cutler Pickering Hale and Dorr LLP
10.1*	Assumed 2007 Ikaria Stock Option Plan
10.2*	Assumed 2010 Ikaria Long Term Incentive Plan
10.3*	2014 Equity Incentive Plan
10.4*	Form of Option Agreement under 2014 Equity Incentive Plan
10.5	2015 Equity Incentive Plan
10.6	Form of Incentive Stock Option Agreement under 2015 Equity Incentive Plan
10.7	Form of Nonstatutory Stock Option Agreement under 2015 Equity Incentive Plan
10.8*†	Amended and Restated License and Commercialization Agreement, dated as of August 26, 2009, among Ikaria Development Subsidiary One LLC, BioLineRx Ltd. and BioLine Innovations Jerusalem L.P., as amended
10.9*	Form of Agreement Not to Compete, entered into by Ikaria Acquisition LLC and each of the Registrant, Bellerophon BCM LLC, Bellerophon Pulse Technologies LLC and Bellerophon Services, Inc.
10.10*†	Separation and Distribution Agreement, dated as of February 9, 2014, among the Registrant, Ikaria, Inc. and Ikaria Acquisition LLC
10.11†	Services Agreement, effective as of January 1, 2015, between the Registrant and Ikaria, Inc.
10.12*†	Drug Clinical Supply Agreement, dated as of February 9, 2014, between Bellerophon Pulse Technologies LLC and INO Therapeutics LLC

Exhibit Number	Description of Exhibit
10.13*†	Employee Matters Agreement, dated as of February 9, 2014, between the Registrant and Ikaria, Inc.
10.14*†	Exclusive Cross-License, Technology Transfer and Regulatory Matters Agreement, dated February 9, 2014, between Bellerophon Pulse Technologies LLC and INO Therapeutics LLC, as amended on March 27, 2014
10.15*†	Transition Services Agreement, dated as of February 9, 2014, between the Registrant and Ikaria, Inc.
10.16	Form of Registration Rights Agreement among the Registrant, New Mountain Partners II (AIV-A), L.P., New Mountain Partners II (AIV-B), L.P., Allegheny New Mountain Partners, L.P., New Mountain Affiliated Investors II, L.P., ARCH Venture Fund VI, L.P., Venrock Partners, L.P., Venrock Associates IV, L.P., Venrock Entrepreneurs Fund IV, L.P., Linde North America, Inc., 5AM Ventures LLC and Aravis Venture I L.P. (to be entered into in connection with the Registrant's conversion from a limited liability company to a corporation)
10.17*	Form of Indemnification Agreement between the Registrant and each of its executive officers and directors
10.18*	Assumed Employment Agreement, dated January 4, 2012, between Manesh Naidu and Ikaria, Inc.
10.19*	Assumed Employment Agreement, dated August 10, 2010, between Martin Meglasson and Ikaria, Inc.
10.20*	Assumed Employment Agreement, dated March 26, 2012, between Reinilde Heyrman and Ikaria, Inc.
10.21*	Form of Retention Bonus Letter for Executive Officers
10.22*	Employment Agreement, dated June 20, 2014, between Jonathan M. Peacock, the Registrant and Bellerophon Services, Inc.
10.23*	Form of Management Rights Letter between the Registrant and certain of its stockholders
21.1*	Subsidiaries of the Registrant
23.1	Consent of KPMG LLP independent registered public accounting firm
23.2	Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included on signature page)
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*	Previously filed
†	Confidential treatment requested as to portions of the exhibit. Confidential materials omitted and filed separately with the Securities and Exchange Commission.

BELLEROPHON THERAPEUTICS, INC.

(a Delaware corporation)

[—] Shares of Common Stock

FORM OF UNDERWRITING AGREEMENT

Dated: [—], 2015

BELLEROPHON THERAPEUTICS, INC.

(a Delaware corporation)

[—] Shares of Common Stock

UNDERWRITING AGREEMENT

[—], 2015

Leerink Partners LLC
Cowen and Company, LLC
As Representatives of the several Underwriters

c/o Leerink Partners LLC
One Federal Street, Floor 37
Boston, MA 02110

c/o Cowen and Company, LLC
599 Lexington Avenue
New York, NY 10022

Ladies and Gentlemen:

Bellerophon Therapeutics, Inc., a Delaware corporation (the “Company”), confirms its agreement with Leerink Partners LLC (“Leerink”), Cowen and Company, LLC (“Cowen”) and each of the other Underwriters named in Schedule A hereto (collectively, the “Underwriters,” which term shall also include any underwriter substituted as hereinafter provided in Section 10 hereof), for whom Leerink and Cowen are acting as representatives (the “Representatives”), with respect to (i) the sale by the Company and the purchase by the Underwriters, acting severally and not jointly, of the respective numbers of shares of common stock, par value \$0.01 per share, of the Company (“Common Stock”) set forth in Schedule A hereto and (ii) the grant by the Company to the Underwriters, acting severally and not jointly, of the option described in Section 2(b) hereof to purchase all or any part of [—] additional shares of Common Stock to cover overallotments, if any. The aforesaid [—] shares of Common Stock (the “Initial Securities”) to be purchased by the Underwriters and all or any part of the [—] shares of Common Stock subject to the option described in Section 2(b) hereof (the “Option Securities”) are herein called, collectively, the “Securities.”

The Company understands that the Underwriters propose to make a public offering of the Securities as soon as the Representatives deem advisable after this Agreement has been executed and delivered.

The Representatives agree that up to [—] of the Initial Securities to be purchased by the Underwriters (the “Directed Shares”) shall be reserved for sale to certain eligible directors,

officers, employees and existing stockholders of the Company and persons having business relationships with the Company, in each case designated by the Company (collectively, the “Participants”), as part of the distribution of the Securities by the Underwriters (the “Directed Share Program”) subject to the terms of this Agreement, the applicable rules, regulations and interpretations of the Financial Industry Regulatory Authority, Inc. (“FINRA”) and all other applicable laws, rule and regulations. The Directed Share Program shall be administered by Fidelity Capital Markets, a division of National Financial Services LLC (the “Directed Share Underwriter”). To the extent that the Directed Shares are not orally confirmed for purchase by the Participants by the end of the first business day after the date of this Agreement, such Directed Shares will be offered to the public by the Underwriters as part of the public offering contemplated hereby.

The Company has filed with the Securities and Exchange Commission (the “Commission”) a registration statement on Form S-1 (No. 333- 201474), including the related preliminary prospectus or prospectuses, covering the registration of the sale of the Securities under the Securities Act of 1933, as amended (the “1933 Act”). Promptly after execution and delivery of this Agreement, the Company will prepare and file a prospectus in accordance with the provisions of Rule 430A (“Rule 430A”) of the rules and regulations of the Commission under the 1933 Act (the “1933 Act Regulations”) and Rule 424(b) (“Rule 424(b)”) of the 1933 Act Regulations. The information included in such prospectus that was omitted from such registration statement at the time it became effective but that is deemed to be part of such registration statement at the time it became effective pursuant to Rule 430A(b) is herein called the “Rule 430A Information.” Such registration statement, including the amendments thereto, the exhibits thereto and any schedules thereto at the time it became effective, and including the Rule 430A Information, is herein called the “Registration Statement.” Any registration statement filed pursuant to Rule 462(b) of the 1933 Act Regulations is herein called the “Rule 462(b) Registration Statement” and, after such filing, the term “Registration Statement” shall include the Rule 462(b) Registration Statement.

Each prospectus used prior to the effectiveness of the Registration Statement, and each prospectus that omitted the Rule 430A Information that was used after such effectiveness and prior to the execution and delivery of this Agreement is herein called a “preliminary prospectus.” The final prospectus, in the form first furnished to the Underwriters for use in connection with the offering of the Securities is herein called the “Prospectus.” For purposes of this Agreement, all references to the

Registration Statement, any preliminary prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system or any successor system (“EDGAR”).

As used in this Agreement:

“Applicable Time” means [:00 P.A.M.], New York City time, on [—], 2015 or such other time as agreed by the Company and the Representatives.

“General Disclosure Package” means any Issuer General Use Free Writing Prospectuses issued at or prior to the Applicable Time, the most recent preliminary prospectus that is

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distributed to investors prior to the Applicable Time and the information included on Schedule B-1 hereto, all considered together.

“Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433 of the 1933 Act Regulations (“Rule 433”), including without limitation any “free writing prospectus” (as defined in Rule 405 of the 1933 Act Regulations (“Rule 405”)) relating to the Securities that is (i) required to be filed with the Commission by the Company, (ii) a “road show that is a written communication” within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the Securities or of the offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g).

“Issuer General Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors (other than a “*bona fide* electronic road show,” as defined in Rule 433 (the “Bona Fide Electronic Road Show”)), as evidenced by its being specified in Schedule B-2 hereto.

“Issuer Limited Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

“Testing-the-Waters Communication” means any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the 1933 Act.

“Written Testing-the-Waters Communication” means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the 1933 Act.

SECTION 1. Representations and Warranties.

(a) *Representations and Warranties by the Company.* The Company represents and warrants to each Underwriter as of the date hereof, the Applicable Time, the Closing Time (as defined below) and any Date of Delivery (as defined below), and agrees with each Underwriter, as follows:

(i) Registration Statement and Prospectuses. Each of the Registration Statement and any amendment thereto has become effective under the 1933 Act. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company’s knowledge, contemplated. The Company has complied with each request (if any) from the Commission for additional information.

Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective, complied in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations. Each preliminary prospectus, the Prospectus

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and any amendment or supplement thereto, at the time each was filed with the Commission, complied in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations. Each preliminary prospectus delivered to the Underwriters for use in connection with this offering and the Prospectus was or will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(ii) Accurate Disclosure. Neither the Registration Statement nor any amendment thereto, at its effective time, at the Closing Time or at any Date of Delivery, contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the Applicable Time, none of (A) the General Disclosure Package, (B) any individual Issuer Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package, nor (C) any individual Written Testing-the-Waters Communication, when considered together with the General Disclosure Package, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. Neither the Prospectus nor any amendment or supplement thereto (including any prospectus wrapper), as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b), at the Closing Time or at any Date of Delivery, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

The representations and warranties in this subsection shall not apply to statements in or omissions from the Registration Statement (or any amendment thereto), the General Disclosure Package or the Prospectus (or any amendment or supplement thereto, including any prospectus wrapper) made in reliance upon and in conformity with written information furnished to the Company by any Underwriter through the Representatives expressly for use therein. For purposes of this Agreement, the only information so furnished shall be the information in the first paragraph under the heading “Underwriting—Commissions and Discounts,” the information in the first, second, third and fourth paragraphs under the heading “Underwriting—Price Stabilization, Short Positions and Penalty Bids” and the information under the heading “Underwriting—Electronic Distribution” in each case contained in the Prospectus (collectively, the “Underwriter Information”).

(iii) Issuer Free Writing Prospectuses. No Issuer Free Writing Prospectus conflicts or will conflict with the information contained in the Registration Statement or the Prospectus, and any preliminary or other prospectus deemed to be a part thereof that has not been superseded or modified. The Company has made available a Bona Fide Electronic Road Show in compliance with Rule 433(d)(8)(ii) such that no filing of any “road show” (as defined in Rule 433(h)) is required in connection with the offering of the Securities.

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(iv) Testing-the-Waters Materials. The Company (A) has not engaged in any Testing-the-Waters Communication other than Testing-the-Waters Communications with the consent of the Representatives with entities that are qualified institutional buyers within the meaning of Rule 144A under the 1933 Act or institutions that are accredited investors within the meaning of Rule 501 under the 1933 Act and (B) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications. The Company has not distributed any Written Testing-the-Waters Communications other than those listed on Schedule B-3 hereto.

(v) Company Not Ineligible Issuer. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or another offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) of the 1933 Act Regulations) of the Securities and at the date hereof, the Company was not and is not an “ineligible issuer,” as defined in Rule 405, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.

(vi) Emerging Growth Company Status. From the time of the initial confidential submission of the Registration Statement to the Commission (or, if earlier, the first date on which the Company engaged directly or through any Person authorized to act on its behalf in any Testing-the-Waters Communication) through the date hereof, the Company has been and is an “emerging growth company,” as defined in Section 2(a) of the 1933 Act (an “Emerging Growth Company”).

(vii) Independent Accountants. The accountants who certified the financial statements and supporting schedules included in the Registration Statement, the General Disclosure Package and the Prospectus are independent public accountants as required by the 1933 Act, the 1933 Act Regulations and the Public Company Accounting Oversight Board.

(viii) Financial Statements; Non-GAAP Financial Measures. The financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus, together with the related schedules and notes, present fairly, in all material respects, the financial position of the Company and its consolidated subsidiaries at the dates indicated and the statement of operations, stockholders’ equity and cash flows of the Company and its consolidated subsidiaries for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles (“GAAP”) applied on a consistent basis throughout the periods involved, except in the case of unaudited, interim financial statements, subject to normal year-end audit adjustments and the exclusion of certain footnotes as permitted by the applicable rules of the Commission. The supporting schedules, if any, present fairly, in all material respects, in accordance with GAAP the information required to be stated therein. The selected financial data and the summary financial information included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly, in all material respects, the information shown therein and have been compiled on a basis

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consistent with that of the audited financial statements included therein. The pro forma financial statements and the related notes thereto included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly the information shown therein, have been prepared in accordance with the Commission’s rules and guidelines with respect to pro forma financial statements and have been properly compiled on the bases described therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein. Except as included therein, no historical or pro forma financial statements or supporting schedules are required to be included or incorporated by reference in the Registration Statement, the General Disclosure Package or the Prospectus under the 1933 Act or the 1933 Act Regulations.

(ix) No Material Adverse Change in Business. Except as otherwise stated therein, since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, (A) there has been no material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business (a “Material Adverse Effect”), (B) there have been no transactions entered into by the Company or its subsidiaries, other than those in the ordinary course of business, which are material with respect to the Company and its subsidiaries considered as one enterprise, and (C) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock.

(x) Good Standing of the Company. The Company has been duly organized and is validly existing as a corporation in good standing under the laws of the State of Delaware and has corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus and to enter into and perform its obligations under this Agreement; and the Company is duly qualified as a foreign corporation to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not result in a Material Adverse Effect.

(xi) Good Standing of Subsidiaries. The subsidiaries of the Company have been duly organized and are validly existing in good standing under the laws of the jurisdiction of their respective incorporation or organization, have corporate or similar power and authority to own, lease and operate their respective properties and to conduct their business as described in the Registration Statement, the General Disclosure Package and the Prospectus and are duly qualified to transact business and are in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not result in a Material Adverse Effect. Except as otherwise disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, all of the issued and outstanding capital stock of each subsidiary has been duly authorized and validly issued, is fully paid and non-assessable

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and is owned by the Company, directly or through subsidiaries, free and clear of any security interest, mortgage, pledge, lien, encumbrance, claim or equity. None of the outstanding shares of capital stock of the subsidiaries were issued in violation of the preemptive or similar rights of any securityholder of such subsidiary. The only subsidiaries of the Company are the subsidiaries listed on Exhibit 21 to the Registration Statement.

(xii) Capitalization. The authorized, issued and outstanding shares of capital stock of the Company are as set forth in the Registration Statement, the General Disclosure Package and the Prospectus in the column entitled “Actual” under the caption “Capitalization” (except for subsequent issuances, if any, pursuant to this Agreement, pursuant to reservations, agreements or employee benefit plans referred to in the Registration Statement, the General Disclosure Package and the Prospectus or pursuant to the exercise of convertible securities or options referred to in the Registration Statement, the General Disclosure Package and the Prospectus). The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable. None of the outstanding shares of capital stock of the Company were issued in violation of the preemptive or other similar rights of any securityholder of the Company.

(xiii) Authorization of Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(xiv) Authorization and Description of Securities. The Securities to be purchased by the Underwriters from the Company have been duly authorized for issuance and sale to the Underwriters pursuant to this Agreement and, when issued and delivered by the Company pursuant to this Agreement against payment of the consideration set forth herein, will be validly issued and fully paid and non-assessable; and the issuance of the Securities is not subject to the preemptive or other similar rights of any securityholder of the Company, except as have been duly and validly waived in writing as of the date of this Agreement, copies of such waivers having been made available to you. The Common Stock conforms, in all material respects, to all statements relating thereto contained in the Registration Statement, the General Disclosure Package and the Prospectus and such description conforms, in all material respects, to the rights set forth in the instruments defining the same. No holder of Securities will be subject to personal liability by reason of being such a holder.

(xv) Registration Rights. There are no persons with registration rights or other similar rights to have any securities registered for sale pursuant to the Registration Statement or otherwise registered for sale or sold by the Company under the 1933 Act pursuant to this Agreement, other than those rights that have been disclosed in the Registration Statement, the General Disclosure Package and the Prospectus and have been waived.

(xvi) Absence of Violations, Defaults and Conflicts. Neither the Company nor its subsidiaries is (A) in violation of its charter, by-laws or similar organizational document, (B) in default in the performance or observance of any obligation, agreement,

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covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company or its subsidiaries is a party or by which either of them may be bound or to which any of the properties or assets of the Company or its subsidiaries is subject (collectively, "Agreements and Instruments"), except for such defaults that would not, singly or in the aggregate, result in a Material Adverse Effect, or (C) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency having jurisdiction over the Company or its subsidiaries or any of their respective properties, assets or operations (each, a "Governmental Entity"), except for such violations that would not, singly or in the aggregate, result in a Material Adverse Effect. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated herein and in the Registration Statement, the General Disclosure Package and the Prospectus (including the issuance and sale of the Securities and the use of the proceeds from the sale of the Securities as described therein under the caption "Use of Proceeds") and compliance by the Company with its obligations hereunder have been duly authorized by all necessary corporate action and do not and will not, whether with or without the giving of notice or passage of time or both, conflict with or constitute a breach of, or default or Repayment Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties or assets of the Company or its subsidiaries pursuant to, the Agreements and Instruments (except for such conflicts, breaches, defaults or Repayment Events or liens, charges or encumbrances that would not, singly or in the aggregate, result in a Material Adverse Effect), nor will such action result in any violation of the provisions of the charter, by-laws or similar organizational document of the Company or its subsidiaries or any law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Entity. As used herein, a "Repayment Event" means any event or condition which gives the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or its subsidiaries.

(xvii) Absence of Labor Dispute. No labor dispute with the employees of the Company or its subsidiaries exists or, to the knowledge of the Company, is imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or its subsidiaries' principal suppliers, manufacturers, customers or contractors, which, in either case, would result in a Material Adverse Effect.

(xviii) Absence of Proceedings. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, there is no action, suit, proceeding, inquiry or investigation before or brought by any Governmental Entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company or its subsidiaries, which would reasonably be expected to result in a Material Adverse Effect, or which would reasonably be expected to materially and adversely affect their respective properties or assets or the consummation of the transactions contemplated in this Agreement or the performance by the Company of its obligations hereunder; and the aggregate of all pending legal or governmental proceedings to which the Company or its subsidiaries is a party or of which either of their respective properties

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or assets is the subject which are not described in the Registration Statement, the General Disclosure Package and the Prospectus, including ordinary routine litigation incidental to the business, would not reasonably be expected to result in a Material Adverse Effect.

(xix) Accuracy of Exhibits. There are no contracts or documents which are required to be described in the Registration Statement, the General Disclosure Package or the Prospectus or to be filed as exhibits to the Registration Statement which have not been so described and filed as required.

(xx) Absence of Further Requirements. No filing with, or authorization, approval, consent, license, order, registration, qualification or decree of, any Governmental Entity is necessary or required for the performance by the Company of its obligations hereunder, in connection with the offering, issuance or sale of the Securities hereunder or the consummation of the transactions contemplated by this Agreement, except such as have been already obtained or as may be required under the 1933 Act, the 1933 Act Regulations, the rules of the NASDAQ Stock Market LLC, state securities laws or the rules of FINRA.

(xxi) Possession of Licenses and Permits. The Company and its subsidiaries possess such permits, licenses, approvals, consents and other authorizations (collectively, "Governmental Licenses") issued by the appropriate Governmental Entities necessary to conduct the business now operated by them, except where the failure so to possess would not, singly or in the aggregate, result in a Material Adverse Effect. The Company and its subsidiaries are in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not, singly or in the aggregate, result in a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except where the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, result in a Material Adverse Effect. Neither the Company nor its subsidiaries has received any notice of proceedings relating to the revocation or modification of any Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would result in a Material Adverse Effect.

(xxii) Title to Property. The Company and its subsidiaries have good and marketable title to all real property owned by them and good title to all other properties owned by them (excluding for the purpose of this Section (1)(a)(xxii), Intellectual Property (as defined below)), in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as (A) are described in the Registration Statement, the General Disclosure Package and the Prospectus or (B) do not, singly or in the aggregate, materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company or its subsidiaries; and all of the leases and subleases material to the business of the Company and its subsidiaries, considered as one enterprise, and under which the Company or its subsidiaries holds properties described in the Registration Statement, the General Disclosure Package or the Prospectus, are in full force and effect, and neither the Company nor its subsidiaries has any notice of any

material claim of any sort that has been asserted by anyone adverse to the rights of the Company or its subsidiaries under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company or such subsidiary to the continued possession of the leased or subleased premises under any such lease or sublease.

(xxiii) Intellectual Property. To the knowledge of the Company, the Company owns or has valid, binding and enforceable licenses or other rights under the patents, patent applications, licenses, inventions, copyrights, know how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), trademarks, service marks, trade names or other intellectual property reasonably necessary to carry on the business of the Company as described in the Registration Statement, the General Disclosure Package and the Prospectus (collectively, the “Intellectual Property”); to the knowledge of the Company, the patents, trademarks, and copyrights, if any, included within the Intellectual Property are valid, enforceable, and subsisting; other than as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, (A) except as described in the General Disclosure Package, the Company is not obligated to pay a material royalty, grant a license to, or provide other material consideration to any third party in connection with the Intellectual Property, (B) the Company has not received any notice of any claim of infringement, misappropriation or conflict with any rights of others with respect to any of the Company’s product candidates, processes or Intellectual Property, (C) to the knowledge of the Company, neither the manufacture nor sale or use of any of the discoveries, inventions, product candidates or processes of the Company referred to in the Registration Statement, the General Disclosure Package or the Prospectus do or will, to the knowledge of the Company, infringe, misappropriate or violate any right or valid patent claim of any third party, and (D) to the knowledge of the Company, no third party has any ownership right in or to any Intellectual Property that is owned by the Company and, to the knowledge of the Company, no third party has any ownership right in or to any Intellectual Property that is exclusively licensed to the Company in any field of use, other than any licensor to the Company of such Intellectual Property.

(xxiv) Patents and Patent Applications. All patents and patent applications owned by or licensed to the Company or under which the Company has rights have, to the knowledge of the Company, been duly and properly filed and maintained; to the knowledge of the Company, the parties prosecuting such applications have complied with their duty of candor and disclosure to the U.S. Patent and Trademark Office (the “USPTO”) in connection with such applications; and the Company is not aware of any facts required to be disclosed to the USPTO that were not disclosed to the USPTO and which would preclude the grant of a patent in connection with any such application or would reasonably be expected to form the basis of a finding of invalidity with respect to any patents that have issued with respect to such applications.

(xxv) Environmental Laws. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus or would not, singly or in the aggregate, result in a Material Adverse Effect, (A) neither the Company nor its subsidiaries is in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or

administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products, asbestos-containing materials or mold (collectively, “Hazardous Materials”) or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, “Environmental Laws”), (B) the Company and its subsidiaries have all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements, (C) there are no pending or, to the knowledge of the Company threatened, administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company or its subsidiaries and (D) there are no events or circumstances that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or Governmental Entity, against or affecting the Company or its subsidiaries relating to Hazardous Materials or any Environmental Laws.

(xxvi) Accounting Controls and Disclosure Controls. The Company and its subsidiaries have established effective internal control over financial reporting (as defined under Rule 13-a15 and 15d-15 under the rules and regulations of the Commission under the 1934 Act (the “1934 Act Regulations”)) and a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management’s general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management’s general or specific authorization; and (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, since the end of the Company’s most recent audited fiscal year, there has been (1) no material weakness in the Company’s internal control over financial reporting (whether or not remediated) and (2) no change in the Company’s internal control over financial reporting that has materially adversely affected, or is reasonably likely to materially adversely affect, the Company’s internal control over financial reporting.

(xxvii) Tests and Preclinical and Clinical Trials. The studies, tests and preclinical and clinical trials conducted by the Company (“Company Trials”) that are described in the Registration Statement, the General Disclosure Package and the Prospectus were and, if still pending, are being conducted in all material respects in accordance with the protocols submitted to the U.S. Food and Drug Administration (the “FDA”) or any foreign governmental body exercising comparable authority, procedures and controls pursuant to, where applicable, accepted professional and scientific standards, and all applicable laws and regulations. The descriptions of the Company Trials and the results thereof, contained in the Registration Statement, the General Disclosure Package and the

Prospectus are accurate and complete in all material respects. The Company is not aware of any other studies, tests or preclinical and clinical trials other than the Company Trials, the results of which call into question the results described in the Registration Statement, the General Disclosure Package and the Prospectus. The Company has not received any notices or correspondence from the FDA, any foreign, state or local governmental body exercising comparable authority or any Institutional Review Board requiring the termination, suspension, material modification or clinical hold of the Company Trials, other than ordinary course communications with respect to modifications in connection with the design and implementation of such trials, copies of which communications have been made available to you.

(xxviii) Payment of Taxes. All United States federal income tax returns of the Company and its subsidiaries required by law to be filed have been filed and all taxes shown by such returns or otherwise assessed, which are due and payable, have been paid, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided. The United States federal income tax returns of the Company through the fiscal

year ended December 31, 2013 have been settled and no assessment in connection therewith has been made against the Company. The Company and its subsidiaries have filed all other tax returns that are required to have been filed by them pursuant to applicable foreign, state, local or other law except insofar as the failure to file such returns would not result in a Material Adverse Effect, and have paid all taxes due pursuant to such returns or pursuant to any assessment received by the Company and its subsidiaries, except for such taxes, if any, as are being contested in good faith and as to which adequate reserves have been established by the Company. The charges, accruals and reserves on the books of the Company in respect of any income and corporation tax liability for any years not finally determined are adequate to meet any assessments or re-assessments for additional income tax for any years not finally determined, except to the extent of any inadequacy that would not result in a Material Adverse Effect.

(xxix) Insurance. The Company and its subsidiaries carry or are entitled to the benefits of insurance, with financially sound and reputable insurers, in such amounts and covering such risks as is generally maintained by companies of established repute engaged in the same or similar business, and all such insurance is in full force and effect. The Company has no reason to believe that it or its subsidiaries will not be able (A) to renew its existing insurance coverage as and when such policies expire or (B) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Effect. Neither of the Company nor its subsidiaries has been denied any insurance coverage which it has sought or for which it has applied.

(xxx) Investment Company Act. The Company is not required, and upon the issuance and sale of the Securities as herein contemplated and the application of the net proceeds therefrom as described in the Registration Statement, the General Disclosure Package and the Prospectus will not be required, to register as an “investment company” under the Investment Company Act of 1940, as amended (the “1940 Act”).

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(xxxi) Absence of Manipulation. Neither the Company nor, to the Company’s knowledge, any affiliate of the Company has taken, nor will the Company or any affiliate take, directly or indirectly any action which is designed, or would reasonably be expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities or to result in a violation of Regulation M under the 1934 Act.

(xxxii) Foreign Corrupt Practices Act. None of the Company, its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or its subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the “FCPA”), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any “foreign official” (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA and the Company and, to the knowledge of the Company, its affiliates have conducted their businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(xxxiii) Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the “Money Laundering Laws”); and no action, suit or proceeding by or before any Governmental Entity involving the Company or its subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(xxxiv) OFAC. None of the Company, its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or representative of the Company or its subsidiaries is an individual or entity (“Person”) currently the subject or target of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of the Treasury’s Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty’s Treasury, or other relevant sanctions authority (collectively, “Sanctions”), nor is the Company located, organized or resident in a country or territory that is the subject of Sanctions; and the Company will not directly or indirectly use the proceeds of the sale of the Securities, or lend, contribute or otherwise make available such proceeds to any subsidiaries, joint venture partners or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in a violation by any Person

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(including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions.

(xxxv) Lending Relationship. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company (i) does not have any material lending or other relationship with any banking or lending affiliate of any Underwriter and (ii) does not intend to use any of the proceeds from the sale of the Securities to repay any outstanding debt owed to any affiliate of any Underwriter.

(xxxvi) Statistical and Market-Related Data. Any statistical and market-related data included in the Registration Statement, the General Disclosure Package or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate and, to the extent required, the Company has obtained the written consent to the use of such data from such sources.

(xxxvii) Rating of Debt Securities. The Company has no debt securities or preferred stock that is rated by any “nationally recognized statistical rating organization” (as that term is defined by the Commission for purposes of Rule 436(g)(2) under the 1933 Act).

(xxxviii) Directed Share Program. (i) The Registration Statement, any preliminary prospectus, the General Disclosure Package and the Prospectus comply, and any further amendments or supplements thereto will comply, with any applicable laws or regulations of foreign jurisdictions in which any preliminary prospectus, the General Disclosure Package and the Prospectus, as amended or supplemented, if applicable, are distributed in connection with the Directed Share Program, and (ii) no authorization, approval, consent, license, order registration or qualification of or with any government, governmental instrumentality or court, other than such as have been obtained, is necessary under the securities laws and regulations of foreign jurisdictions in which the Directed Shares are offered outside the United States. The Company has not offered, or caused the Underwriters to offer, any Securities to any person pursuant to the Directed Share Program with the intent to unlawfully influence (i) a customer or supplier of the Company to alter the customer’s or supplier’s level or type of business with the Company or (ii) a trade journalist or publication to write or publish favorable information about the Company or its products.

(b) Officer’s Certificates. Any certificate signed by any officer of the Company or its subsidiaries delivered to the Representatives or to counsel for the Underwriters shall be deemed a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

(a) *Initial Securities.* On the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company agrees to sell to each Underwriter, severally and not jointly, and each Underwriter, severally and not jointly, agrees to purchase from the Company, at the price per share set forth in Schedule A, that number

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of Initial Securities set forth in Schedule A opposite the name of such Underwriter, plus any additional number of Initial Securities which such Underwriter may become obligated to purchase pursuant to the provisions of Section 10 hereof, subject, in each case, to such adjustments among the Underwriters as the Representatives in their sole discretion shall make to eliminate any sales or purchases of fractional shares.

(b) *Option Securities.* In addition, on the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company hereby grants an option to the Underwriters, severally and not jointly, to purchase up to an additional [—] shares of Common Stock, at the price per share set forth in Schedule A, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities. The option hereby granted may be exercised for 30 days after the date hereof and may be exercised in whole or in part at any time from time to time only for the purpose of covering overallocments made in connection with the offering and distribution of the Initial Securities upon notice by the Representatives to the Company setting forth the number of Option Securities as to which the several Underwriters are then exercising the option and the time and date of payment and delivery for such Option Securities. Any such time and date of delivery (a “Date of Delivery”) shall be determined by the Representatives, but any Date of Delivery occurring after the Closing Time shall not be later than seven full business days nor earlier than two full business days after the exercise of said option, nor in any event prior to the Closing Time. If the option is exercised as to all or any portion of the Option Securities, each of the Underwriters, acting severally and not jointly, will purchase that proportion of the total number of Option Securities then being purchased which the number of Initial Securities set forth in Schedule A opposite the name of such Underwriter bears to the total number of Initial Securities, subject, in each case, to such adjustments as the Representatives in their sole discretion shall make to eliminate any sales or purchases of fractional shares.

(c) *Payment.* Payment of the purchase price for, and delivery of certificates for, the Initial Securities shall be made at the offices of Wilmer Cutler Pickering Hale and Dorr LLP, 7 World Trade Center, 250 Greenwich Street, New York, NY 10007, or at such other place as shall be agreed upon by the Representatives and the Company, at 9:00 A.M. (New York City time) on the third (fourth, if the pricing occurs after 4:30 P.M. (New York City time) on any given day) business day after the date hereof (unless postponed in accordance with the provisions of Section 10), or such other time not later than ten business days after such date as shall be agreed upon by the Representatives and the Company (such time and date of payment and delivery being herein called “Closing Time”). Delivery of the Initial Securities at the Closing Time shall be made through the facilities of The Depository Trust Company unless the Representatives shall otherwise instruct.

In addition, in the event that any or all of the Option Securities are purchased by the Underwriters, payment of the purchase price for, and delivery of certificates for, such Option Securities shall be made at the above-mentioned offices, or at such other place as shall be agreed upon by the Representatives and the Company, on each Date of Delivery as specified in the notice from the Representatives to the Company. Delivery of the Option Securities on each such Date of Delivery shall be made through the facilities of The Depository Trust Company unless the Representatives shall otherwise instruct.

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Payment shall be made to the Company by wire transfer of immediately available funds to a bank account designated by the Company against delivery to the Representatives for the respective accounts of the Underwriters of certificates for the Securities to be purchased by them. It is understood that each Underwriter has authorized the Representatives, for its account, to accept delivery of, receipt for, and make payment of the purchase price for, the Initial Securities and the Option Securities, if any, which it has agreed to purchase. Each Representative, individually and not as representative of the Underwriters, may (but shall not be obligated to) make payment of the purchase price for the Initial Securities or the Option Securities, if any, to be purchased by any Underwriter whose funds have not been received by the Closing Time or the relevant Date of Delivery, as the case may be, but such payment shall not relieve such Underwriter from its obligations hereunder.

SECTION 3. Covenants of the Company. The Company covenants with each Underwriter as follows:

(a) *Compliance with Securities Regulations and Commission Requests.* The Company, subject to Section 3(b), will comply with the requirements of Rule 430A, and will notify the Representatives promptly, and confirm the notice in writing, (i) when any post-effective amendment to the Registration Statement shall become effective or any amendment or supplement to the Prospectus shall have been filed, (ii) of the receipt of any comments from the Commission, (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus or for additional information, (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment or of any order preventing or suspending the use of any preliminary prospectus or the Prospectus, or of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the 1933 Act concerning the Registration Statement and (v) if the Company becomes the subject of a proceeding under Section 8A of the 1933 Act in connection with the offering of the Securities. The Company will effect all filings required under Rule 424(b), in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and will take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company will make every reasonable effort to prevent the issuance of any stop order, prevention or suspension and, if any such order is issued, to obtain the lifting thereof at the earliest possible moment.

(b) *Continued Compliance with Securities Laws.* The Company will comply with the 1933 Act and the 1933 Act Regulations so as to permit the completion of the distribution of the Securities as contemplated in this Agreement and in the Registration Statement, the General Disclosure Package and the Prospectus. If at any time when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172 of the 1933 Act Regulations (“Rule 172”), would be) required by the 1933 Act to be delivered in connection with sales of the Securities, any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Underwriters or for the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a

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material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) amend or supplement the General Disclosure Package or the Prospectus in order that the General Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the General Disclosure Package or the Prospectus, as the case may be, in order to comply with the requirements of the 1933 Act or the 1933 Act Regulations, the Company will promptly (A) give the Representatives notice of such event, (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to make the Registration Statement, the General Disclosure Package or the Prospectus comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Representatives with copies of any such

amendment or supplement and (C) file with the Commission any such amendment or supplement; provided that the Company shall not file or use any such amendment or supplement to which the Representatives or counsel for the Underwriters shall reasonably object. The Company will furnish to the Underwriters such number of copies of such amendment or supplement as the Underwriters may reasonably request. The Company has given the Representatives notice of any filings made pursuant to the 1934 Act or the 1934 Act Regulations within 48 hours prior to the Applicable Time; the Company will give the Representatives notice of its intention to make any such filing from the Applicable Time to the Closing Time and will furnish the Representatives with copies of any such documents a reasonable amount of time prior to such proposed filing, as the case may be, and will not file or use any such document to which the Representatives or counsel for the Underwriters shall reasonably object.

(c) *Delivery of Registration Statements.* The Company has furnished or will deliver to the Representatives and counsel for the Underwriters, without charge, signed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith) and signed copies of all consents and certificates of experts, and will also deliver to the Representatives, without charge, a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) for each of the Underwriters. The copies of the Registration Statement and each amendment thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(d) *Delivery of Prospectuses.* The Company has delivered to each Underwriter, without charge, as many copies of each preliminary prospectus as such Underwriter reasonably requested, and the Company hereby consents to the use of such copies for purposes permitted by the 1933 Act. The Company will furnish to each Underwriter, without charge, during the period when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the 1933 Act, such number of copies of the Prospectus (as amended or supplemented) as such Underwriter may reasonably request. The Prospectus and any amendments or supplements thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

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(e) *Blue Sky Qualifications.* The Company will use its best efforts, in cooperation with the Underwriters, to qualify the Securities for offering and sale under the applicable securities laws of such states and other jurisdictions (domestic or foreign) as the Representatives may reasonably designate and to maintain such qualifications in effect so long as required to complete the distribution of the Securities; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

(f) *Rule 158.* The Company will timely file such reports pursuant to the 1934 Act as are necessary in order to make generally available to its securityholders as soon as practicable an earnings statement for the purposes of, and to provide to the Underwriters the benefits contemplated by, the last paragraph of Section 11(a) of the 1933 Act.

(g) *Use of Proceeds.* The Company will use the net proceeds received by it from the sale of the Securities in all material respects in the manner specified in the Registration Statement, the General Disclosure Package and the Prospectus under "Use of Proceeds."

(h) *Listing.* The Company will use its best efforts to effect and its reasonable best efforts to maintain the listing of the Common Stock (including the Securities) on the Nasdaq Global Market.

(i) *Restriction on Sale of Securities.* During a period of 180 days from the date of the Prospectus, the Company will not, without the prior written consent of the Representatives, (i) directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock ("Lock-Up Securities") or file any registration statement under the 1933 Act with respect to any of the foregoing or (ii) enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Common Stock, whether any such swap or transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise. The foregoing sentence shall not apply to (A) the Securities to be sold hereunder, (B) any shares of Common Stock issued by the Company upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof and referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (C) any shares of Common Stock issued or options to purchase Common Stock granted pursuant to employee benefit or stock incentive plans of the Company referred to in the Registration Statement, the General Disclosure Package and the Prospectus; (D) any shares of Common Stock issued pursuant to any non-employee director stock plan or dividend reinvestment plan referred to in the Registration Statement, the General Disclosure Package and the Prospectus; (E) the filing by the Company of any registration statement on Form S-8 or a successor form thereto relating to shares of Common Stock granted pursuant to or reserved for issuance under the terms of a plan described in the General Disclosure Package or (F) shares of Common Stock or other securities issued in connection with a transaction that includes a commercial relationship (including joint ventures or other strategic acquisitions); *provided* that (x) the aggregate number of shares issued pursuant to this clause (F) shall not exceed 5.0% of the

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total number of outstanding shares of Common Stock immediately following the issuance and sale of the Securities at the Closing Time pursuant hereto and (y) the recipient of any such shares of Common Stock and securities issued pursuant to this clause (F) during the 180-day restricted period described above shall be subject to the restrictions set forth in a lock-up agreement described in Section 5(i) hereof for the remainder of such restricted period.

(j) If the Representatives, in their sole discretion, agree to release or waive the restrictions set forth in a lock-up agreement described in Section 5(i) hereof for an officer or director of the Company and provides the Company with notice of the impending release or waiver at least three business days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by a press release substantially in the form of Exhibit C hereto through a major news service at least two business days before the effective date of the release or waiver.

(k) *Reporting Requirements.* The Company, during the period when a Prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the 1933 Act, will file all documents required to be filed with the Commission pursuant to the 1934 Act within the time periods required by the 1934 Act and 1934 Act Regulations. Additionally, the Company shall report the use of proceeds from the issuance of the Securities as may be required under Rule 463 under the 1933 Act.

(l) *Issuer Free Writing Prospectuses.* The Company agrees that, unless it obtains the prior written consent of the Representatives, it will not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a "free writing prospectus," or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433; provided that the Representatives will be deemed to have consented to the Issuer Free Writing Prospectuses listed on Schedule B-2 hereto and any "road show that is a written communication" within the meaning of Rule 433(d)(8)(i) that has been reviewed by the Representatives. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to, or deemed consented to, by the Representatives as an "issuer free writing prospectus," as defined in Rule 433, and that it has complied and will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement, any preliminary prospectus or the Prospectus or included or would include an untrue

statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(m) *Testing-the-Waters Materials.* If at any time following the distribution of any Written Testing-the-Waters Communication there occurred or occurs an event or development as a result of which such Written Testing-the-Waters Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in

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order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Written Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

(n) *Emerging Growth Company Status.* The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of the Securities within the meaning of the 1933 Act and (ii) completion of the 180-day restricted period referred to in Section 3(i).

(o) *Directed Share Program.* The Company will comply with all applicable securities and other laws, rules and regulations in each jurisdiction in which the Directed Shares are offered in connection with the Directed Share Program.

SECTION 4. Payment of Expenses.

(a) *Expenses.* The Company will pay or cause to be paid all expenses incident to the performance of its obligations under this Agreement, including (i) the preparation, printing and filing of the Registration Statement (including financial statements and exhibits) as originally filed and each amendment thereto, (ii) the preparation, printing and delivery to the Underwriters of copies of each preliminary prospectus, each Issuer Free Writing Prospectus and the Prospectus and any amendments or supplements thereto and any costs associated with electronic delivery of any of the foregoing by the Underwriters to investors, (iii) the preparation, issuance and delivery of the certificates for the Securities to the Underwriters, including any stock or other transfer taxes and any stamp or other duties payable upon the sale, issuance or delivery of the Securities to the Underwriters, (iv) the fees and disbursements of the Company's counsel, accountants and other advisors, (v) the qualification of the Securities under securities laws in accordance with the provisions of Section 3(e) hereof, including filing fees and the reasonable fees and disbursements of counsel for the Underwriters in connection therewith and in connection with the preparation of a "Blue Sky Survey" and any supplement thereto, (vi) the fees and expenses of any transfer agent or registrar for the Securities, (vii) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the Securities, including without limitation, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged by the Company in connection with the road show presentations, travel and lodging expenses of the representatives and officers of the Company and any such consultants (provided that the travel, lodging and any car travel expenses of the representatives of the Underwriters shall be paid by the Underwriters), and 50 percent of the cost of aircraft and any other transportation chartered in connection with the road show, (viii) the filing fees incident to, and the reasonable fees and disbursements of counsel to the Underwriters in connection with, the review by FINRA of the terms of the sale of the Securities, (ix) the fees and expenses incurred in connection with the listing of the Securities on the Nasdaq Global Market, (x) the costs and expenses (including, without limitation, any damages or other amounts payable in connection with legal or contractual liability) associated with the reforming of any contracts for sale of the Securities made by the Underwriters caused by a breach of the representation contained in the third sentence of Section 1(a)(ii) and (xi) all reasonable fees and disbursements of counsel for the Underwriters, in connection with matters related to the Directed Shares which are designated by the Company for sale to Participants.

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(b) *Termination of Agreement.* If this Agreement is terminated by the Representatives in accordance with the provisions of Sections 5, 9 or 10 hereof, the Company shall reimburse the Underwriters for all of their reasonably documented out-of-pocket expenses, including the reasonable fees and disbursements of counsel for the Underwriters; provided, however, that if this Agreement is terminated by the Representatives pursuant to Section 10, the Company shall have no obligation to reimburse any out-of-pocket expenses of the Underwriters that have failed to purchase the Securities that they have agreed to purchase hereunder.

SECTION 5. Conditions of Underwriters' Obligations. The obligations of the several Underwriters hereunder are subject to the accuracy of the representations and warranties of the Company contained herein or in certificates of any officer of the Company or its subsidiaries delivered pursuant to the provisions hereof, to the performance by the Company of its covenants and other obligations hereunder, and to the following further conditions:

(a) *Effectiveness of Registration Statement; Rule 430A Information.* The Registration Statement, including any Rule 462(b) Registration Statement, has become effective and, at the Closing Time, no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated; and the Company has complied with each request (if any) from the Commission for additional information. A prospectus containing the Rule 430A Information shall have been filed with the Commission in the manner and within the time frame required by Rule 424(b) without reliance on Rule 424(b)(8) or a post-effective amendment providing such information shall have been filed with, and declared effective by, the Commission in accordance with the requirements of Rule 430A.

(b) *Opinion of Counsel for Company.* At the Closing Time, the Representatives shall have received the opinion, dated the Closing Time, of Wilmer Cutler Pickering Hale and Dorr LLP, counsel for the Company, together with the opinion of Servilla Whitney LLC, as special counsel for the Company with respect to intellectual property, each in form and substance satisfactory to counsel for the Underwriters, together with signed or reproduced copies of such letter for each of the other Underwriters to the effect set forth in Exhibits A-1, A-2 and A-3 hereto.

(c) *Opinion of Counsel for Underwriters.* At the Closing Time, the Representatives shall have received the opinion, dated the Closing Time, of Goodwin Procter LLP, counsel for the Underwriters, together with signed or reproduced copies of such letter for each of the other Underwriters with respect to such matters as the Representatives may reasonably request. In giving such opinion such counsel may rely, as to all matters governed by the laws of jurisdictions other than the law of the State of New York, the General Corporation Law of the State of Delaware and the federal securities laws of the United States, upon the opinions of counsel satisfactory to the Representatives. Such counsel may also state that, insofar as such opinion involves factual matters, they have relied, to the extent they deem proper, upon certificates of officers and other representatives of the Company and its subsidiaries and certificates of public officials.

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(d) *Officers' Certificate.* At the Closing Time, there shall not have been, since the date hereof or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any material adverse change in the condition, financial or otherwise, or in the earnings,

business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business, and the Representatives shall have received a certificate of the President and Chief Executive Officer of the Company and of the Chief Financial Officer of the Company, dated the Closing Time, to the effect that (i) there has been no such Material Adverse Effect, (ii) the representations and warranties of the Company in this Agreement are true and correct with the same force and effect as though expressly made at and as of the Closing Time, (iii) the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied at or prior to the Closing Time, and (iv) no stop order suspending the effectiveness of the Registration Statement under the 1933 Act has been issued, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to their knowledge, contemplated.

(e) *Accountant's Comfort Letter.* At the time of the execution of this Agreement, the Representatives shall have received from KPMG LLP a letter, dated such date, in form and substance satisfactory to the Representatives, together with signed or reproduced copies of such letter for each of the other Underwriters containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained in the Registration Statement, the General Disclosure Package and the Prospectus.

(f) *Bring-down Comfort Letter.* At the Closing Time, the Representatives shall have received from KPMG LLP a letter, dated as of the Closing Time, to the effect that they reaffirm the statements made in the letter furnished pursuant to subsection (e) of this Section, except that the specified date referred to shall be a date not more than three business days prior to the Closing Time.

(g) *Chief Financial Officer's Certificate.* At the Closing Time, the Representatives shall have received a certificate of the Chief Financial Officer of the Company, dated the Closing Time, certifying the accuracy of certain financial and other information contained in the Registration Statement, the General Disclosure Package and the Prospectus.

(h) *Approval of Listing.* At the Closing Time, the Securities shall have been approved for listing on the Nasdaq Global Market, subject only to official notice of issuance.

(i) *No Objection.* FINRA has confirmed that it has not raised any objection with respect to the fairness and reasonableness of the underwriting terms and arrangements relating to the offering of the Securities.

(j) *Lock-up Agreements.* At the date of this Agreement, the Representatives shall have received an agreement substantially in the form of Exhibit B hereto signed by the persons and entities listed on Schedule C hereto.

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(k) *Conditions to Purchase of Option Securities.* In the event that the Underwriters exercise their option provided in Section 2(b) hereof to purchase all or any portion of the Option Securities, the representations and warranties of the Company contained herein and the statements in any certificates furnished by the Company and its subsidiaries hereunder shall be true and correct as of each Date of Delivery and, at the relevant Date of Delivery, the Representatives shall have received:

(i) Officers' Certificate. A certificate, dated such Date of Delivery, of the President and Chief Executive Officer of the Company and of the Chief Financial Officer of the Company confirming that the certificate delivered at the Closing Time pursuant to Section 5(d) hereof remains true and correct as of such Date of Delivery.

(ii) Opinion of Counsel for Company. If requested by the Representatives, the opinion of Wilmer Cutler Pickering Hale and Dorr LLP, counsel for the Company, together with the opinion of Servilla Whitney LLC, as special counsel for the Company with respect to intellectual property, each in form and substance satisfactory to counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(b) hereof.

(iii) Opinion of Counsel for Underwriters. If requested by the Representatives, the opinion of Goodwin Procter LLP, counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(c) hereof.

(iv) Bring-down Comfort Letter. If requested by the Representatives, a letter from KPMG LLP, in form and substance satisfactory to the Representatives and dated such Date of Delivery, substantially in the same form and substance as the letter furnished to the Representatives pursuant to Section 5(f) hereof, except that the "specified date" in the letter furnished pursuant to this paragraph shall be a date not more than three business days prior to such Date of Delivery.

(v) Chief Financial Officer's Certificate. A certificate, dated such Date of Delivery, of the Chief Financial Officer of the Company confirming that the certificate delivered at the Closing Time pursuant to Section 5(g) hereof remains true and correct as of such Date of Delivery.

(l) *Additional Documents.* At the Closing Time and at each Date of Delivery (if any) counsel for the Underwriters shall have been furnished with such documents and opinions as they may reasonably require for the purpose of enabling them to pass upon the issuance and sale of the Securities as herein contemplated, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the conditions, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Securities as herein contemplated shall be reasonably satisfactory in form and substance to the Representatives and counsel for the Underwriters.

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(m) *Termination of Agreement.* If any condition specified in this Section shall not have been fulfilled when and as required to be fulfilled, this Agreement, or, in the case of any condition to the purchase of Option Securities on a Date of Delivery which is after the Closing Time, the obligations of the several Underwriters to purchase the relevant Option Securities, may be terminated by the Representatives by notice to the Company at any time at or prior to Closing Time or such Date of Delivery, as the case may be, and such termination shall be without liability of any party to any other party except as provided in Section 4 and except that Sections 1, 6, 7, 8, 14, 15 and 16 shall survive any such termination and remain in full force and effect.

SECTION 6. Indemnification.

(a) *Indemnification of Underwriters.* The Company agrees to indemnify and hold harmless each Underwriter, its affiliates (as such term is defined in Rule 501(b) under the 1933 Act (each, an "Affiliate")), its selling agents and each person, if any, who controls any Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act as follows:

(i) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, arising out of any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), including the Rule 430A Information, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading or arising out of any untrue statement or alleged untrue statement of a material fact included (A) in any preliminary prospectus, any Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto), (B) in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Securities ("Marketing Materials"), including any roadshow or investor presentations made to investors by the Company (whether in person or electronically), or (C) in any prospectus wrapper material distributed in connection with the reservation and sale of Directed Shares to the Participants, or the omission or alleged omission in any preliminary prospectus, Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, Prospectus or in any Marketing Materials or any prospectus wrapper material distributed in connection with the reservation and sale of Directed Shares to the Participants of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 6(d) below) any such settlement is effected with the written consent of the Company;

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(iii) against any and all expense whatsoever, as incurred (including the fees and disbursements of counsel chosen by the Representatives), reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above;

provided, however, that this indemnity agreement shall not apply to any loss, liability, claim, damage or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made in the Registration Statement (or any amendment thereto), including the Rule 430A Information, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Underwriter Information.

Further, the Company agrees to indemnify and hold harmless each Underwriter, its Affiliates, its selling agents and each person, if any, who controls any Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act, against any and all loss, liability, claim, damage and expense whatsoever, as incurred, (i) caused by the failure of any Participant to pay for and accept delivery of Directed Shares which have been orally confirmed for purchase by such Participant by the Closing Time or (ii) related to, or arising out of or in connection with, the offering of the Directed Shares.

(b) *Indemnification of Company, Directors and Officers.* Each Underwriter severally agrees to indemnify and hold harmless the Company, its directors, each of its officers who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act, against any and all loss, liability, claim, damage and expense described in the indemnity contained in subsection (a) of this Section, as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendment thereto), including the Rule 430A Information, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Underwriter Information.

(c) *Actions against Parties; Notification.* Each indemnified party shall give notice as promptly as reasonably practicable to each indemnifying party of any action commenced against it in respect of which indemnity may be sought hereunder, but failure to so notify an indemnifying party shall not relieve such indemnifying party from any liability hereunder to the extent it is not materially prejudiced as a result thereof and in any event shall not relieve it from any liability which it may have otherwise than on account of this indemnity agreement. In the case of parties indemnified pursuant to Section 6(a) above, counsel to the indemnified parties shall be selected by the Representatives, and, in the case of parties indemnified pursuant to Section 6(b) above, counsel to the indemnified parties shall be selected by the Company. An indemnifying party may participate at its own expense in the defense of any such action; provided, however, that counsel to the indemnifying party shall not (except with the consent of the indemnified party) also be counsel to the indemnified party. In no event shall the indemnifying parties be liable for the reasonable fees and expenses of more than one counsel (in

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addition to any local counsel) separate from their own counsel for all indemnified parties in connection with any one action or separate but similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever in respect of which indemnification or contribution could be sought under this Section 6 or Section 7 hereof (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising out of such litigation, investigation, proceeding or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) *Settlement without Consent if Failure to Reimburse.* If at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 6(a) (ii) effected without its written consent if (i) such settlement is entered into more than 60 days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall have received notice of the terms of such settlement at least 30 days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

SECTION 7. Contribution. If the indemnification provided for in Section 6 hereof is for any reason unavailable to or insufficient to hold harmless an indemnified party in respect of any losses, liabilities, claims, damages or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount of such losses, liabilities, claims, damages and expenses incurred by such indemnified party, as incurred, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, from the offering of the Securities pursuant to this Agreement or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and of the Underwriters, on the other hand, in connection with the statements or omissions which resulted in such losses, liabilities, claims, damages or expenses, as well as any other relevant equitable considerations.

The relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, in connection with the offering of the Securities pursuant to this Agreement shall be deemed to be in the same respective proportions as the total net proceeds from the offering of the Securities pursuant to this Agreement (before deducting expenses) received by the Company, on the one hand, and the total underwriting discount received by the Underwriters, on the other hand, in each case as set forth on the cover of the Prospectus, bear to the aggregate initial public offering price of the Securities as set forth on the cover of the Prospectus.

relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 7 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 7. The aggregate amount of losses, liabilities, claims, damages and expenses incurred by an indemnified party and referred to above in this Section 7 shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue or alleged untrue statement or omission or alleged omission.

Notwithstanding the provisions of this Section 7, no Underwriter shall be required to contribute any amount in excess of the underwriting commissions received by such Underwriter in connection with the Securities underwritten by it and distributed to the public.

No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

For purposes of this Section 7, each person, if any, who controls an Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act and each Underwriter's Affiliates and selling agents shall have the same rights to contribution as such Underwriter, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act shall have the same rights to contribution as the Company. The Underwriters' respective obligations to contribute pursuant to this Section 7 are several in proportion to the number of Initial Securities set forth opposite their respective names in Schedule A hereto and not joint.

SECTION 8. Representations, Warranties and Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company or its subsidiaries submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of any Underwriter or its Affiliates or selling agents, any person controlling any Underwriter, its officers or directors or any person controlling the Company and (ii) delivery of and payment for the Securities.

SECTION 9. Termination of Agreement.

(a) *Termination.* The Representatives may terminate this Agreement, by notice to the Company, at any time at or prior to the Closing Time (i) if there has been, in the judgment of the Representatives, since the time of execution of this Agreement or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the

Prospectus, any material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business, or (ii) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of the Representatives, impracticable or inadvisable to proceed with the completion of the offering or to enforce contracts for the sale of the Securities, or (iii) if trading in any securities of the Company has been suspended or materially limited by the Commission or the Nasdaq Global Market, or (iv) if trading generally on the NYSE MKT or the New York Stock Exchange or in the Nasdaq Global Select Market, the Nasdaq Global Market or the Nasdaq Capital Market has been suspended or materially limited, or minimum or maximum prices for trading have been fixed, or maximum ranges for prices have been required, by any of said exchanges or by order of the Commission, FINRA or any other governmental authority, or (v) a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States or with respect to Clearstream or Euroclear systems in Europe, or (vi) if a banking moratorium has been declared by either Federal or New York authorities.

(b) *Liabilities.* If this Agreement is terminated pursuant to this Section, such termination shall be without liability of any party to any other party except as provided in Section 4 hereof, and provided further that Sections 1, 6, 7, 8, 14, 15 and 16 shall survive such termination and remain in full force and effect.

SECTION 10. Default by One or More of the Underwriters. If one or more of the Underwriters shall fail at the Closing Time or a Date of Delivery to purchase the Securities which it or they are obligated to purchase under this Agreement (the "Defaulted Securities"), the Representatives shall have the right, within 24 hours thereafter, to make arrangements for one or more of the non-defaulting Underwriters, or any other underwriters, to purchase all, but not less than all, of the Defaulted Securities in such amounts as may be agreed upon and upon the terms herein set forth; if, however, the Representatives shall not have completed such arrangements within such 24-hour period, then:

(i) if the number of Defaulted Securities does not exceed 10% of the number of Securities to be purchased on such date, each of the non-defaulting Underwriters shall be obligated, severally and not jointly, to purchase the full amount thereof in the proportions that their respective underwriting obligations hereunder bear to the underwriting obligations of all non-defaulting Underwriters, or

(ii) if the number of Defaulted Securities exceeds 10% of the number of Securities to be purchased on such date, this Agreement or, with respect to any Date of Delivery which occurs after the Closing Time, the obligation of the Underwriters to purchase, and the Company to sell, the Option Securities to be purchased and sold on such Date of Delivery shall terminate without liability on the part of any non-defaulting Underwriter.

No action taken pursuant to this Section shall relieve any defaulting Underwriter from liability in respect of its default.

In the event of any such default which does not result in a termination of this Agreement or, in the case of a Date of Delivery which is after the Closing Time, which does not result in a termination of the obligation of the Underwriters to purchase and the Company to sell the relevant Option Securities, as the case may be, either

the (i) Representatives or (ii) the Company shall have the right to postpone Closing Time or the relevant Date of Delivery, as the case may be, for a period not exceeding seven days in order to effect any required changes in the Registration Statement, the General Disclosure Package or the Prospectus or in any other documents or arrangements. As used herein, the term “Underwriter” includes any person substituted for an Underwriter under this Section 10.

SECTION 11. Notices. All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted by any standard form of telecommunication. Notices to the Underwriters shall be directed to (i) Leerink Partners LLC, Attention: Syndicate Department, One Federal Street, 37th Floor, Boston, MA 02110, or by email at Syndicate@Leerink.com, or by phone at 800-808-7525 and (ii) to Cowen and Company, LLC, Attention: General Counsel, 599 Lexington Avenue, New York, NY 10022; notices to the Company shall be directed to it at Bellerophon Therapeutics Inc., 53 Frontage Road, Third Floor, Hampton, NJ 08827, attention of the Chief Executive Officer (telephone: (908) 574-4770).

SECTION 12. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) the purchase and sale of the Securities pursuant to this Agreement, including the determination of the initial public offering price of the Securities and any related discounts and commissions, is an arm’s-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, (b) in connection with the offering of the Securities and the process leading thereto, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company, its subsidiaries or their respective stockholders, creditors, employees or any other party, (c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering of the Securities or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company or its subsidiaries on other matters) and no Underwriter has any obligation to the Company with respect to the offering of the Securities except the obligations expressly set forth in this Agreement, (d) the Underwriters and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company and (e) the Underwriters have not provided any legal, accounting, regulatory or tax advice with respect to the offering of the Securities and the Company has consulted its own respective legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

SECTION 13. Parties. This Agreement shall each inure to the benefit of and be binding upon the Underwriters and the Company and their respective successors. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, firm or corporation, other than the Underwriters and the Company and their respective successors and the controlling persons and officers and directors referred to in Sections 6 and 7 and their heirs

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and legal representatives, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision herein contained. This Agreement and all conditions and provisions hereof are intended to be for the sole and exclusive benefit of the Underwriters and the Company and their respective successors, and said controlling persons and officers and directors and their heirs and legal representatives, and for the benefit of no other person, firm or corporation. No purchaser of Securities from any Underwriter shall be deemed to be a successor by reason merely of such purchase.

SECTION 14. Trial by Jury. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

SECTION 15. GOVERNING LAW. THIS AGREEMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF, THE STATE OF NEW YORK.

SECTION 16. Consent to Jurisdiction; Waiver of Immunity. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby shall be instituted in (i) the federal courts of the United States of America located in the City and County of New York, Borough of Manhattan or (ii) the courts of the State of New York located in the City and County of New York, Borough of Manhattan (collectively, the “Specified Courts”), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court, as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party’s address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

SECTION 17. TIME. TIME SHALL BE OF THE ESSENCE OF THIS AGREEMENT. EXCEPT AS OTHERWISE SET FORTH HEREIN, SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME.

SECTION 18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same agreement.

SECTION 19. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction hereof.

(Signature page follows)

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If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement among the Underwriters and the Company in accordance with its terms.

Very truly yours,

BELLEROPHON THERAPEUTICS, INC.

By

Name:

Title:

CONFIRMED AND ACCEPTED,
as of the date first above written:

LEERINK PARTNERS LLC

By _____
Name:
Title:

CONFIRMED AND ACCEPTED,
as of the date first above written:

COWEN AND COMPANY, LLC

By _____
Name:
Title:

For themselves and as Representatives of the other Underwriters named in Schedule A hereto.

Signature Page to Underwriting Agreement

SCHEDULE A

The initial public offering price per share for the Securities shall be \$[—].

The purchase price per share for the Securities to be paid by the several Underwriters shall be \$[—], being an amount equal to the initial public offering price set forth above less \$[—] per share, subject to adjustment in accordance with Section 2(b) for dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities.

Name of Underwriter	Number of Initial Securities
Leerink Partners LLC	
Cowen and Company, LLC	
FBR Capital Markets & Co	
SunTrust Robinson Humphrey, Inc.	
Total	

Sch A-1

SCHEDULE B-1

Pricing Terms

- The Company is selling [—] shares of Common Stock.
- The Company has granted an option to the Underwriters, severally and not jointly, to purchase up to an additional [—] shares of Common Stock.
- The initial public offering price per share for the Securities shall be \$[—].

Sch B-1-1

SCHEDULE B-2

Free Writing Prospectuses

[—]

Sch B-2-1

SCHEDULE B-3

Written Testing-the-Waters Communications

[—]

Sch B-3-1

SCHEDULE C

List of Persons and Entities Subject to Lock-up

[—]

FORM OF OPINION OF COMPANY'S COUNSEL
TO BE DELIVERED PURSUANT TO SECTION 5(b)

[—]

A-1

Form of Lock-Up Agreement

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Leerink Partners LLC
Cowen and Company, LLC
As Representatives of the Several Underwriters

c/o Leerink Partners LLC
One Federal Street, Floor 37
Boston, MA 02110

c/o Cowen and Company, LLC
599 Lexington Avenue, 27th Floor
New York, NY 10022

Re: Proposed Public Offering by Bellerophon Therapeutics LLC (including the successor entity upon its corporate conversion)

Ladies and Gentlemen:

The undersigned, a member, equity holder, officer and/or director of Bellerophon Therapeutics LLC, a Delaware limited liability company (including the successor entity upon its corporate conversion, the "Company"), understands that Leerink Partners LLC ("Leerink") and Cowen and Company, LLC ("Cowen"), and together with Leerink, the "Representatives") propose to enter into an Underwriting Agreement (the "Underwriting Agreement") with the Company providing for the public offering (the "Public Offering") of shares (the "Securities") of the Company's common stock, par value \$0.01 per share (the "Common Stock"). In recognition of the benefit that such an offering will confer upon the undersigned, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned agrees with each underwriter to be named in the Underwriting Agreement (collectively, the "Underwriters") that, during the period beginning on the date hereof and ending on the date that is 180 days from the date of the Underwriting Agreement (the "Lock-Up Period"), the undersigned will not, without the prior written consent of the Representatives, directly or indirectly, (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant for the sale of, or otherwise dispose of or transfer any membership interests in the Company (the "Membership Interests") or shares of the Company's Common Stock or any securities convertible into or exchangeable or exercisable for Membership Interests or Common Stock, whether now owned or hereafter acquired by the undersigned or with respect to which the undersigned has or hereafter acquires the power of disposition (collectively, the "Lock-Up Securities"), or exercise any right with respect to the registration of any of the Lock-Up Securities, or file or cause to be filed any registration statement in connection therewith (other than a Registration Statement on Form S-8), under the Securities Act of 1933, as amended, or (ii) enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Lock-Up Securities,

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whether any such swap or transaction is to be settled by delivery of Membership Interests or Common Stock or other securities, in cash or otherwise. If the undersigned is an officer or director of the Company, the undersigned further agrees that the foregoing provisions shall be equally applicable to any issuer-directed Securities the undersigned may purchase in the Public Offering.

If the undersigned is an officer or director of the Company, (1) the Representatives agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of shares of the Lock-Up Securities, the Representatives will notify the Company of the impending release or waiver, and (2) the Company has agreed in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by the Representatives hereunder to any such officer or director shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (i) the release or waiver is effected solely to permit a transfer not for consideration and (ii) the transferee has agreed in writing to be bound by the same terms described in this letter to the extent and for the duration that such terms remain in effect at the time of the transfer.

Notwithstanding the foregoing, and subject to the conditions below, the undersigned may transfer the Lock-Up Securities without the prior written consent of the Representatives, provided that (1) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each donee, trustee, distributee, or transferee, as the case may be, (2) any such transfer shall not involve a disposition for value, (3) in the case of clauses (i) through (v) below, such transfers are not required to be reported with the Securities and Exchange Commission on Form 4 in accordance with Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and (4) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers:

- (i) as a *bona fide* gift or gifts; or
- (ii) to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned (for purposes of this lock-up agreement, "immediate family" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin); or
- (iii) as a distribution to limited partners, members or stockholders or other equity holders of the undersigned; or
- (iv) to any corporation, partnership, limited liability company or other entity all of the beneficial ownership interests of which are held by the undersigned or the immediate family members of the undersigned; or
- (v) to the undersigned's affiliates or to any investment fund or other entity controlled or managed by the undersigned; or

- (vi) pursuant to a qualified domestic relations order or in connection with a divorce settlement; or
- (vii) by will or intestate succession upon the death of the undersigned.

Furthermore, during the Lock-Up Period, the undersigned may (a) sell Securities purchased by the undersigned in the Public Offering (provided that such Securities shall not include any

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Securities purchased by the undersigned through any directed share program established in connection with the Public Offering and except as provided in the last sentence of the first paragraph of this lock-up agreement) or on the open market following the Public Offering if and only if (i) such sales are not required during the Lock-Up Period to be reported in any press release or public report or filing with the Securities and Exchange Commission, or otherwise and (ii) the undersigned does not otherwise voluntarily effect any press release, public filing or report regarding such sales during the Lock-Up Period and (b) exercise an option to purchase shares of Common Stock granted under any of the Company's equity incentive plans existing as of the date of the Underwriting Agreement, including, in each case, by way of a "net" exercise in accordance with the terms of such option, or a warrant or other security existing as of the date of the Underwriting Agreement for shares of Common Stock, if and only if the shares of Common Stock received upon such exercise shall remain subject to the terms of this lock-up agreement.

In addition, the restrictions on transfer and disposition of the Lock-Up Securities during the Lock-Up Period shall not apply to the repurchase of Lock-Up Securities by the Company in connection with the termination of the undersigned's employment or other service with the Company.

In the event that the Representatives release, in full or in part, any officer, director, member or equity holder of the Company (a "Stockholder") from the restrictions of any lock-up agreement signed by such Stockholder with the Underwriters (a "Triggering Release"), then the undersigned shall be released in the same manner from the restrictions of this lock-up agreement (i.e., in an amount equal to the same percentage of the Lock-Up Securities being released in the Triggering Release relative to the undersigned's ownership of Lock-Up Securities at the time of the request of the Triggering Release); provided that (i) in order to request a Triggering Release, the Stockholder requesting the Triggering Release must make a request in writing to the Company setting forth the number of Lock-Up Securities to be released; (ii) the Company must notify the other Stockholders of the requested Triggering Release within three business days; (iii) any other Stockholder that intends to request a release of a pro rata portion of the Lock-Up Securities held by them (the "Pro Rata Stockholders") must (x) make such a request in writing to the Company and (y) certify in writing to the Underwriters and the Company the total number of Lock-Up Securities held by such Pro Rata Stockholder; (iv) the Company must (x) make a request in writing to the Representatives setting forth for the Stockholder requesting the Triggering Release and for each Pro Rata Stockholder the number of Lock-Up Securities for which each such Stockholder is requesting a release and (y) provide to the Representatives the total number of Membership Interests or shares of Common Stock of the Company outstanding as of the date of the request of such Triggering Release and certify in writing to the Underwriters that such number is true and accurate. If the Company fails to notify the undersigned within three business days of the request of the Triggering Release, the failure to give such notice shall not give rise to any claim or liability against the Representatives or the Underwriters.

Notwithstanding the foregoing, (i) no release by the Representatives of any Lock-Up Securities will constitute a Triggering Release if the aggregate of such releases granted to any individual Stockholder requesting a release does not exceed an aggregate amount of \$500,000 of Lock-Up Securities during the Lock-Up Period (for the avoidance of doubt, each individual affiliate of the undersigned that is a party to a separate lock-up agreement with the Underwriters shall be treated as a separate Stockholder); (ii) if the release, in full or in part, of any Lock-Up

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Securities from the restrictions of its lock-up agreement is in connection with a follow-on offering of Common Stock (the "Follow-On Offering"), then the Lock-Up Securities held by the undersigned shall be released only if the undersigned enters into a new lock-up agreement with the Underwriters with respect to the Lock-Up Securities that are not being released, upon terms and conditions reasonably satisfactory to the Underwriters but with restrictions that will be no more restrictive than those set forth herein and only to the extent that the undersigned agrees to participate as a selling stockholder in the Follow-On Offering and to sell any of the shares of Common Stock released from the restrictions of this lock-up agreement in such Follow-On Offering; and (iii) the Representatives shall not release, in full or in part, any Stockholder from the restrictions of any lock-up agreement signed by such Stockholder with the Underwriters unless such Stockholder shall have first made a request pursuant to the clause (i) of the preceding paragraph.

Notwithstanding anything herein to the contrary, nothing herein shall prevent the undersigned from establishing a trading plan that complies with Rule 10b5-1 under the Exchange Act ("10b5-1 Trading Plan") or from amending an existing 10b5-1 Trading Plan so long as in either case there are no sales of Lock-Up Securities under such plans during the Lock-Up Period; and provided that, the establishment of a 10b5-1 Trading Plan or the amendment of a 10b5-1 Trading Plan shall only be permitted if (i) the establishment or amendment of such plan is not required to be reported in any public report or filing with the Securities and Exchange Commission, or otherwise and (ii) the undersigned does not otherwise voluntarily effect any public filing or report regarding the establishment or amendment of such plan.

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of the Lock-Up Securities except in compliance with the foregoing restrictions. This lock-up agreement shall automatically terminate, and the undersigned shall be released from its obligations hereunder, upon the earliest to occur, if any, of (i) prior to the execution of the Underwriting Agreement, the Company advises the Representatives in writing that it has determined not to proceed with the Public Offering, (ii) the Company files an application to withdraw the registration statement related to the Public Offering, (iii) the Underwriting Agreement is executed but is terminated prior to the closing of the Public Offering (other than the provisions thereof which survive termination), or (iv) February 17, 2015, in the event that the Underwriting Agreement has not been executed by such date.

Very truly yours,

Signature: _____
Print
Name:

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Exhibit C

FORM OF PLAN OF CONVERSION
Converting
Bellerophon Therapeutics LLC
(a Delaware limited liability company)
into
Bellerophon Therapeutics, Inc.
(a Delaware corporation)

THIS PLAN OF CONVERSION (this “**Plan**”), dated as of _____, 2015, is hereby adopted and approved by Bellerophon Therapeutics LLC, a limited liability company formed under the laws of Delaware (the “**LLC**”), to set forth the terms, conditions and procedures governing the conversion of the LLC to a Delaware corporation pursuant to Section 18-216 of the Delaware Limited Liability Company Act (the “**DLLCA**”) and Section 265 of the Delaware General Corporation Law (the “**DGCL**”).

WHEREAS, the LLC is a limited liability company formed and existing under the laws of the State of Delaware and is operating under the Amended and Restated Limited Liability Company Agreement of the LLC, dated as of February 9, 2014, as amended (the “**LLC Agreement**”), by and among the LLC and the Members (as defined in the LLC Agreement);

WHEREAS, the Board (as defined in the LLC Agreement) has determined that it is in the best interests of the LLC for the LLC to convert to a Delaware corporation pursuant to Section 18-216 of the DLLCA and Section 265 of the DGCL upon the terms and conditions and in accordance with the procedures set forth herein, and the Board has authorized and approved the Conversion (as defined below) and the execution, delivery and filing of any and all instruments, certificates and documents necessary or desirable in connection therewith;

WHEREAS, pursuant to Section 14.01 of the LLC Agreement, the Board has the right to cause the LLC to convert to a corporation in accordance with the terms of the LLC Agreement by such means as the Board shall select;

WHEREAS, pursuant to the terms of a Merger Agreement, dated as of the date hereof (the “**Merger Agreement**”), following the Conversion each of New Mountain Partners II Special (AIV-A), L.P., IRDO Holding Corp., Venrock IK Holdings BT, Inc. and 5AM-BT, Inc. shall merge with and into the Corporation (as defined below), and the Corporation shall be the surviving entity in such mergers; and

WHEREAS, it is intended that the Conversion (as defined below) and each of the mergers undertaken pursuant to the Merger Agreement together constitute an integrated transaction governed by Section 351 of the Internal Revenue Code of 1986, as amended.

NOW, THEREFORE, the LLC does hereby adopt this Plan to effectuate the conversion of the LLC to a Delaware corporation as follows:

1. **Conversion; Effect of Conversion.** Upon and subject to the terms and conditions of this Plan and pursuant to the relevant provisions of the DLLCA and the DGCL, including without limitation Section 18-216 of the DLLCA and Section 265 of the DGCL, the LLC shall convert (the “**Conversion**”) to a Delaware corporation named “Bellerophon Therapeutics, Inc.” (the “**Corporation**”) at the Effective Time (as defined below). The Corporation shall thereafter be subject to all of the provisions of the DGCL, except that notwithstanding Section 106 of the DGCL, the existence of the Corporation shall be deemed to have commenced on the date the LLC commenced its existence. The Conversion shall not affect any obligations or liabilities of the LLC incurred prior to the Effective Time. The LLC shall not be required to wind up its affairs or pay its liabilities and distribute its assets, and the Conversion shall not constitute a dissolution of the LLC and shall constitute a continuation of the existence of the LLC in the form of a Delaware corporation. Upon the Effective Time, all of the rights, privileges and powers of the LLC, and all property and all debts due to the LLC, as well as all other things and causes of action belonging to the LLC, shall remain vested in the Corporation and shall be the property of the Corporation, and the title to any real property vested by deed or otherwise in the LLC shall not revert or be in any way impaired by reason of the Conversion, and all rights of creditors and all liens upon any property of the LLC shall be preserved unimpaired, and all debts, liabilities and duties of the LLC shall remain attached to the Corporation and may be enforced against it to the same extent as if such debts, liabilities and duties had been incurred or contracted by it in its capacity as a corporation.

2. **Certificate of Conversion; Certificate of Incorporation; Effective Time.** The Conversion shall be effected by the filing with the Secretary of State of the State of Delaware of: (a) a duly executed Certificate of Conversion, substantially in the form of Exhibit A attached hereto (the “**Certificate of Conversion**”), and (b) a duly executed Certificate of Incorporation of the Corporation, in the form of Exhibit B attached hereto (the “**Certificate of Incorporation**”). The Conversion shall be effective immediately upon the filing of (i) the Certificate of Conversion and (ii) the Certificate of Incorporation with the Secretary of State of the State of Delaware or at such later time as may be specified in both the Certificate of Conversion and the Certificate of Incorporation (such time of effectiveness, the “**Effective Time**”).

3. **Bylaws of the Corporation.** As promptly as practical following the Effective Time, the board of directors of the Corporation shall adopt the Bylaws of the Corporation in substantially the form of Exhibit C attached hereto (the “**Bylaws**”). From and after the Effective Time, except as set forth in Section 7 below, the LLC Agreement shall terminate and no longer govern the affairs of the Corporation, but instead the affairs of the Corporation shall be governed by the DGCL, the Certificate of Incorporation and, following their adoption by the board of directors of the Corporation, the Bylaws.

4. **Directors and Officers.** At the Effective Time, (a) the members of the Board of the LLC as of the Effective Time shall be the members of the board of directors of the Corporation and shall hold office until their respective successors are duly elected and qualified, or their earlier death, resignation or removal and (b) the officers of the LLC as of the Effective Time shall be the officers of the Corporation and shall hold office until their respective successors are duly elected and qualified, or their earlier death, resignation or removal. The LLC and, after the Effective Time, the Corporation and its board of directors shall take all necessary actions to

cause each of such individuals to be appointed as a director and/or officer, as the case may be, of the Corporation.

5. **Effect of the Conversion on Equity Interests in the LLC.**

(a) **Conversion of Outstanding Securities.** Subject to the terms and conditions of this Plan, at the Effective Time, automatically by virtue of the Conversion and without any further action on the part of the LLC, the Corporation or any holder of Units (as defined in the LLC Agreement) or options to purchase Units:

(i) each Voting Unit (as defined in the LLC Agreement) of the LLC that is outstanding immediately prior to the Effective Time shall be converted into one share of voting common stock, par value \$0.01 per share, of the Corporation (“**Voting Common Stock**”), and as of the Effective Time each such share of Voting Common Stock shall be duly and validly issued, fully paid and nonassessable;

(ii) each Non-Voting Unit (as defined in the LLC Agreement) of the LLC that is outstanding immediately prior to the Effective Time shall be converted into one share of non-voting common stock, par value \$0.01 per share, of the Corporation ("***Non-Voting Common Stock***" and, together with the Voting Common Stock, the "***Common Stock***"), and as of the Effective Time each such share of Non-Voting Common Stock shall be duly and validly issued, fully paid and nonassessable; and

(iii) each option to purchase a Non-Voting Unit (each, an "***LLC Option***") that is outstanding immediately prior to the Effective Time shall be converted into an option to purchase, upon the same terms and conditions (including, but not limited to, the exercise price), the same number of shares of Non-Voting Common Stock (each, a "***Corporation Option***") as the number of Non-Voting Units that were subject to the LLC Option immediately prior to the Conversion.

(b) No Further Ownership Rights in Units. All shares of Voting Common Stock and Non-Voting Common Stock into which Units are converted pursuant to the Conversion in accordance with the terms of this Section 5 shall be deemed to have been issued in full satisfaction of all rights pertaining to such Units. Immediately following the Effective Time, Units shall cease to exist, and the holder of any Units immediately prior to the Effective Time shall cease to have any rights with respect thereto.

(c) No Further Ownership Rights in LLC Options. All Corporation Options into which LLC Options are converted in accordance with the terms of this Section 5 shall be deemed to have been issued in full satisfaction of all rights pertaining to such LLC Options. Immediately following the Effective Time, LLC Options shall cease to exist, and the holder of any LLC Options immediately prior to the Effective Time shall cease to have any rights with respect thereto.

(d) No Impact on Vesting Restrictions and Repurchase Rights. The conversion of Units and LLC Options pursuant to Section 5(a) will not limit, impair or otherwise modify any vesting restrictions or repurchase rights with respect to any equity issued by the LLC

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to any officer or employee of the LLC or any other person, which vesting restrictions and repurchase rights shall continue to apply to the shares of Common Stock or Corporation Options, as applicable, issued hereby to any such persons until the expiration of such vesting restrictions and repurchase rights in accordance with their terms. The Corporation Options shall remain governed by the terms and conditions of the applicable option plan of the Corporation.

(e) Transfer Books. At the Effective Time, there shall be no further registration of transfers on the transfer books of the LLC of any Units that were outstanding immediately prior to the Effective Time.

(f) Registration in Book-Entry. Shares of Common Stock issued in connection with the Conversion shall be uncertificated, and the Corporation shall register, or cause to be registered, such shares into which each outstanding Unit shall have been converted as a result of the Conversion in book-entry form.

6. Licenses, Permits, Titled Property, Etc. As applicable, following the Effective Time, to the extent required, the Corporation shall apply for new state tax identification numbers, qualifications to conduct business (including as a foreign corporation), licenses, permits and similar authorizations on its behalf and in its own name in connection with the Conversion and to reflect the fact that it is a corporation. As required or appropriate, following the Effective Time, all real, personal and intangible property of the LLC which was titled or registered in the name of the LLC shall be re-titled or re-registered, as applicable, in the name of the Corporation by appropriate filings and/or notices to the appropriate parties (including, without limitation, any applicable governmental agencies). In addition, following the Effective Time, the LLC's customer, vendor and other communications (e.g., business cards, letterhead, websites, etc.) shall be revised to reflect the Conversion and the Corporation's corporate status.

7. Termination of LLC Agreement. As of the Effective Time, the LLC Agreement shall be terminated and of no further force and effect. Notwithstanding the foregoing, the termination of the LLC Agreement shall not relieve any party thereto from any liability arising in connection with any breach by such party of the LLC Agreement, arising prior to the Effective Time.

8. Further Assurances. If, at any time after the Effective Time, the Corporation shall determine or be advised that any deeds, bills of sale, assignments, agreements, documents or assurances or any other acts or things are necessary, desirable or proper, consistent with the terms of this Plan, (a) to vest, perfect or confirm, of record or otherwise, in the Corporation its right, title or interest in, to or under any of the rights, privileges, immunities, powers, purposes, franchises, properties or assets of the LLC, or (b) to otherwise carry out the purposes of this Plan, the Corporation and its proper officers and directors (or their designees) are hereby authorized to solicit in the name of the LLC any third party consents or other documents required to be delivered by any third party, to execute and deliver, in the name and on behalf of the LLC, all such deeds, bills of sale, assignments, agreements, documents and assurances and do, in the name and on behalf of the LLC, all such other acts and things necessary, desirable or proper to vest, perfect or confirm its right, title or interest in, to or under any of the rights, privileges, immunities, powers, purposes, franchises, properties or assets of the LLC and otherwise to carry out the purposes of this Plan.

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9. Implementation and Interpretation; Termination and Amendment. This Plan shall be implemented and interpreted, prior to the Effective Time, by the Board and, following the Effective Time, by the board of directors of the Corporation, (a) each of which shall have full power and authority to delegate and assign any matters covered hereunder to any other party(ies), including, without limitation, any officers of the LLC or any officers of the Corporation, as the case may be, and (b) the interpretations and decisions of which shall be final, binding, and conclusive on all parties. The Board at any time prior to the Effective Time may terminate, amend or modify this Plan. Upon such termination of this Plan, if the Certificate of Conversion and the Certificate of Incorporation have been filed with the Secretary of State of the State of Delaware, but have not become effective, any person or entity that was authorized to execute, deliver and file such certificates may execute, deliver and file a Certificate of Termination of such certificates.

10. Third Party Beneficiaries. This Plan shall not confer any rights or remedies upon any person or entity other than as express provided herein.

11. Severability. Whenever possible, each provision of this Plan will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Plan is held to be prohibited by or invalid under applicable law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Plan.

12. Governing Law. This Plan shall be governed by and construed in accordance with the laws of the State of Delaware, without regard to the conflicts of laws rules of such state.

[Remainder of page intentionally left blank.]

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IN WITNESS WHEREOF, the LLC has caused this Plan to be executed by its duly authorized representative as of the date first stated above.

BELLEROPHON THERAPEUTICS LLC

By: _____
Name:
Title:

[Signature Page to Plan of Conversion]

EXHIBIT A

Certificate of Conversion

STATE OF DELAWARE

CERTIFICATE OF CONVERSION

OF

BELLEROPHON THERAPEUTICS LLC

FROM A LIMITED LIABILITY COMPANY TO

A CORPORATION PURSUANT TO SECTION 265 OF

THE DELAWARE GENERAL CORPORATION LAW

This Certificate of Conversion to Corporation is being duly executed and filed by Bellerophon Therapeutics LLC, a Delaware limited liability company (the “LLC”), to convert the LLC to Bellerophon Therapeutics, Inc., a Delaware corporation (the “Corporation”), under the Delaware Limited Liability Company Act (6 Del.C. § 18-101, et seq.) and the General Corporation Law of the State of Delaware (8 Del.C. § 101, et seq.)

- FIRST: The jurisdiction where the LLC was first formed is the State of Delaware.
- SECOND: The jurisdiction where the LLC was formed immediately prior to filing this Certificate of Conversion is the State of Delaware.
- THIRD: The date the LLC was first formed is October 17, 2013.
- FOURTH: The name of the LLC immediately prior to filing this Certificate of Conversion is Bellerophon Therapeutics LLC, a Delaware limited liability company.
- FIFTH: The name of the Corporation as set forth in the Certificate of Incorporation filed in accordance with Section 265(b) of the General Corporation Law of the State of Delaware is Bellerophon Therapeutics, Inc., a Delaware corporation.

* * * * *

IN WITNESS WHEREOF, the undersigned, being duly authorized to sign on behalf of Bellerophon Therapeutics, LLC, has executed this Certificate of Conversion on the _____ day of _____, 2015.

BELLEROPHON THERAPEUTICS LLC,
a Delaware limited liability company

By: _____
Name:
Title:

EXHIBIT B

See Certificate of Incorporation of Bellerophon Therapeutics, Inc.
filed as Exhibit 3.1

EXHIBIT C

FORM OF AGREEMENT AND PLAN OF MERGER

THIS AGREEMENT AND PLAN OF MERGER (this “**Agreement**”) is dated as of _____, 2015, by and among Bellerophon Therapeutics, Inc., a Delaware corporation (the “**Company**”), New Mountain Partners (AIV-B), L.P., a limited liability company organized under the laws of Delaware (“**New Mountain**”), New Mountain Partners II Special (AIV-A), L.P., a Delaware limited partnership (“**New Mountain Blocker**”), ARCH Venture Fund VI, L.P., a limited partnership organized under the laws of Delaware (“**ARCH Ventures**”), IRDO Holding Corp., a Delaware corporation (“**IRDO**”), Venrock Associates IV, L.P., a limited partnership organized under the laws of Delaware (“**Venrock Associates**”), Venrock Partners, L.P., a limited partnership organized under the laws of Delaware (“**Venrock Partners**”), and Venrock Entrepreneurs Fund IV, L.P., a limited partnership organized under the laws of Delaware (“**Venrock Entrepreneurs**” and, together with Venrock Associates and Venrock Partners, “**Venrock**”), Venrock IK Holdings BT, Inc., a Delaware corporation (“**Venrock Blocker**”), 5AM Ventures, LLC, a limited liability company organized under the laws of Delaware (“**5AM Ventures**”), and 5AM Co-Investors, LLC, a limited liability company organized under the laws of Delaware (“**5AM Co-Investors**” and, together with 5AM Ventures, “**5AM**”), and 5AM-BT, Inc., a Delaware corporation (“**5AM-BT**”). The Company, New Mountain, New Mountain Blocker, ARCH Ventures, IRDO, Venrock, Venrock Blocker, 5AM and 5AM-BT are collectively referred to herein as the “**Parties**,” and each individually is referred to herein as a “**Party**.” All references to the Company include its predecessor, Bellerophon Therapeutics LLC, a Delaware limited liability company.

RECITALS

WHEREAS, in anticipation of the initial public offering of the Company, on the date hereof, the Company has previously completed a conversion (the “**Conversion**”) from a limited liability company to a corporation,

WHEREAS, (i) the board of directors of the Company and the general partner of New Mountain Blocker deem it advisable that New Mountain Blocker merge with and into the Company (the “**New Mountain Blocker Merger**”), (ii) the board of directors of the Company and the board of directors of IRDO deem it advisable that IRDO merge with and into the Company (the “**IRDO Merger**”), (iii) the board of directors of the Company and the board of directors of Venrock Blocker deem it advisable that Venrock Blocker merge with and into the Company (the “**Venrock Blocker Merger**”) and (iv) the board of directors of the Company and the board of directors of 5AM-BT deem it advisable that 5AM-BT merge with and into the Company (the “**5AM-BT Merger**,” and collectively with the New Mountain Blocker Merger, IRDO Merger, Venrock Blocker Merger and 5AM-BT Merger, the “**Mergers**”), in each case, upon the terms and subject to the conditions set forth herein and in accordance with Delaware Law;

WHEREAS, the board of managers, board of directors or general partner, as applicable, and, if applicable, the equityholders of each of the Company, New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT have approved the New Mountain Blocker Merger, IRDO Merger, Venrock Blocker Merger and 5AM-BT Merger, as applicable, in accordance with the requirements of Delaware Law and their respective organizational documents; and

WHEREAS, the Parties intend that each of the Mergers qualifies as a “reorganization” within the meaning of Section 368 of the Code and the rules and regulations promulgated thereunder and that this Agreement shall constitute a “plan of reorganization” within the meaning of Treasury Regulation Section 1.368-2(g) with respect to each Merger.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, hereby agree as follows:

ARTICLE I

Definitions

1.1 Definitions. As used herein, the following terms have the following meanings:

“**Affiliate**” means, with respect to any Person, any Person directly or indirectly controlling, controlled by, or under common control with such other Person. For purposes of this definition, “control” when used with respect to any Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise, and the terms “controlling” and “controlled” have meanings correlative to the foregoing. Notwithstanding the foregoing, for purposes of this Agreement, neither the Company nor any of its Subsidiaries shall be considered an Affiliate of any of the other Parties to this Agreement.

“**Business Day**” means a day, other than Saturday, Sunday or other day on which commercial banks in New York, New York are authorized or required by applicable Law to close.

“**Closing Date**” means the date of the Closing.

“**Code**” means the United States Internal Revenue Code of 1986, as amended.

“**Common Stock**” means the Company’s Common Stock, par value \$0.01, with the rights, preferences and privileges as described in the Company’s certificate of incorporation.

“**Delaware Law**” means, collectively, the DGCL and the DRULPA.

“**DGCL**” means the General Corporation Law of the State of Delaware.

“**DRULPA**” means the Revised Uniform Limited Partnership Act of the State of Delaware.

“**Law**” means any law, statute, regulation, rule, permit, license, certificate, judgment, order, award or other legally binding decision or requirement of any arbitrator, court, government or governmental agency or instrumentality (domestic or foreign).

“**Lien**” means, with respect to any property or asset, any mortgage, lien, pledge, charge or security interest in respect of such property or asset.

“**Material Adverse Effect**” means a material adverse effect on (i) the business, assets or results of operations of the applicable Merged Entity, taken as a whole, or (ii) the ability of the applicable Merged Entity to consummate the transactions contemplated by the Transaction Documents.

“**Merged Entities**” means New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT, and the term “Merged Entity” means any one of them, as the case may be.

“**Permitted Liens and Exceptions**” means Liens for Taxes, assessments and similar charges that are not yet due and payable.

“**Person**” means an individual, corporation, partnership, limited liability company, association, trust or other entity or organization, including a government or political subdivision or an agency or instrumentality thereof.

“**Pre-Closing Tax Period**” means any Tax period ending on or before the Closing Date.

“**Subsidiary**” means any entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other persons performing similar functions are at the time directly or indirectly owned by a Person.

“**Tax**” means (1) any tax or other governmental fee or like assessment or charge in the nature of a tax; including, but not limited to, withholding on amounts paid to or by any Person, federal and state income taxes, real property gains taxes, sales and use taxes, escheat taxes, abandoned or unclaimed property taxes, ad valorem taxes, excise taxes, franchise taxes, gross receipts taxes, business license taxes, capital stock taxes, real and personal property taxes, environmental taxes, transfer taxes, severance taxes, alternative or add-on minimum taxes, and custom duties, together with any interest, penalty, addition to tax or additional amount imposed by any governmental authority (whether federal, state, local, municipal, foreign or otherwise) responsible for the imposition of any such tax (a “**Taxing Authority**”) and (2) any liability for the payment of any amount of the type described in the immediately preceding clause (1) as a result of a Merged Entity being a member of an affiliated, consolidated or combined group with any other corporation at any time on or prior to the Closing Date.

“**Transaction Documents**” means this Agreement and the Exhibits attached hereto.

“**Voting Agreement**” means that certain Voting Agreement, dated February 12, 2014, by and among the Company, New Mountain Partners II (AIV-A), L.P., New Mountain Affiliated Investors II, L.P., Allegheny New Mountain Partners, L.P., IRDO, Venrock Blocker, Linde North America, Inc., 5AM-BT and Aravis Venture I L.P.

Each of the following terms is defined in the Section set forth opposite such term:

Term	Section
5AM	Preamble
5AM Co-Investors	Preamble
5AM Ventures	Preamble
5AM-BT	Preamble
5AM-BT Merger	Recitals
ARCH Ventures	Preamble
Agreement	Preamble
Certificate of Merger	2.1(b)
Claim	7.3(a)
Closing	2.2
Company	Preamble
Conversion	Recitals
Damages	7.2(a)
Indemnified Party	7.3(a)
Indemnifying Party	7.3(a)
IRDO	Preamble
IRDO Merger	Recitals
Merger Effective Time	2.1(b)
Mergers	Recitals
New Mountain	Preamble
New Mountain Blocker	Preamble
New Mountain Blocker Merger	Recitals
Parties	Preamble
Party	Preamble
Potential Contributor	7.4
Registration Statement	2.1(b)
Returns	3.11
Securities	3.5
Surviving Company	2.1(a)
Third Party Claim	7.3(b)
Transfer Taxes	6.1(b)
Venrock	Preamble
Venrock Blocker	Preamble
Venrock Blocker Merger	Recitals
Venrock Associates	Preamble
Venrock Entrepreneurs	Preamble
Venrock Partners	Preamble
Warranty Breach	7.2(a)

1.2 Other Definitional and Interpretative Provisions. The words “**hereof**,” “**herein**,” and “**hereunder**” and words of like import used in this Agreement shall refer to this Agreement as a

whole and not to any particular provision of this Agreement. The captions herein are included for convenience of reference only and shall be ignored in the construction or interpretation hereof. References to Articles, Sections, and Exhibits are to Articles, Sections, and Exhibits of this Agreement unless otherwise specified. All Exhibits annexed hereto or referred to herein are hereby incorporated in and made a part of this Agreement as if set forth in full herein. Any capitalized terms used in any Exhibit but not otherwise defined therein, shall have the meaning as defined in this Agreement. Any singular term in this Agreement shall be deemed to include the plural, and any plural term the singular. Whenever the words “**include**,” “**includes**,” or “**including**” are used in this Agreement, they shall be deemed to be followed by the words “**without limitation**,” whether or not they are in fact followed by those words or words of like import. “**Writing**,” “**written**,” and comparable terms refer to printing, typing and other means of reproducing words (including electronic media) in a visible form. References to any agreement or contract are to that agreement or contract as amended, modified or supplemented from time to time in accordance with the terms hereof and thereof. References to any Person include the successors and permitted assigns of that Person. References from or through any date mean, unless otherwise specified, from and including or through and including, respectively. References to “**law**,” “**laws**,” or to a particular statute or law shall be deemed also to include any and all Laws.

ARTICLE II

The Mergers And Other Transactions

2.1 The Mergers.

(a) At the Merger Effective Time (as defined below), and in accordance with the applicable provisions of this Agreement and Delaware Law, each of New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT shall be merged with and into the Company. Following the Mergers, the separate corporate or limited partnership existence, as applicable, of each of New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT shall cease and the Company shall continue as the surviving company (the “**Surviving Company**”).

(b) At the time determined by the Company, promptly following the Conversion and prior to the effectiveness of the Company’s registration statement on Form S-1 (File No. 333-201474) (the “**Registration Statement**”) filed with the Securities and Exchange Commission pursuant to the Securities Act of 1933, as amended, the Company shall cause a certificate of merger in form and substance as set forth on Exhibit A attached hereto (the “**Certificate of Merger**”) to be executed, acknowledged and filed with the Secretary of State of the State of Delaware, all as provided for and in accordance with Section 251 and Section 264 of the DGCL and Section 18-211 of the DRULPA. The Mergers shall become effective at the time and date as provided under Delaware Law and as specified in the Certificate of Merger (the “**Merger Effective Time**”). References to the Company after the Merger Effective Time shall mean the Surviving Company.

(c) Each Merger shall have the effects set forth under Delaware Law. Without limiting the generality of the foregoing, and subject thereto, at the Merger Effective Time, all the properties, rights, privileges, and powers of each of New Mountain Blocker, IRDO, Venrock

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Blocker and 5AM-BT shall vest in the Surviving Company, and all debts, liabilities, and duties of each of New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT shall become the debts, liabilities and duties of the Surviving Company. Notwithstanding the foregoing, it is hereby acknowledged and agreed that, upon consummation of the Mergers, the respective rights and obligations of New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT under the Voting Agreement shall be transferred to New Mountain, ARCH Ventures, Venrock and 5AM, respectively, in accordance with the terms thereof.

(d) The certificate of incorporation and bylaws of the Company, as in effect immediately prior to the Merger Effective Time, shall be the certificate of incorporation and bylaws of the Surviving Company until thereafter amended in accordance with the provisions thereof and applicable Law.

(e) Subject to applicable Law, (i) the directors of the Company immediately prior to the Merger Effective Time shall be the initial directors of the Surviving Company and shall hold office until their respective successors are duly elected and qualified, or their earlier death, resignation, or removal, and (ii) the officers of the Company immediately prior to the Merger Effective Time shall be the initial officers of the Surviving Company and shall hold office until their respective successors are duly elected and qualified, or their earlier death, resignation, or removal.

(f) All of the equity interests of each of New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT outstanding as of immediately prior to the Merger Effective Time shall, as of the Merger Effective Time, by virtue of the Merger and without any action on the part of any Party hereto or the holder thereof or any other Person, be canceled and extinguished and converted into the right to receive the consideration specified in Section 2.1(g). All of such outstanding equity interests of New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT when so converted, shall no longer be outstanding and shall automatically be canceled and the former holders thereof shall cease to have any rights with respect thereto, except the right to receive the consideration specified in Section 2.1(g).

(g) At the Merger Effective Time:

(i) In respect of the outstanding equity interests of New Mountain Blocker held by New Mountain immediately prior to the Merger Effective Time and canceled and extinguished by virtue of the New Mountain Blocker Merger, New Mountain shall receive the number of shares of Common Stock equal to the number of shares of Common Stock held by New Mountain Blocker immediately prior to the New Mountain Blocker Merger, and such shares of Common Stock of the Company received pursuant to the New Mountain Blocker Merger shall be free and clear of all security interests, claims, liens, equities or other encumbrances;

(ii) In respect of the outstanding equity interests of IRDO held by ARCH Ventures immediately prior to the Merger Effective Time and canceled and extinguished by virtue of the IRDO Merger, ARCH Ventures shall receive the number of shares of Common Stock equal to the number of shares of Common Stock held by IRDO immediately prior to the Merger Effective Time, and such shares of Common Stock received pursuant to the IRDO

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Merger shall be free and clear of all security interests, claims, liens, equities or other encumbrances;

(iii) In respect of the outstanding equity interests of Venrock Blocker held by Venrock Associates, Venrock Entrepreneurs and Venrock Partners immediately prior to the Merger Effective Time and canceled and extinguished by virtue of the Venrock Blocker Merger, Venrock Associates, Venrock Entrepreneurs and Venrock Partners shall receive the number of shares of Common Stock in the aggregate equal to the number of shares of Common Stock held by Venrock Blocker immediately prior to the Merger Effective Time (with such shares of Common Stock allocated among Venrock Associates, Venrock Entrepreneurs and Venrock Partners in accordance with the allocations set forth on Schedule 2.1(g)(iii) hereto), and such shares of Common Stock received pursuant to the Venrock Blocker Merger shall be free and clear of all security interests, claims, liens, equities or other encumbrances; and

(iv) In respect of the outstanding equity interests of 5AM-BT held by 5AM Ventures and 5AM Co-Investors immediately prior to the Merger Effective Time and canceled and extinguished by virtue of the 5AM-BT Merger, 5AM Ventures and 5AM Co-Investors shall receive the number of shares of Common Stock in the aggregate equal to the number of shares of Common Stock held by 5AM-BT immediately prior to the Merger Effective Time (with such shares of Common

Stock allocated between 5AM Ventures and 5AM Co-Investors in accordance with the allocations set forth on Schedule 2.1(g)(iv) hereto), and such shares of Common Stock received pursuant to the 5AM-BT Merger shall be free and clear of all security interests, claims, liens, equities or other encumbrances.

(h) By their execution of this Agreement, New Mountain, as the sole limited partner of New Mountain Blocker, ARCH Ventures, as the sole stockholder of IRDO, Venrock as the sole stockholder of Venrock Blocker and 5AM as the sole stockholder of 5AM-BT, each waives its right to any dissent to the New Mountain Blocker Merger, the IRDO Merger, the Venrock Blocker Merger and the 5AM-BT Merger, respectively, and demand appraisal for its shares of New Mountain Blocker, IRDO, Venrock Blocker and 5AM-BT, respectively, under the DGCL, or otherwise.

2.2 Closing. The closing (the “**Closing**”) of the transactions contemplated hereunder shall take place at the offices of Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109. At the Closing:

(i) The Certificate of Merger shall be filed pursuant to the terms of Section 2.1.

(ii) Each of the Parties shall deliver such other documents, instruments and agreements as are required to be delivered by such Party at the Closing pursuant to this Agreement.

2.3 Contribution of Cash. Prior to the Merger Effective Time, if any Merged Entity does not have an amount of cash sufficient to pay all liabilities of such Merged Entity (as estimated in good faith by each Merged Entity), including Taxes for any Pre-Closing Tax Period, the equity holders of such Merged Entity shall contribute an amount of cash to such Merged Entity such

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that following such contribution, the Merged Entity will have an amount of cash sufficient to pay all such liabilities.

2.4 Payment of Indebtedness. No later than immediately prior to the Closing, each Merged Entity shall repay all indebtedness for borrowed money (including any capital leases) of such Merged Entity outstanding immediately prior to the Closing, of any kind or nature whatsoever, including any obligations related thereto (including any accrued interest or prepayment penalties). At Closing, each Merged Entity shall deliver the Company customary payoff letters from each holder of any indebtedness of such Merged Entity to be repaid at the Closing.

ARTICLE III

Representations And Warranties Of The Merged Entities

Each of the Merged Entities, severally and not jointly, represents and warrants to the Company as of the date hereof that:

3.1 Corporate Existence and Power. Such Merged Entity is a corporation or limited partnership duly incorporated or organized, as applicable, validly existing and in good standing under the laws of its jurisdiction of incorporation or organization, as applicable, with full power and authority to conduct its business as it is now being conducted and to own or use the properties and assets that it purports to own or use.

3.2 Authorization. The execution, delivery and performance by such Merged Entity of the Transaction Documents to which it is or will be a party and the consummation of the transactions contemplated thereby are within the corporate or limited partnership powers and authority, as applicable, of such Merged Entity and have been duly authorized by all necessary corporate or limited partnership action, as applicable, on the part of such Merged Entity. Each of the Transaction Documents to which it is or will be a party constitutes, or will when executed constitute, the legal, valid and binding obligation of such Merged Entity enforceable against such Merged Entity in accordance with its respective terms, (a) except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws now or hereafter in effect relating to or affecting creditors’ rights generally, including the effect of statutory and other laws concerning fraudulent conveyances and preferential transfers and (b) subject to the limitations imposed by general equitable principles (regardless of whether such enforceability is considered in proceeding at law or in equity).

3.3 Governmental Authorization. The execution, delivery and performance by such Merged Entity of each of the Transaction Documents to which it is or will be a party and the consummation of the transactions contemplated thereby require no action, consent or approval by or in respect of, filing with or notice to, any governmental body, agency or official other than the Certificate of Merger and any other such action or filing as to which the failure to make or obtain would not have, individually or in the aggregate, a Material Adverse Effect.

3.4 Noncontravention. The execution, delivery and performance by such Merged Entity of any of the Transaction Documents to which it is or will be a party, and the consummation of the transactions contemplated thereby do not and will not (a) violate or conflict with the

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organizational documents of such Merged Entity or any resolution adopted by or any action taken by the board of directors, board of managers, general partner or equityholders of such Merged Entity, (b) assuming compliance with the matters referred to in Section 3.3, contravene or conflict with or constitute a violation of any provision of any Law binding upon or applicable to such Merged Entity, (c) with or without the giving of notice or the lapse of time, or both, constitute a default under or give rise to any right of termination, cancellation or acceleration of any right or obligation of such Merged Entity, or to a loss of any benefit to which such Merged Entity is entitled, under any provision of any agreement, contract or other instrument to which such Party is a party or by which it or its properties or assets is bound or (d) result in the creation or imposition of any Lien (other than Permitted Liens and Exceptions) upon or with respect to such Merged Party or its assets.

3.5 Capitalization. New Mountain Blocker represents and warrants that New Mountain owns 100% of the limited partnership interests of New Mountain Blocker. IRDO represents and warrants that ARCH Ventures owns 100% of the issued and outstanding capital stock of IRDO. Venrock Blocker represents and warrants that Venrock owns 100% of the issued and outstanding capital stock of Venrock Blocker. 5AM-BT represents and warrants that 5AM owns 100% of the issued and outstanding capital stock of 5AM-BT. All of the capital stock or equity interests, as applicable, of such Merged Party have been duly authorized and validly issued and are fully paid and non-assessable. Other than the capital stock or equity interests issued to New Mountain (and the general partnership interest in New Mountain Blocker held by the general partner of New Mountain Blocker), ARCH Ventures, Venrock or 5AM described in this Section 3.5, there are no outstanding (a) capital stock or equity interests or other voting securities of such Merged Entity, (b) securities of such Merged Entity convertible into or exchangeable for capital stock or equity interests or other voting securities of such Merged Entity or (c) options or other rights to acquire from such Merged Entity, or other obligation of such Merged Entity to issue, any capital stock or equity interests or other voting securities of such Merged Entity or securities convertible into or exchangeable for capital stock or equity interests or other voting securities of such Merged Entity (the items in clauses (a) through (c) being referred to collectively as the “Securities”). There are no outstanding obligations of such Merged Entity to repurchase, redeem or otherwise acquire any Securities and there are no agreements or other instruments relating to the issuance, sale or transfer by such Merged Entity of any Securities.

3.6 Subsidiaries. Such Merged Entity has no Subsidiaries. Such Merged Entity does not control directly or indirectly or have any direct or indirect equity participation in any corporation, partnership, trust, or other business association (other than the Company).

3.7 No Undisclosed Material Liabilities. Such Merged Entity does not conduct any operating or other business or related general business operations, other than its activities as a holding company incident to its direct or indirect ownership of equity interests of the Company. Such Merged Entity does not have any liabilities of any kind, character or description (whether known or unknown, accrued, absolute, contingent or otherwise), other than (a) deferred income Taxes that reflect only timing differences between the treatment of items for accounting and income tax purposes, and (b) income Taxes with respect to Pre-Closing Tax Periods that are not yet due and payable.

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3.8 Related Party Agreements. Except as otherwise provided in the Transaction Documents, there are no agreements, contracts, commitments or understandings, other than any such agreements, contracts, commitments or understandings that will be terminated as of Closing without any further liability or obligation on the part of such Merged Entity, by and between such Merged Entity, on the one hand, and such Merged Entity's Affiliates, on the other hand, including, without limitation, any such agreements, contracts, commitments or understandings pursuant to which such Affiliate provides or receives any information, assets, properties, support or other services to or from such entity.

3.9 Litigation. There is no claim, action, suit, investigation or proceeding pending against or, to the knowledge of such Merged Entity, threatened against, such Merged Entity or any of its assets before any court or arbitrator or any governmental body, agency or official. As of the date hereof, such Merged Entity is not aware of any claim, action, suit investigation or proceeding pending or threatened against such Merged Entity or any of its assets, or any orders or decrees binding on such Merged Entity or any of its assets.

3.10 Compliance with Laws. Such Merged Entity is, and at all times since the date of its incorporation or formation, as applicable, has been, in compliance with all applicable Laws.

3.11 Taxes. Each Merged Entity, severally and not jointly, represents and warrants to the Company as of the date hereof that (a) all Tax returns, statements, reports and forms (collectively, "**Returns**") that are material and are required to be filed with any Taxing Authority by, or with respect to, such Merged Entity on or before the Closing Date (taking into account any duly obtained extensions) have been, or will be, timely filed, (b) such Merged Entity has timely paid all Taxes due and payable by such Merged Entity shown as due and payable on the Returns that have been filed, (c) the Returns that have been filed are true, correct and complete in all material respects, (d) there is no action, suit, proceeding, investigation, audit or claim now proposed (to such Merged Entity's knowledge) or pending against or with respect to such Merged Entity in respect of any material Tax, (e) such Merged Entity has properly withheld and paid all Taxes required to have been withheld and paid in connection with amounts paid or owing to any equityholder, employee, creditor, independent contractor, or other third party, (f) there is no claim pending or to such Merged Entity's knowledge, proposed or threatened by a Taxing Authority, in a jurisdiction where such Merged Entity does not file Returns that such Merged Entity is or may be subject to taxation in such jurisdiction, (g) assuming the applicable Merger qualifies as Tax-free, such Merged Entity has no liability for Taxes for any Pre-Closing Tax Period in excess of the amount of cash retained by the respective Merged Entity pursuant to Section 2.3 to pay such Taxes, (h) such Merged Entity has not received any notice in writing from a Taxing Authority of any proposed or pending action, suit, proceeding, investigation, audit or claim with respect to such Merged Entity in respect of any Tax, and (i) such Merged Entity has not consented to extend the time, nor is the beneficiary of any extension of time, in which any Tax may be assessed or collected by any Taxing Authority.

3.12 Inspections; No Other Representations. No Merged Entity makes any express or implied representations or warranties of any nature, whether in writing, oral or otherwise, made by or on behalf of or imputed to any Merged Entity or any of its Affiliates, except as expressly set forth in this Agreement. Without limiting the generality of the foregoing, no Merged Entity nor any of its Affiliates makes any representation or warranty with respect to any projections,

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estimates or budgets delivered to or made available to the Company of future revenues, future results of operations (or any component thereof), future cash flows or future financial condition (or any component thereof) or any other information or documents made available to the Company or its counsel, accountants or advisors with respect to any Merged Entity or any of the foregoing business, assets, liabilities or operations.

ARTICLE IV

Representations And Warranties Of The Company

The Company represents and warrants to each of the other Parties, as of the date hereof, that:

4.1 Corporate Existence and Power. The Company is a corporation duly incorporated, validly existing and in good standing under the laws of its jurisdiction of incorporation, with full power and authority to conduct its business as it is now being conducted and to own or use the properties and assets that it purports to own or use. The shares of Common Stock to be issued by the Company in the Mergers will be duly authorized, validly issued, fully paid and non-assessable.

4.2 Corporate Authorization. The execution, delivery and performance by the Company of the Transaction Documents to which it is or will be a party and the consummation of the transactions contemplated thereby are within the corporate powers and authority of the Company and have been duly authorized by all necessary corporate action on the part of the Company. Each of the Transaction Documents to which the Company is or will be a party constitutes, or will when executed constitute, the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its respective terms, (a) except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws now or hereafter in effect relating to or affecting creditors' rights generally, including the effect of statutory and other laws concerning fraudulent conveyances and preferential transfers, and (b) subject to the limitations imposed by general equitable principles (regardless of whether such enforceability is considered in a proceeding at law or in equity).

4.3 Governmental Authorization. The execution, delivery and performance by the Company of each of the Transaction Documents to which it is or will be a party and the consummation of the transactions contemplated thereby require no action, consent or approval by or in respect of, filing with or material notice to, any governmental body, agency or official other than: (a) the filing of the Certificate of Merger; and (b) any other such action or filing as to which the failure to make or obtain would not have, individually or in the aggregate, a material adverse effect on the ability of the Company to consummate the transactions contemplated by the Transaction Documents.

4.4 Noncontravention. The execution, delivery and performance by the Company of any of the Transaction Documents to which it is or will be a party and the consummation of the transactions contemplated thereby do not and will not (a) violate or conflict with the certificate of incorporation of the Company or any resolution adopted by or any action taken by the board of directors or stockholders of the Company, (b) assuming compliance with the matters referred

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to in Section 4.3, contravene or conflict with or constitute a violation of any provision of any Law binding upon or applicable to the Company, (c) with or without the giving of notice or the lapse of time, or both, constitute a default under or give rise to any right of termination, cancellation or acceleration of any right or obligation of the Company, or to a loss of any benefit to which the Company is entitled under any provision of any agreement, contract or other instrument to which the Company is a party or by which the Company or its properties or assets are bound or (d) result in the creation or imposition of any Lien (other than Permitted Liens and Exceptions) upon or with respect to the Company or its properties or assets, except, in the case of clauses (b), (c) or (d), for any such contravention, conflict, violation, default, termination, cancellation, acceleration or loss that would not have, individually or in the aggregate, a material adverse effect on the Company and its Subsidiaries, taken as a whole.

ARTICLE V

Covenants Of The Parties

Each of the Parties hereto agrees that:

5.1 Reasonable Best Efforts; Further Assurances. Subject to the terms and conditions of this Agreement, each Party will use its reasonable best efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary or desirable to consummate the transactions contemplated by any of the Transaction Documents. Each Party shall execute and deliver such other documents, certificates, agreements and other writings and to take such other actions as may be necessary or appropriate in order to consummate or implement expeditiously the transactions contemplated by any of the Transaction Documents.

5.2 Public Announcements. Other than the Company, none of the other Parties hereto may issue any press release or make any public statement with respect to any Transaction Document or the transactions contemplated thereby.

ARTICLE VI

Tax Matters

6.1 Tax Covenants

(a) The Company shall prepare and timely file all Returns that are required to be filed after the Closing reflecting the income of each Merged Entity for all Pre-Closing Tax Periods. No later than thirty (30) days prior to filing any such Return, the Company shall submit such Return to New Mountain (in the case of New Mountain Blocker), ARCH Ventures (in the case of IRDO), Venrock (in the case of Venrock Blocker) and 5AM (in the case of 5AM-BT) for review and consent. If an amount of Taxes due with such Return that is less than the amount of cash that was held by the respective Merged Entity immediately prior to the Closing (after giving effect to the other liabilities, if any, of such Merged Entity immediately prior to the Closing), then within ten (10) Business Days after filing the applicable Return, the Company shall pay the amount of such excess cash to New Mountain (in the case of New Mountain Blocker), ARCH Ventures (in

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the case of IRDO), Venrock (in the case of Venrock Blocker) and 5AM (in the case of 5AM-BT).

(b) Returns related to any transfer, documentary, sales, use, stamp, registration and other such Taxes and fees (including any penalties and interest) incurred in connection with the Mergers (all such Taxes, "**Transfer Taxes**") shall be filed by the Party required to file such Returns under applicable Law and such Party shall pay the Transfer Taxes shown thereon. The provisions of this Section 6.1(b), and no other provision, will govern the allocation between the parties of the economic burden of Transfer Taxes.

6.2 Pre-Closing Tax Refunds. New Mountain, ARCH Ventures, Venrock or 5AM shall be entitled to any Tax refunds attributable to any Pre-Closing Tax Period of New Mountain Blocker, IRDO, Venrock Blocker, or 5AM-BT, respectively, and the Company shall promptly pay by wire transfer of immediately available funds any such refunds to New Mountain, ARCH Ventures, Venrock or 5AM, as the case may be, less any applicable Taxes, withholdings or reasonable expenses, after receipt thereof. If New Mountain Blocker, IRDO, Venrock Blocker or 5AM-BT has a net operating loss for a Pre-Closing Tax Period, the Company shall carryback such loss pursuant to Section 172 of the Code and file a claim for refund on IRS Form 1139 with respect to such carryback and promptly pay by wire transfer of immediately available funds such refund to New Mountain, ARCH Ventures, Venrock or 5AM, as the case may be, after receipt thereof. The Company shall file for, at the request of New Mountain, ARCH Ventures, Venrock or 5AM, and use reasonable commercial efforts to obtain any refund to which New Mountain, ARCH Ventures, Venrock or 5AM, as the case may be, is entitled under this section.

6.3 Tax Reporting. The Parties agree to treat, for U.S. federal, state and local Tax purposes, the transactions contemplated by this Agreement and the Plan of Conversion entered into by the Company in connection with the Conversion as governed by Sections 351 and 368 of the Code and report consistently with such treatment for all U.S. federal, state and local Tax purposes.

ARTICLE VII

Survival; Indemnification

7.1 Survival. The representations and warranties of any of the Parties hereto contained in this Agreement shall survive the Closing Date and shall expire on the date that is one year following the Closing Date. Except as otherwise provided in this Agreement, the covenants and agreements of the Parties contained in this Agreement shall survive Closing and shall continue in full force and effect indefinitely or for the shorter period specified in this Agreement. Any breach of representation, warranty, covenant or agreement in respect of which indemnity may be sought under this Agreement shall survive the time at which it would otherwise terminate pursuant to this Section 7.1 if notice of the inaccuracy or breach thereof giving rise to such right of indemnity shall have been given to the Party against whom such indemnity may be sought prior to such time.

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7.2 Indemnification.

(a) From and after Closing, the Company hereby indemnifies New Mountain, ARCH Ventures, Venrock and 5AM against and agrees to hold each of them harmless from (i) any and all damage, loss, liability and expense (including, without limitation, reasonable expenses of investigation and reasonable attorneys' fees and expenses in connection with any action, suit or proceeding) ("**Damages**") actually incurred or suffered by New Mountain, ARCH Ventures, Venrock or 5AM, as applicable, arising out of or resulting from any inaccuracy or breach of any representation and warranty (each such inaccuracy and breach, a "**Warranty Breach**") or breach of a covenant, in each case of the Company contained in the Transaction Documents or in the exhibits, schedules or certificates to, or delivered in connection with,

the Transaction Documents or (ii) any and all Damages incurred or suffered by New Mountain, ARCH Ventures, Venrock or 5AM, as applicable, on account of the gross negligence, intentional misrepresentation, willful misconduct or fraud of the Company.

(b) From and after Closing, New Mountain hereby indemnifies the Company against and agrees to hold it harmless from (i) any and all Damages actually incurred or suffered by the Company arising out of or related in any way to any Warranty Breach or breach of a covenant, in each case of New Mountain or New Mountain Blocker contained in the Transaction Documents or in the exhibits, schedules or certificates to, or delivered in connection with, the Transaction Documents or (ii) any and all Damages incurred or suffered by the Company on account of the gross negligence, intentional misrepresentation, willful misconduct or fraud of New Mountain or New Mountain Blocker.

(c) From and after Closing, ARCH Ventures hereby indemnifies the Company against and agrees to hold it harmless from (i) any and all Damages actually incurred or suffered by the Company arising out of or related in any way to any Warranty Breach or breach of a covenant, in each case of ARCH Ventures or IRDO contained in the Transaction Documents or in the exhibits, schedules or certificates to, or delivered in connection with, the Transaction Documents or (ii) any and all Damages incurred or suffered by the Company on account of the gross negligence, intentional misrepresentation, willful misconduct or fraud of ARCH Ventures or IRDO.

(d) From and after Closing, Venrock hereby indemnifies the Company against and agrees to hold it harmless from (i) any and all Damages actually incurred or suffered by the Company arising out of or related in any way to any Warranty Breach or breach of a covenant, in each case of Venrock or Venrock Blocker contained in the Transaction Documents or in the exhibits, schedules or certificates to, or delivered in connection with, the Transaction Documents or (ii) any and all Damages incurred or suffered by the Company on account of the gross negligence, intentional misrepresentation, willful misconduct or fraud of Venrock or Venrock Blocker.

(e) From and after Closing, 5AM hereby indemnifies the Company against and agrees to hold it harmless from (i) any and all Damages actually incurred or suffered by the Company arising out of or related in any way to any Warranty Breach or breach of a covenant, in each case of 5AM or 5AM-BT contained in the Transaction Documents or in the exhibits, schedules or certificates to, or delivered in connection with, the Transaction Documents or (ii) any and all Damages incurred or suffered by the Company on account of the gross negligence, intentional misrepresentation, willful misconduct or fraud of 5AM or 5AM-BT.

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(f) Notwithstanding anything contained in this Agreement to the contrary, other than in the case of a claim based on gross negligence, intentional misrepresentation, willful misconduct or fraud, no Party shall be entitled to seek, nor be entitled to, incidental, indirect punitive, special or consequential damages (including damages for any lost profits) in any Claim for indemnification or recovery of Damages pursuant to this Agreement unless such type of damages are sought against such Party by an unaffiliated or unrelated third party.

7.3 Procedures.

(a) The Party seeking indemnification under Section 7.2 (the “**Indemnified Party**”) agrees to give prompt notice to the Party against whom indemnity is sought (the “**Indemnifying Party**”) of the assertion of any claim, or the commencement of any suit, action or proceeding (“**Claim**”) in respect of which indemnity may be sought under such Section and will promptly provide the Indemnifying Party such information and access to personnel with respect thereto that the Indemnifying Party may reasonably request. The failure to so notify the Indemnifying Party shall not relieve the Indemnifying Party of its obligations hereunder, except to the extent such failure shall have adversely prejudiced the Indemnifying Party.

(b) The Indemnified Party shall obtain the prior written consent of the Indemnifying Party (which shall not be unreasonably withheld, conditioned or delayed) before entering into any settlement of any Claim asserted by any third party (“**Third Party Claim**”).

(c) Each Party shall cooperate, and cause their respective Affiliates to cooperate, in the defense or prosecution of any Third Party Claim and shall furnish or cause to be furnished such records, information and testimony, and attend such conferences, discovery proceedings, hearings, trials or appeals, as may be reasonably requested in connection therewith.

(d) Each Indemnified Party must mitigate in accordance with applicable Law any loss for which such Indemnified Party seeks indemnification under this Agreement. If such Indemnified Party mitigates its loss after the Indemnifying Party has paid the Indemnified Party under any indemnification provision of this Agreement in respect of that loss, the Indemnified Party must promptly notify the Indemnifying Party and promptly pay to the Indemnifying Party the extent of the value of the benefit (or, if less, the amount of any such loss previously paid by the Indemnifying Party) to the Indemnified Party of that mitigation (less the Indemnified Party’s reasonable costs of mitigation).

(e) Each Indemnified Party shall use reasonable efforts to collect any amounts available under insurance coverage or through indemnification, contribution or other reimbursement arrangements from any other Person alleged to be responsible, for any Damages payable under Section 7.2, and the amounts received from such sources shall offset any Damages otherwise payable under Section 7.2

(f) Assignment of Claims. If the Indemnified Party receives any payment from an Indemnifying Party in respect of any Damages pursuant to Section 7.2 and the Indemnified Party could have recovered all or a part of such Damages from a third party (other than any Subsidiary of the Company or any current or former employee or agent of such Persons) (a “**Potential Contributor**”) based on the underlying Claim asserted against the Indemnifying Party, the

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Indemnified Party shall assign such of its rights to proceed against the Potential Contributor as are necessary to permit the Indemnifying Party to recover from the Potential Contributor the amount of such payment.

7.4 Exclusivity. After the Closing, Article VII will provide the sole and exclusive remedy for any misrepresentation, breach of warranty, covenant or other agreement or other claim arising out of the Transaction Documents or the transactions contemplated thereby, including any claim for gross negligence, intentional misrepresentation, willful misconduct or fraud. Notwithstanding the foregoing, it is understood that nothing herein shall prohibit any Party hereto from exercising its rights to seek equitable relief with respect to a breach of covenant or agreement under any Transaction Document.

ARTICLE VIII

Miscellaneous

8.1 Notices. All notices, requests, or consents required or permitted to be given under this Agreement must be in writing and shall be deemed to have been given (a) three (3) days after the date mailed by registered or certified mail, addressed to the recipient, with return receipt requested, (b) upon delivery to the recipient in person or by courier, or (c) upon receipt of a facsimile or e-mail transmission by the recipient. Such notices, requests and consents shall be given,

if to New Mountain or New Mountain Blocker, to:

c/o New Mountain Capital, L.L.C.
787 Seventh Avenue, 49th Floor
New York, NY 10019
Attn: Matt Holt

if to ARCH Ventures or IRDO, to:

c/o ARCH Venture Partners
8725 West Higgins Road
Suite 290
Chicago, IL 60631
Attn: Mark McDonnell

if to Venrock or Venrock Blocker, to:

c/o Venrock Associates
3340 Hillview Avenue
Palo Alto, CA 94304

Attn: Bryan E. Roberts

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if to 5AM or 5AM-BT, to:

c/o 5AM Ventures LLC
2200 Sand Hill Road, Suite 1100
Menlo Park, CA 94025
Attn: Andrew Schwab

If to the Company, to:

c/o Bellerophon Therapeutics, Inc.
53 Frontage Road, Suite 301
Hampton, NJ 08827
Attention: Chief Executive Officer

with copies (which shall not constitute notice) to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attention: Lia Der Marderosian, Esq.

or to such other address or facsimile number and with such other copies, as such Party may hereafter specify for the purpose by notice to the other Parties.

Whenever any notice is required to be given by Law or this Agreement, a written waiver thereof, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice. Without limiting the manner by which notice otherwise may be given effectively to the Parties pursuant to this Agreement, any notice to the Parties given by the Company under any provision of this Agreement shall be effective if given by a form of electronic transmission consented to by the Party to whom the notice is given. Any such consent shall be revocable by such Party by written notice to the Company.

8.2 Amendments and Waivers.

(a) Any provision of this Agreement may be amended or waived if, but only if, such amendment or waiver is in writing and is signed, in the case of an amendment, by each Party to this Agreement, or in the case of a waiver, by the Party against whom the waiver is to be effective.

(b) No failure or delay by any Party in exercising any right, power or privilege hereunder shall operate as a waiver thereof nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies herein provided shall be cumulative and not exclusive of any rights or remedies provided by law.

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8.3 Expenses. Except to the extent otherwise expressly provided for in any of the Transaction Documents, all costs and expenses incurred by any Party in connection with the negotiation, preparation, execution and delivery of this Agreement and the Transaction Documents and the consummation of the Closing shall be paid by the Party incurring such costs or expenses.

8.4 Successors and Assigns. The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns; provided that no Party may assign, delegate or otherwise transfer any of its rights or obligations under this Agreement without the consent of each other Party hereto.

8.5 Governing Law. This Agreement is governed by and shall be construed in accordance with the law of the State of Delaware, without regard to the conflicts of law rules of such state.

8.6 Consent to Jurisdiction. Except as otherwise expressly provided in this Agreement, the Parties agree that any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, any of the Transaction Documents or the transactions contemplated thereby shall be brought in the United States District Court or any Delaware state court sitting in Wilmington, Delaware, so long as one of such courts shall have subject matter jurisdiction over such

suit, action or proceeding, and that any cause of action arising out of any of the Transaction Documents shall be deemed to have arisen from a transaction of business in the State of Delaware, and each of the Parties hereby irrevocably consents to the jurisdiction of such courts (and of the appropriate appellate courts therefrom) in any such suit, action or proceeding and irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of the venue of any such suit, action or proceeding in any such court or that any such suit, action or proceeding which is brought in any such court has been brought in an inconvenient forum. Process in any such suit, action or proceeding may be served on any Party anywhere in the world, whether within or without the jurisdiction of any such court. Without limiting the foregoing, each Party agrees that service of process on such Party as provided in Section 8.1 shall be deemed effective service of process on such Party.

8.7 **WAIVER OF JURY TRIAL.** EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

8.8 **Counterparts; Third Party Beneficiaries.** This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. Each Transaction Document shall become effective when each Party thereto shall have received a counterpart thereof signed by the other Party thereto. No Transaction Document is intended to confer upon any Person other than the Parties thereto any rights or remedies hereunder.

8.9 **Entire Agreement.** The Transaction Documents constitute the entire agreement between the parties with respect to the subject matter of this Agreement and supersede all prior agreements and understandings, both oral and written, between the parties with respect to the

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subject matter of this Agreement. No representation, inducement, promise, understanding, condition or warranty not set forth herein has been made or relied upon by any Party hereto.

8.10 **Severability.** If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other governmental authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to any Party. Upon such a determination, the Parties shall negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in an acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the fullest extent possible.

[Remainder of page intentionally left blank.]

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement and Plan of Merger to be duly executed as of the day and year first above-written.

COMPANY

BELLEROPHON THERAPEUTICS, INC.

By: _____
Name: _____
Title: _____

[Signature Page to Agreement and Plan of Merger]

NEW MOUNTAIN

NEW MOUNTAIN PARTNERS II (AIV-B), L.P.

By: New Mountain Investments II, L.L.C.
Its: General Partner

By: _____
Name: Steven B. Klinsky
Title: Managing Member

NEW MOUNTAIN BLOCKER

NEW MOUNTAIN PARTNERS II SPECIAL (AIV-A), L.P.

By: New Mountain Investments II, L.L.C.
Its: General Partner

By: _____
Name: Steven B. Klinsky
Title: Managing Member

[Signature Page to Agreement and Plan of Merger]

VENROCK

VENROCK ASSOCIATES IV, L.P.
By: Venrock Management IV, LLC
Its: General Partner

VENROCK PARTNERS, L.P.
By: Venrock Partners Management, LLC
Its: General Partner

VENROCK ENTREPRENEURS FUND IV, L.P.
By: VEF Management IV, LLC
Its: General Partner

By: _____
Authorized Signatory

VENROCK BLOCKER
Venrock IK Holdings BT, Inc.

By: _____
Authorized Signatory

[Signature Page to Agreement and Plan of Merger]

ARCH

ARCH VENTURE FUND VI, L.P.

By: ARCH Venture Partners VI, L.P.,
Its general partner

By: ARCH Venture Partners VI, LLC,
Its general partner

By: _____
Name: Robert T. Nelsen
Title: Managing Director

IRDO

IRDO Holding Corp.

By: _____
Name:
Title:

[Signature Page to Agreement and Plan of Merger]

5AM

5AM VENTURES LLC

By: 5AM Partners LLC,
Its manager

By: _____
Name: Andrew J. Schwab
Title: Managing Director

5AM CO-INVESTORS LLC

By: 5AM Partners LLC,
Its manager

By: _____
Name: Andrew J. Schwab
Title: Managing Director

5AM-BT

5AM-BT, INC.

By: _____
Name: _____
Title: _____

[Signature Page to Agreement and Plan of Merger]

EXHIBIT A TO AGREEMENT AND PLAN OF MERGER

CERTIFICATE OF MERGER

OF

New Mountain Partners II Special (AIV-A), L.P.,

a Delaware limited partnership,

IRDO HOLDING CORP.,

a Delaware corporation,

VENROCK IK HOLDINGS BT, INC.,

a Delaware corporation, and

5AM BT, INC.,

a Delaware corporation,

WITH AND INTO

BELLEROPHON THERAPEUTICS, INC.,

a Delaware corporation

Pursuant to Title 8, Section 251 of the Delaware General Corporation Law (“**DGCL**”), Bellerophon Therapeutics, Inc., a Delaware corporation (the “**Company**”), in connection with (i) the merger of New Mountain Partners II Special (AIV-A), L.P., a Delaware limited partnership (“**New Mountain Blocker**”), with and into the Company, (ii) the merger of IRDO Holding Corp., a Delaware corporation (“**IRDO**”), with and into the Company, (iii) the merger of Venrock IK Holdings BT, Inc., a Delaware corporation (“**Venrock Blocker**”), with and into the Company, and the merger of 5AM BT, Inc., a Delaware corporation (“**5AM-BT**”), with and into the Company (such mergers, together, the “**Merger**”), hereby certifies as follows:

FIRST: The names and states of domicile of the constituent corporations to the Merger (the “**Constituent Corporations**”) are:

Name	State of Domicile
Bellerophon Therapeutics, Inc.	Delaware
New Mountain Partners II Special (AIV-A), L.P.	Delaware
IRDO Holding Corp.	Delaware
Venrock IK Holdings BT, Inc.	Delaware
5AM-BT, Inc.	Delaware

SECOND: An Agreement and Plan of Merger, dated as of _____, 2015 (the “**Merger Agreement**”), by and among the Company, New Mountain

Partners II (AIV-B), L.P., New Mountain Blocker, ARCH Venture Fund VI, L.P., IRDO, Venrock Associates IV, L.P., Venrock Partners, L.P., Venrock Entrepreneurs Fund IV, L.P., Venrock Blocker, 5AM Ventures, LLC, 5AM Co-Investors, LLC and 5AM-BT has been approved, adopted, certified, executed and acknowledged by New Mountain Investments II, LLC, New Mountain Partners II (AIV-B), ARCH Venture Fund VI, L.P., Venrock Associates IV, L.P., Venrock Partners, L.P., Venrock Entrepreneurs Fund IV, L.P., 5AM Ventures, LLC and 5AM Co-Investors, LLC in accordance with Sections 228 and 251 of the DGCL.

THIRD: The Company shall be the surviving entity in the Merger. The name of the surviving entity shall be “**Bellerophon Therapeutics, Inc.**”.

FOURTH: The Merger shall become effective upon the filing of this Certificate of Merger with the Secretary of State of the State of Delaware.

FIFTH: An executed copy of the Merger Agreement is on file at the office of the surviving entity at 53 Frontage Road, Suite 201, Hampton, New Jersey 08827.

SIXTH: A copy of the Merger Agreement will be furnished by the surviving entity, on request and without cost, to any equityholder of any of the Constituent Corporations.

SEVENTH: The Certificate of Incorporation of the Company shall be the Certificate of Incorporation of the surviving entity.

* * * * *

IN WITNESS WHEREOF, the undersigned, for the purpose of effectuating the Merger of the Constituent Corporations, pursuant to the DGCL, under penalties of perjury does hereby declare and certify that this is the act and deed of the Company and the facts stated herein are true and, accordingly, has hereunto signed this Certificate of Merger this day of , 2015.

BELLEROPHON THERAPEUTICS, INC.,
a Delaware corporation

By: _____
Name:
Title:

[Signature Page to Certificate of Merger]

**CERTIFICATE OF INCORPORATION
OF
BELLEROPHON THERAPEUTICS, INC.**

**ARTICLE I
NAME**

The name of the Corporation is: Bellerophon Therapeutics, Inc. (the “Corporation”).

**ARTICLE II
REGISTERED AGENT AND OFFICE**

The address of the Corporation’s registered office in the State of Delaware is Corporation Service Company, 2711 Centerville Road, Suite 400, in the City of Wilmington, County of New Castle, 19808. The name of its registered agent at such address is Corporation Service Company.

**ARTICLE III
PURPOSE**

The nature of the business or purposes to be conducted or promoted by the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware. The Corporation is being incorporated in connection with the conversion of Bellerophon Therapeutics LLC, a Delaware limited liability company (the “LLC”), to the Corporation, and this Certificate of Incorporation is being filed simultaneously with the Certificate of Conversion of the LLC to the Corporation.

**ARTICLE IV
CAPITAL STOCK**

The total number of shares of stock which the Corporation shall have authority to issue is 133,106,781 shares, all of which shall be shares of Common Stock, par value \$0.01 per share, of which 113,690,300 shares shall be designated “Voting Common Stock” (the “Voting Common Stock”) and 19,416,481 shares shall be designated “Non-Voting Common Stock” (the “Non-Voting Common Stock”) and, together with the Voting Common Stock, the “Common Stock”). Upon the filing of the Certificate of Conversion of the LLC to the Corporation and this Certificate of Incorporation or, if such certificates provide that they are not to become effective until a specified later date, upon such specified later effective date (the “Effective Time”), (i) each voting limited liability company interest of the LLC issued and outstanding immediately prior to the Effective Time will be deemed to be one issued and outstanding fully paid and nonassessable share of Voting Common Stock and (ii) each non-voting limited liability company interest of the LLC issued and outstanding immediately prior to the Effective Time will be deemed to be one issued and outstanding, fully paid and nonassessable share of Non-Voting Common Stock, in each case, without any action required on the part of the Corporation or the former holders of such voting or non-voting limited liability company interests of the LLC.

The number of authorized shares of each of the Voting Common Stock and Non-Voting Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the outstanding capital stock of the Corporation, other than the Non-Voting Common Stock, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of the State of Delaware.

**ARTICLE V
VOTING COMMON STOCK**

SECTION 1. GENERAL.

Each share of Voting Common Stock shall have the same powers, rights, preferences and privileges and qualifications, limitation and restrictions and shall rank equally, share ratably and be identical in all respects as to all matters, with each other share of Voting Common Stock and, except as otherwise required by law or as expressly provided in this Certificate of Incorporation, with each share of Non-Voting Common Stock.

SECTION 2. DIVIDENDS.

(a) Subject to the other provisions of this Certificate of Incorporation, holders of Voting Common Stock and Non-Voting Common Stock shall be entitled to receive equally, on a per share basis, such dividends and other distributions in cash, securities or other property of the Corporation as may be declared thereon by the Board of Directors from time to time out of assets or funds of the Corporation legally available therefor; provided that any dividend or other distribution declared in respect of the Common Stock that is payable in shares of Common Stock shall, in respect of the Voting Common Stock, be payable in shares of Voting Common Stock and shall, in respect of the Non-Voting Common Stock, be payable in shares of Non-Voting Common Stock.

(b) The Corporation shall not effect a subdivision, combination or reclassification of the outstanding shares of Voting Common Stock into a greater or lesser number of shares of Voting Common Stock unless a comparable adjustment is at the same time being made to the Non-Voting Common Stock.

SECTION 3. VOTING RIGHTS.

Each holder of Voting Common Stock shall be entitled to cast one vote for each share of Voting Common Stock standing in such holder’s name on the stock transfer records of the Corporation on any matter submitted to a vote of the stockholders of the Corporation.

**ARTICLE VI
NON-VOTING COMMON STOCK**

SECTION 1. GENERAL.

Each share of Non-Voting Common Stock shall have the same powers, rights, preferences and privileges and qualifications, limitations and restrictions and shall rank equally, share ratably and be identical in all respects as to all matters, with each other share of Non-Voting Common

Stock and, except as otherwise required by law or as expressly provided in this Certificate of Incorporation, with each share of Voting Common Stock.

SECTION 2. DIVIDENDS.

(a) Subject to the other provisions of this Certificate of Incorporation, holders of Non-Voting Common Stock and Voting Common Stock shall be entitled to receive equally, on a per share basis, such dividends and other distributions in cash, securities or other property of the Corporation as may be declared thereon by the Board of Directors from time to time out of assets or funds of the Corporation legally available therefor; provided that any dividend or other distribution declared in respect of the Common Stock that is payable in shares of Common Stock shall, in respect of the Non-Voting Common Stock, be payable in shares of Non-Voting Common Stock and shall, in respect of the Voting Common Stock, be payable in shares of Voting Common Stock.

(b) The Corporation shall not effect a subdivision, combination or reclassification of the outstanding shares of Non-Voting Common Stock into a greater or lesser number of shares of Non-Voting Common Stock unless a comparable adjustment is at the same time being made to the Voting Common Stock.

SECTION 3. VOTING RIGHTS.

The holders of Non-Voting Common Stock shall not be entitled to any voting rights in respect of their shares of Non-Voting Common Stock, except as required by law.

SECTION 4. CONVERSION.

(a) Automatic Conversion Upon Initial Public Offering. In the event there shall occur an Initial Public Offering, then, immediately prior to the consummation of the Initial Public Offering, without any further action by the Corporation or the holders of shares of Non-Voting Common Stock, each then outstanding share of Non-Voting Common Stock (and any share of Non-Voting Common Stock held by the Corporation in treasury) shall automatically be converted into one fully paid and non-assessable share of Voting Common Stock (the “Conversion”).

(b) Conversion Procedures. In the event of an automatic conversion of the Non-Voting Common Stock pursuant to Section 4(a) of this Article VI, each certificate that immediately prior to the Conversion represented shares of Non-Voting Common Stock shall from and after the Conversion automatically and without the necessity of presenting the same for exchange represent the same number of shares of Voting Common Stock. Any holder of certificates that immediately prior to the Conversion represented shares of Non-Voting Common Stock may (but shall not be required to) surrender to the Corporation, at its principal office or at such other office or agency maintained by the Corporation for that purpose, such certificate or certificates held by such holder, duly endorsed in blank or accompanied by stock powers duly endorsed in blank. As promptly as practicable after the surrender of such certificate or certificates and consummation of the Initial Public Offering, the Corporation shall deliver or cause to be delivered certificates (which shall bear legends, if appropriate) registered in the name of such holder representing the number of shares of Voting Common Stock to which such holder shall be

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entitled pursuant to Section 4(a) of this Article VI.

(c) Reservation of Shares. The Corporation shall at all times reserve and keep available, free from liens, charges and security interests and not subject to any preemptive rights, for issuance upon conversion of the Non-Voting Common Stock, such number of its authorized but unissued shares of Voting Common Stock as will be sufficient to permit the conversion of all outstanding shares of Non-Voting Common Stock, and shall take or cause to be taken all action required to increase the authorized number of shares of Voting Common Stock if necessary to permit the conversion of all outstanding shares of Non-Voting Common Stock and to ensure that the shares of Voting Common Stock may be issued without violation of any applicable law or regulation or of any requirement of any securities exchange or inter-dealer quotation system on which the shares of Voting Common Stock may be listed or traded.

ARTICLE VII RIGHTS AND RESTRICTIONS RELATING TO CAPITAL STOCK

SECTION 1. RESTRICTIONS ON TRANSFERS.

(a) General Restrictions on Transfers. No stockholder of the Corporation shall Transfer any shares of Common Stock held by such stockholder, except in accordance with this Article VII. Any attempt by a stockholder, directly or indirectly, to Transfer, or offer to Transfer, any shares of Common Stock or any rights relating thereto without complying with the provisions of this Article VII shall be null and void ab initio and of no effect. The mere entry of a divorce, marital dissolution or child support decree or similar order regarding the allocation of personal assets among Family Members of a stockholder of the Corporation, without the actual Transfer or attempt to Transfer of such stockholder's shares of Common Stock, shall not be deemed to be a violation of this Section 1(a).

(b) Certain Permitted Transfers. Each stockholder of the Corporation may Transfer any of such stockholder's shares of Common Stock, but only:

(i) if such stockholder is an individual, by gift, bequest or operation of the laws of descent, to:

(A) such individual's (1) spouse and descendants (whether natural or adopted), (2) parents and such parents' descendants (whether natural or adopted), (3) other potential intestate heirs, or (4) executor or other Legal Representative (any such Person, a “Family Member”);

(B) any corporation, partnership or limited liability company that is owned exclusively by such stockholder and/or by one or more Family Members of such stockholder and the directors, officers, partners and managers (as applicable) of which are exclusively such stockholder and/or one or more Family Members of such stockholder; or

(C) a trust solely for the benefit of such stockholder and/or one or more Family Members of such stockholder, the trustees of which are solely such stockholder and/or one or more Family Members of such stockholder and/or an entity described in paragraph (B); or

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(ii) if such stockholder is an entity, to an Affiliate of such stockholder either:

(A) by gift; or

(B) in a Transfer that would be exempt from the registration requirements of Section 5 of the Securities Act of 1933, as amended (the “Securities Act”), by virtue of the exemption provided by Section 4(a)(2) of the Securities Act if the stockholder were the issuer of the Common Stock (i.e., the 4 (1 ½) exemption)

(each Person to which shares of Common Stock are Transferred in accordance with this Section 1(b) being herein referred to as a “Permitted Transferee”); provided, that (x) for any Transfer to a Permitted Transferee that is the spouse of a stockholder of the Corporation to be effective hereunder, such Permitted Transferee shall execute and deliver a written agreement satisfactory to the Corporation providing for rights of repurchase (at a price determined by the Board of Directors in good faith) by such stockholder or the Corporation in the event of a divorce between such spouse and such stockholder; (y) all of the stockholders of any Permitted Transferee pursuant to paragraph (i)(B) of this Section 1(b) that is a corporation, all of the partners of any Permitted Transferee pursuant to paragraph (i)(B) of this Section 1(b) that is a partnership and all of the members or managers of any Permitted Transferee pursuant to paragraph (i)(B) of this Section 1(b) that is a limited liability company shall agree in writing not to Transfer any shares, partnership interests or limited liability company interests that such Persons then own or may thereafter acquire in such corporation, partnership or limited liability company Permitted Transferee (or otherwise allow any action the effect of which would be to transfer control of such Permitted Transferee) except to a Person described in the last sentence of this Section 1(b) (subject to compliance with the provisions of such sentence); and (z) any Permitted Transferee pursuant to paragraph (i)(A)(4), (i)(B) or (i)(C) of this Section 1(b) shall agree in writing to promptly Transfer any shares of Common Stock which it may then own to any Person described in the last sentence of this Section 1(b) (subject to compliance with the provisions of such sentence) at such time as it ceases to meet the criteria for a Permitted Transferee set forth in the applicable paragraph. Any Permitted Transferee may Transfer any of the shares of Common Stock it holds back to the stockholder of the Corporation from which the shares were Transferred or to any Person that would be a Permitted Transferee of such stockholder, subject to compliance by such Person with this Section 1(b), and upon such compliance such Person shall likewise be a Permitted Transferee.

(c) Effect of Transfer to Permitted Transferee. If (i) the employment of a stockholder of the Corporation that is an employee of, or a consultant or independent contractor to, the Corporation or any of its subsidiaries (each, an “Employee”) is terminated by the Corporation or such subsidiary for Cause, the Corporation shall have the right to repurchase the shares of Common Stock held by such Employee and/or its Permitted Transferee in accordance with the provisions of Section 7 of this Article VII, and (ii) if either the stockholder or its Permitted Transferee violates any employment or other agreement between the stockholder and the Corporation or any of its subsidiaries that contains non-competition, non-solicitation or confidentiality restrictions on such stockholder (each, a “Non-Competition Agreement”), the Corporation shall be entitled to repurchase the shares of Common Stock of such stockholder and/or its Permitted Transferee in accordance with Section 7 of this Article VII.

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(d) Transfers by an NMP Holder. In addition to any exercise of its rights pursuant to Section 1 of this Article VII, an NMP Holder may Transfer any of the shares of Common Stock it holds (i) subject to compliance with Section 3 or 6, as applicable, of this Article VII, (ii) in a Transaction in respect of which such NMP Holder is exercising its drag-along right pursuant to Section 4 of this Article VII or (iii) in an Initial Public Offering in connection with the exercise of such Person’s rights under the Registration Rights Agreement.

SECTION 2. INVOLUNTARY TRANSFERS.

To the fullest extent permitted by law, any Transfer of shares of Common Stock upon default, foreclosure, forfeit, divorce, court order or other than by a voluntary decision on the part of a stockholder of the Corporation, other than death (each, an “Involuntary Transfer”), shall be null and void ab initio and of no effect unless such stockholder complies with this Section 2 and enables the Corporation to exercise in full its rights hereunder. Notwithstanding the provisions of this Section 2 that would make an Involuntary Transfer null and void ab initio and of no effect, in the event that a Person to whom shares of Common Stock are purported to have been Transferred pursuant to an Involuntary Transfer (an “Involuntary Transferee”) acquires any interest in such shares, (a) such Involuntary Transferee shall be bound by all of the provisions of this Article VII, and (b) the Corporation shall have the right, subject to applicable law, to repurchase such shares pursuant to this Section 2 and the Involuntary Transferee shall have the obligation to sell such shares to the Corporation in accordance with this Section 2. Upon any Involuntary Transfer of shares of Common Stock by a stockholder of the Corporation, such stockholder shall promptly (but in no event later than five Business Days after such Involuntary Transfer) provide written notice to the Corporation indicating that such Involuntary Transfer has occurred, specifying the name of the Involuntary Transferee, and giving a detailed description of the circumstances giving rise to, and stating the legal basis for, such Involuntary Transfer. Upon the receipt of the notice described in the preceding sentence, and for 60 days thereafter, the Corporation shall have the right to repurchase, and the Involuntary Transferee shall have the obligation to sell to the Corporation, all (but not less than all) of the shares of Common Stock acquired by the Involuntary Transferee for a purchase price equal to the lesser of (a) the Fair Market Value of a share of Common Stock as of the Business Day immediately preceding such sale to the Corporation multiplied by the number of shares of Common Stock acquired by such Involuntary Transferee and (b) the amount of the indebtedness or other liability of the stockholder, if applicable, that gave rise to such Involuntary Transfer.

SECTION 3. TAG-ALONG RIGHTS.

Each stockholder of the Corporation, at such stockholder’s option, may participate proportionately (as provided for below), and each NMP Holder shall allow each other stockholder to so participate, in any sale (other than an Initial Public Offering in connection with the exercise of an NMP Holder’s rights under the Registration Rights Agreement, which shall be governed by Section 6 of this Article VII, and other than a sale in respect of which an NMP Holder is exercising its drag-along rights pursuant to Section 4 of this Article VII) to any Third Party of all or any portion of the Common Stock held by such NMP Holder. The Corporation shall notify each other stockholder of the Corporation in writing of such NMP Holder’s intention to effect such a sale to the Third Party, the identity of the Third Party and the nature and per share amount of consideration to be paid by the Third Party, at least 10 Business Days before the closing of such

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proposed sale. Any NMP Holder proposing to make such a sale shall provide such information to the Corporation as promptly as practicable to enable the Corporation to comply with the foregoing sentence. Any sale of shares of Common Stock by any other stockholder of the Corporation pursuant to this Section 3 shall be for the same consideration per share, on substantially the same terms and subject to substantially the same conditions as are applicable to the sale of shares by the NMP Holder. Each other stockholder of the Corporation will be entitled to sell up to the same percentage of the shares of Common Stock such stockholder holds as the NMP Holder is selling of the shares of Common Stock it holds (determined on the basis of the aggregate number of shares of Common Stock held and the aggregate number of such shares of Common Stock being sold by the NMP Holder (assuming the conversion, exchange or exercise of all Convertible Securities held by the NMP Holder and such other stockholder of the Corporation)), but not in excess of the aggregate number of shares of Common Stock held by such other stockholder plus the aggregate number of shares of Common Stock that would be acquired by such other stockholder upon the conversion, exchange or exercise of all of such stockholder’s vested Convertible Securities. If any stockholder of the Corporation sells any shares of Common Stock pursuant to this Section 3, such stockholder shall pay and be responsible for such stockholder’s proportionate share of the Expenses of Sale and the Sale Obligations.

SECTION 4. DRAG-ALONG RIGHTS.

Notwithstanding any other provision of this Article VII to the contrary, if any NMP Holder shall propose to sell (including by exchange, in a merger, consolidation, sale, business combination or otherwise) at least 80% of the shares of Common Stock held by such NMP Holder to a Third Party in the same transaction or series of related transactions (which would represent, together with any other shares of Common Stock proposed to be Transferred (including pursuant to the exercise by

such NMP Holder of its rights under this Section 4), more than 50% of the outstanding shares of Common Stock), or the Corporation shall propose to sell or otherwise transfer for value all or substantially all of the equity, assets or business (whether by merger, consolidation, sale, business combination or otherwise) of the Corporation, then (a) the NMP Holder, at its option, may require that each other stockholder of the Corporation sell up to the same percentage of the shares of Common Stock such stockholder holds as the NMP Holder is selling of the shares of Common Stock it holds in such Transaction (determined on the basis of the aggregate number of shares of Common Stock held and the aggregate number of such shares of Common Stock being sold by the NMP Holder (assuming the conversion, exchange or exercise of all Convertible Securities held by the NMP Holder and such other stockholder)), and waive any appraisal right that such other stockholder may have in connection with such Transaction, and (b) if stockholder approval of such Transaction is required and the stockholders of the Corporation are entitled to vote thereon, that such other stockholder vote all of such stockholder's shares of Common Stock in favor of such Transaction. Any sale of shares of Common Stock by any other stockholder of the Corporation pursuant to this Section 4 shall be for the same consideration per share, on substantially the same terms and subject to substantially the same conditions as are applicable to the sale of shares of Common Stock by the NMP Holder. If any stockholder of the Corporation sells any shares of Common Stock pursuant to this Section 4, such stockholder shall pay and be responsible for such stockholder's proportionate share of the Expenses of Sale and the Sale Obligations.

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SECTION 5. ALTERNATIVE SALE TRANSACTION.

Notwithstanding anything to the contrary contained in Section 3 or 4 of this Article VII, in connection with a Transaction pursuant to Section 3 or 4 of this Article VII where the consideration in such Transaction consists of or includes securities, if the issuance of such securities to a stockholder of the Corporation would require either a registration statement under the Securities Act, or preparation of a disclosure statement pursuant to Regulation D (or any successor regulation) under the Securities Act or a similar provision of any state securities law, and such registration statement or disclosure statement is not otherwise being prepared in connection with the Transaction, then, at the option of the NMP Holder, such other stockholder may receive, in lieu of such securities, the fair market value of such securities in cash, as determined in good faith by the Board of Directors, whose determination shall be final and binding.

SECTION 6. PARTICIPATION IN AN INITIAL PUBLIC OFFERING.

(a) If an NMP Holder proposes to sell all or any portion of the Common Stock held by such NMP Holder in an Initial Public Offering in connection with the exercise of such Person's registration rights under Section 2.1 of the Registration Rights Agreement, or if a "Holder" (as defined in the Registration Rights Agreement) proposes to sell all or any portion of the Common Stock held by such Holder in an Initial Public Offering in connection with the exercise of such Holder's registration rights under Section 2.2 of the Registration Rights Agreement (such NMP Holder or Holder, as applicable, a "Selling Stockholder"), then each other stockholder of the Corporation shall be entitled to participate proportionately in the Initial Public Offering by selling in the Initial Public Offering up to the same percentage of its shares of Common Stock as such Selling Stockholder (or, if there is more than one Selling Stockholder, by all of the Selling Stockholders combined) sells of its (or their) shares of Common Stock in the Initial Public Offering (determined on the basis of the aggregate number of shares of Common Stock held and the aggregate number of such shares of Common Stock being sold by such Selling Stockholder (or Selling Stockholders, as applicable) (assuming the conversion, exchange or exercise of all Convertible Securities held by such Selling Stockholder (or Selling Stockholders, as applicable) and such other stockholder)), but not in excess of the aggregate number of shares of Common Stock held by such other stockholder plus the aggregate number of shares of Common Stock that would be acquired by such other stockholder upon the conversion, exchange or exercise of all of such stockholder's vested Convertible Securities. The Corporation shall notify each other stockholder of the Corporation in writing of such Selling Stockholder's intention to effect or participate (as applicable) in an Initial Public Offering at least 10 Business Days, or such shorter time as the Corporation deems practicable, before the effective date of the registration statement relating to the Initial Public Offering (the "Public Offering Notice"). If a stockholder of the Corporation wishes to participate in the Initial Public Offering, such stockholder shall notify the Corporation in writing within three Business Days after receipt of the Public Offering Notice of such stockholder's intention to participate in the Initial Public Offering, including the maximum number of shares of Common Stock with respect to which such stockholder will so participate, and the Corporation shall cause such stockholder's shares of Common Stock that are to be sold in the Initial Public Offering to be included therein (subject to any cutbacks pursuant to Section 2.1(j) or 2.2(d) (as applicable) of the Registration Rights Agreement). Any failure by a stockholder of the Corporation to so notify the Corporation within such three Business Day period shall be deemed an election by such stockholder not to participate in the Initial Public Offering with respect to any of

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such stockholder's shares of Common Stock. If any stockholder of the Corporation sells any shares of Common Stock pursuant to this Section 6, such stockholder shall pay and be responsible for such stockholder's proportionate share of the Expenses of Sale and the Sale Obligations, including indemnifying the underwriters of the Initial Public Offering, on a proportionate basis, to the same extent as the Selling Stockholder is required to indemnify such underwriters. If any stockholder of the Corporation sells any shares of Common Stock pursuant to this Section 6, such stockholder shall be entitled to all of the rights and be bound by all of the obligations of a "Participating Holder" (as defined in the Registration Rights Agreement) under Sections 2.1(h), 2.3(a)(iii), 2.3(a)(vi), 2.3(a)(viii) (to the extent such section relates to the provision of an earnings statement), 2.3(a)(xix), 2.3(a)(xx), 2.3(b), the last two sentences of Section 2.4(a), the last two sentences of Section 2.4(b), Section 2.4(c) and Section 2.6 of the Registration Rights Agreement, and shall be entitled to all of the rights and be bound by all of the obligations of a "Holder" (as defined in the Registration Rights Agreement) under Sections 2.2(c), 2.3(c), 2.6 and 2.8 of the Registration Rights Agreement.

(b) In connection with any proposed Initial Public Offering, whether by a Selling Stockholder, the Corporation or otherwise, and whether or not such other stockholder of the Corporation is participating therein, each such other stockholder shall (i) supply any information reasonably requested by the Corporation in connection with the preparation of a registration statement and/or any other documents relating to the Initial Public Offering, (ii) execute and deliver any agreements and instruments reasonably requested by the Corporation to effectuate the Initial Public Offering, including an underwriting agreement, a custody agreement and a "hold back" agreement pursuant to which such stockholder will agree not to sell or purchase any securities of the Corporation (whether or not such securities are otherwise governed by this Certificate of Incorporation) for the same period of time following the Initial Public Offering as is agreed to by the Selling Stockholder with respect to itself and (iii) otherwise comply with the provisions of Section 2 of the Registration Rights Agreement applicable to the "Participating Holders" (as defined therein). If the Corporation requests that a stockholder of the Corporation take any of the actions referred to in clause (i), (ii) or (iii) of the previous sentence, such stockholder shall take such action promptly but in any event within five days following the date of such request.

(c) If the Corporation receives a request for registration pursuant to Section 2.1 or 2.2 of the Registration Rights Agreement in connection with an Initial Public Offering (and if such a request is being implemented or has not been withdrawn or abandoned), each stockholder of the Corporation, to the extent requested in writing by the managing underwriter(s), shall be prohibited from effecting any public or private offer, sale, distribution or other disposition of any "Registrable Securities" or "Tag-Along Securities" (each as defined in the Registration Rights Agreement) or Convertible Securities (other than as a part of such registration) during the 180 day period (or such shorter period as the managing underwriter(s) may require) beginning on the effective date of such registration statement and excluding shares of Common Stock covered by such registration statement (any such period, the "Restricted Period"; provided that: (i) such stockholder has received prior written notice of the Initial Public Offering and (ii) in connection with the Initial Public Offering, each officer and director of the Corporation is subject to restrictions substantially equivalent to those imposed on such stockholder. If (A) the Corporation issues an earnings release, or material news or a material event relating to the Corporation occurs, during the last 17 days of the Restricted Period, or (B) prior to the expiration of the Restricted

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Period, the Corporation announces that it will release earnings results during the 16 day period beginning on the last day of the Restricted Period, the restrictions imposed by this Section 6(c) shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event.

SECTION 7. REPURCHASE RIGHTS.

(a) If (i) the employment of a stockholder of the Corporation who is an Employee is terminated by the Corporation or one of its subsidiaries for Cause, or (ii) a stockholder of the Corporation breaches or violates any obligation of such stockholder under any Non-Competition Agreement to which such stockholder is a party, including any obligation not to compete with the Corporation or any of its subsidiaries, any obligation not to solicit employees of the Corporation or any of its subsidiaries, or any obligation not to disclose Confidential Information, irrespective of whether such stockholder is an Employee at the time of such breach or violation, the Corporation shall have the right, at its option and subject to applicable law, exercisable by delivery of written notice to such stockholder during the Call Period, to purchase all or any portion of the Common Stock held by such stockholder at the time such written notice is delivered or acquired by such stockholder after the date such written notice is delivered, including upon exercise of any stock options held by such stockholder (a “Call”). The purchase price per share of any shares of Common Stock purchased pursuant to this Section 7(a) shall be equal to the Fair Market Value of such shares as of the Business Day immediately preceding the Notice Date (the “Call Price”). Notwithstanding anything to the contrary in this Section 7(a), in the event that the Corporation has the right, as a result of such termination, breach or violation, to purchase such shares of Common Stock pursuant to any other agreement or instrument executed by a stockholder of the Corporation and/or the Corporation (including any restricted stock agreement, option agreement or stock award agreement) (i) for a lesser price, the Call Price shall be such lesser price, and (ii) for a longer period, the Call Period shall be such longer period.

(b) All shares of Common Stock held by any stockholder of the Corporation described in Section 7(a) that the Corporation does not purchase and which are not forfeited pursuant to the provisions of this Section 7 shall continue to be subject to the provisions of this Article VII, other than Sections 3 and 6(a), which shall no longer be applicable to such stockholder.

(c) Subject to Section 7(d), the closing (the “Call Closing”) of any purchase of shares of Common Stock which the Corporation has elected to purchase pursuant to Section 7(a) (“Called Shares”) shall take place at the principal office of the Corporation on the later of (i) 15 Business Days after the Notice Date and (ii) if the stockholder of the Corporation has died, is permanently disabled or has been adjudicated an incompetent on or prior to the date of the Call Closing, 10 days after the appointment of a Legal Representative (such later date, the “Scheduled Call Closing Date”). At the Call Closing, such stockholder shall sell, convey, transfer, assign and deliver to the Corporation, by appropriate instrument of transfer (and with all necessary transfer tax stamps affixed thereto at the expense of such stockholder), all right, title and interest in and to the Called Shares, which shall constitute (and, at the Call Closing, such stockholder shall represent, warrant and certify the same to the Corporation in writing) good and unencumbered title to such shares of Common Stock, free and clear of all liens, security interests, encumbrances and adverse claims of any kind and nature (other than those in favor of the Corporation and any NMP

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Holder pursuant to this Certificate of Incorporation), and, if the Called Shares are certificated, shall deliver to the Corporation the certificate(s) representing the Called Shares, and the Corporation shall deliver to such stockholder, in full payment of the purchase price for the Called Shares, either a wire transfer to an account designated by such stockholder or a cashier’s, certified or official bank check payable to the order of such stockholder (the method of payment to be at the option of the Corporation), in an amount equal to the Call Price multiplied by the aggregate number of Called Shares. Notwithstanding anything herein to the contrary, from and after the Notice Date, such stockholder shall not have any rights with respect to any of the Called Shares (including any rights pursuant to Sections 3 and 6(a)), except to receive the purchase price therefor under this Section 7.

(d) Notwithstanding the provisions of Section 7(c), if the Corporation exercises its right to purchase Called Shares pursuant to Section 7(a), but the Corporation is prohibited from effecting the Call Closing on the Scheduled Call Closing Date by any contractual obligation of the Corporation or any of its Affiliates, the terms of any share of capital stock of the Corporation or applicable law (collectively, “Prohibitions”), then the Call Closing shall take place on the first practicable date on which no Prohibitions are applicable. If at any time the Prohibitions shall cease to be applicable to any portion of the Called Shares not purchased, then the Corporation shall purchase such portion on the first practicable date on which the Corporation is permitted to do so.

(e) Notwithstanding anything to the contrary set forth in Section 3, 4 or 6, if at the time of a Transaction in which a stockholder of the Corporation is participating, the Corporation is entitled to purchase such stockholder’s shares of Common Stock pursuant to this Section 7, and if the Call Price would be less than the proceeds per share that would be payable to such stockholder in such Transaction, then such stockholder shall be entitled to receive for each share of Common Stock only the Call Price, with the amount of the proceeds of sale in the Transaction with respect to such stockholder’s shares of Common Stock in excess of the aggregate amount of the Call Price received for such shares of Common Stock being remitted to the other stockholders of the Corporation participating in such Transaction pro rata in accordance with their respective participation in such Transaction.

SECTION 8. SECURITIES LAWS.

No stockholder of the Corporation shall, directly or indirectly, Transfer, or offer to Transfer, any of the shares of Common Stock (or solicit any offers to buy, purchase or otherwise acquire or take a pledge of any of the shares of Common Stock) or any rights relating thereto, except in compliance with the Securities Act, all applicable state securities laws, any other applicable securities laws and this Certificate of Incorporation.

SECTION 9. TERMINATION.

Notwithstanding any other provision of this Certificate of Incorporation to the contrary, but subject to the restrictions set forth in any applicable federal and state securities laws, the provisions of this Article VII shall terminate and have no further force or effect upon the consummation of an Initial Public Offering.

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ARTICLE VIII BOARD OF DIRECTORS

In furtherance of and not in limitation of powers conferred by statute, it is further provided:

1. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. The Board of Directors may exercise all such authority and powers of the Corporation and do all such lawful acts and things as are not by statute or this Certificate of Incorporation directed or required to be exercised or done by the stockholders.

2. Election of directors need not be by written ballot unless the By-Laws of the Corporation shall otherwise provide.

3. The Board of Directors is expressly authorized to adopt, amend, alter or repeal the By-Laws of the Corporation. The stockholders shall also have the power to adopt, amend or repeal the By-Laws of the Corporation.

ARTICLE IX LIMITATION OF LIABILITY

No director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for any breach of fiduciary duty as a director, provided that the foregoing shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law of the State of Delaware, or (iv) for any transaction from which the director derived an improper personal benefit. If the General Corporation Law of the State of Delaware is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law of the State of Delaware, as so amended. No amendment to or repeal of this provision shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment or repeal.

ARTICLE X INDEMNIFICATION

The Corporation shall, to the fullest extent permitted by Section 145 of the General Corporation Law of Delaware, as amended from time to time, indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, member, employee or trustee of, or in a similar capacity with, another corporation, partnership, limited liability company, joint venture, trust or other enterprise (including any employee benefit plan) (all such persons being referred to hereafter as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all losses, liabilities, damages, expenses

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(including attorneys' fees), judgments, fines, penalties, excise taxes (including excise taxes or penalties under the Employee Retirement Income Security Act of 1974, as amended from time to time ("ERISA"), and amounts paid in settlement actually and reasonably incurred by or on behalf of an Indemnitee in connection with such action, suit or proceeding and any appeal therefrom.

In addition to the right to indemnification conferred in the preceding paragraph, the Corporation shall pay in advance of the final disposition of such matter any expenses (including attorneys' fees) incurred by an Indemnitee in defending a civil or criminal action, suit, proceeding or investigation or any appeal therefrom; provided, however, that the payment of such expenses incurred by an Indemnitee in advance of the final disposition of such matter shall be made only upon receipt of an undertaking by or on behalf of the Indemnitee to repay all amounts so advanced in the event that it shall ultimately be determined by final judicial decision of a court of competent jurisdiction from which there is no further right of appeal that the Indemnitee is not entitled to be indemnified by the Corporation as authorized in this Article X, which undertaking shall be accepted without reference to the financial ability of the Indemnitee to make such repayment.

Any indemnification or advancement of expenses under this Article X shall be made promptly, and in any event within 60 days, or in the case of a claim for advancement of expenses within 20 days, upon the written request of an Indemnitee (and, in the case of advancement of expenses, receipt by the Corporation of the required undertaking by or on behalf of the Indemnitee). The right to indemnification or advancement of expenses conferred by this Article X shall be enforceable by such Indemnitee in any court of competent jurisdiction if the Corporation denies such request, in whole or in part, or if no disposition thereof is made within 60 days (or 20 days with respect to advancement of expenses). Such Indemnitee's costs and expenses incurred in connection with successfully establishing such Indemnitee's right to indemnification or advancement of expenses, in whole or in part, in any such action, suit or proceeding shall also be indemnified by the Corporation. It shall be a defense to any such action, suit or proceeding (other than an action, suit or proceeding brought to enforce a claim for the advancement of expenses where the required undertaking, if any, has been received by the Corporation) that the Indemnitee has not met the applicable standard of conduct set forth in the General Corporation Law of the State of Delaware, as the same exists or hereafter may be amended, but the Indemnitee shall be presumed to have met the applicable standard of conduct so as to be entitled to indemnification, and the burden of proving such defense shall be on the Corporation. Neither the failure of the Corporation (including its directors who are not parties to such action, suit or proceeding, a committee of such directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such action, suit or proceeding that indemnification of the Indemnitee is proper in the circumstances because the Indemnitee has met the applicable standard of conduct set forth in the General Corporation Law of the State of Delaware, as the same exists or hereafter may be amended, nor the fact that there has been an actual determination by the Corporation (including its directors who are not parties to such action, suit or proceeding, a committee of such directors, independent legal counsel or its stockholders) that the Indemnitee has not met such applicable standard of conduct, shall be a defense to the action, suit or proceeding or create a presumption that the Indemnitee has not met the applicable standard of conduct.

The rights provided in this Article X (i) shall not be deemed exclusive of any other rights to which an Indemnitee may be entitled under any law, agreement or vote of stockholders or disinterested directors or otherwise, and (ii) shall inure to the benefit of the heirs, executors and

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administrators of the Indemnities. All rights to indemnification under this Article X shall be deemed to be a contract between the Corporation and each Indemnitee. Nothing contained in this Article X shall be deemed to prohibit, and the Corporation is specifically authorized to enter into, agreements with officers and directors providing indemnification rights and procedures different from (including rights and procedures which provide broader indemnification or are otherwise more favorable to Indemnitee than) those set forth in this Article X. The Corporation may, to the extent authorized from time to time by its Board of Directors, grant indemnification rights to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article X.

No amendment, alteration or repeal of this Article X or any portion hereof shall eliminate or limit any right or protection of an Indemnitee with respect to any action, suit or proceeding concerning any action or omission to act that occurred or allegedly occurred prior to such amendment, alteration or repeal.

If this Article X or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each person entitled to indemnification under the first paragraph of this Article X as to all losses, liabilities, damages, expenses (including attorneys' fees), judgments, fines, penalties, excise taxes (including excise taxes or penalties under ERISA), and amounts paid in settlement actually and reasonably incurred by or on behalf of such person and for which indemnification is available to such person pursuant to this Article X to the fullest extent permitted by any applicable portion of this Article X that shall not have been invalidated and to the fullest extent permitted by applicable law.

**ARTICLE XI
AMENDMENT**

Except as otherwise provided herein, (i) the Corporation reserves the right at any time, and from time to time, to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by statute and this Certificate of Incorporation, and (ii) all rights, preferences and privileges of any nature conferred upon stockholders, directors or any other persons herein are granted subject to this reservation.

**ARTICLE XII
PROPERTY OF STOCKHOLDERS**

Except as otherwise provided by applicable law, the private property or assets of the stockholders of the Corporation shall not to any extent whatsoever be subject to the payment of the debts of the Corporation.

**ARTICLE XIII
CORPORATE OPPORTUNITY**

(a) Except as otherwise agreed in writing, (i) to the fullest extent permitted by Section 122(17) of the General Corporation Law of the State of Delaware, the Corporation hereby renounces any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Corporate Opportunity; and (ii) the Corporation acknowledges that, to the fullest extent permitted by law, no Specified Person shall be liable to the Corporation or its

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stockholders for breach of any fiduciary or other duty by reason of the fact that such Specified Person pursues or acquires a Corporate Opportunity for itself, directs a Corporate Opportunity to another Person, or does not communicate or offer information regarding a Corporate Opportunity to the Corporation; provided, that, in the case of a Specified Person that is a director, officer or employee of the Corporation, the Corporation does not renounce any interest or expectancy in any Corporate Opportunity that is expressly offered to such Specified Person in writing solely in his or her capacity as a director, officer or employee of the Corporation. In the event any Specified Person acquires knowledge of a potential transaction or matter which may constitute a Corporate Opportunity, such Specified Person shall, to the fullest extent permitted by law, have no duty to offer or communicate information regarding any Corporate Opportunity to the Corporation, and such Specified Person shall have the right to take for his, her or its own account (individually or as a partner or fiduciary) or to recommend to another Person any such Corporate Opportunity, unless in the case of a Specified Person that is a director, officer or employee of the Corporation, such Corporate Opportunity is expressly offered to such Specified Person in writing solely in his or her capacity as a director, officer or employee of the Corporation. No Specified Person shall be obligated to finance any Corporate Opportunity for the Corporation.

(b) For purposes of this Article XIII only, (i) the term “Corporate Opportunity” shall mean an investment, business opportunity or prospective economic or competitive advantage, including, without limitation, any matter (A) in which the Corporation could have an interest or expectancy, (B) which the Corporation is financially able to undertake, or with respect to which the Corporation would reasonably be able to obtain debt or equity financing, and (C) which is, from its nature, in the line or lines of the Corporation’s business or reasonable expansion thereof, and (ii) the term “Corporation” shall mean the Corporation and all corporations, partnerships, joint ventures, associations and other entities in which the Corporation beneficially owns (directly or indirectly) 50% or more of the outstanding voting stock, voting power, partnership interests or similar voting interests.

(c) Neither the alteration, amendment or repeal of this Article XIII nor the adoption of any provisions of this Certificate of Incorporation inconsistent with this Article XIII shall eliminate or reduce the effect of this Article XIII in respect of any matter occurring, or any cause of action, suit or claim that, but for this Article XIII, would accrue or arise, prior to such alteration, amendment, repeal or adoption.

**ARTICLE XIV
DEFINITIONS; RULES OF CONSTRUCTION**

For purposes of this Certificate of Incorporation, the following terms have the following meanings:

“Affiliate” shall mean, with respect to any Person, any other Person that, directly or indirectly, controls, is controlled by or is under common control with such Person, where “control” means the possession, directly or indirectly, of the power to direct the management and policies of such Person, whether through the ownership of voting securities, by contract, or otherwise.

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“Business Day” shall mean any day excluding Saturday, Sunday and any day which is a legal holiday under the laws of the State of New York, or is a day on which banking institutions located in New York, New York are authorized or required by law or other governmental action to close.

“Call Period” shall mean (a) in the case of the termination for Cause of the employment of a stockholder of the Corporation who is an Employee, the period of six months following the later of (i) the date of such termination and (ii) the date such stockholder acquired such share of Common Stock, whether by exercise of a stock option or otherwise, and (b) in the case of the breach or violation by a stockholder of the Corporation of any obligation under a Non-Competition Agreement, the period of six months following the later of (i) the date that the Corporation has actual knowledge of such breach or violation and (ii) the date such stockholder acquired such share of Common Stock, whether by exercise of a stock option or otherwise.

“Cause” shall mean (a) if an Employee is a party to an employment, consulting or severance agreement with the Corporation or any of its subsidiaries in which “cause” is defined, the occurrence of any circumstances defined as “cause” in such employment, consulting or severance agreement, or (b) if an Employee is not a party to an employment, consulting or severance agreement with the Corporation or any of its subsidiaries in which “cause” is defined, (i) the Employee’s willful failure substantially to perform his or her duties and responsibilities to the Corporation or any of its subsidiaries or deliberate violation of a policy of the Corporation or any of its subsidiaries; (ii) the Employee’s commission of any act of fraud, embezzlement, dishonesty or any other willful misconduct that has caused or is reasonably expected to result in material injury to the Corporation or any of its subsidiaries; (iii) the unauthorized use or disclosure by an Employee of any proprietary information or trade secrets of the Corporation, any of its subsidiaries or any other party to whom the Employee owes an obligation of nondisclosure as a result of his or her relationship with the Corporation or any of its subsidiaries; or (iv) the Employee’s willful breach of any of his or her obligations under any written agreement or covenant with Corporation or any of its subsidiaries; provided that, prior to the termination of an Employee for Cause, the Corporation shall provide such Employee with written notice that the Board of Directors intends to meet to consider the Employee’s termination for Cause and the grounds constituting Cause.

“Confidential Information” shall mean any trade secrets, customer lists, drawings, designs, information regarding product development, devices, prototypes, works in process, marketing plans, sales plans, management organization information (including data and other information relating to members of the Board of Directors or management), operating policies or manuals, business plans, financial records or any other financial, commercial, business or technical information relating to the

Corporation or any of its subsidiaries or any confidential or proprietary information that the Corporation or any of its subsidiaries may receive belonging to suppliers, customers or others who do business with the Corporation or any of its subsidiaries.

“Convertible Securities” shall mean (a) any options or warrants to purchase or other rights to acquire shares of Common Stock, (b) any securities by their terms convertible into, or exercisable or exchangeable for, shares of Common Stock (directly or indirectly) and (c) any options or warrants to purchase or other rights to acquire any such convertible, exercisable or exchangeable securities.

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“Expenses of Sale” shall mean all expenses incurred by any NMP Holder and its Affiliates in connection with any Transaction to the extent that such expenses are not paid or reimbursed by the Corporation.

“Fair Market Value” of a share of Common Stock shall mean, as of any particular day, the fair market value of such share of Common Stock as determined in good faith by the Board of Directors, whose determination shall be final and binding.

“Initial Public Offering” shall mean the initial public offering of shares of Common Stock through a registration statement (other than a Form S-8 or successor forms) filed with, and declared effective by, the United States Securities and Exchange Commission and in connection with which such shares are authorized and approved for listing on a national securities exchange.

“Legal Representative” shall mean the guardian, executor, administrator or other legal representative of a stockholder of the Corporation that is an individual, and all references herein to such stockholder shall include a reference to such stockholder’s Legal Representative, if any, unless the context otherwise requires.

“NMP Holder” shall have the meaning set forth for such term in the Stockholders Agreement, dated as of _____, 2015, by and among the Corporation and the stockholders party thereto from time to time, as the same may be amended, restated, modified or supplemented from time to time.

“Notice Date” shall mean the date of delivery by the Corporation of written notice of its election to exercise its right to purchase shares of Common Stock from a stockholder of the Corporation pursuant to Section 7(c) of Article VII.

“Person” shall mean an individual, partnership, association, corporation, limited liability company, unincorporated organization, trust, estate or joint venture, or a nation, government, governmental agency or political subdivision thereof, or any person or body exercising executive, legislative, judicial, regulatory, administrative or taxing functions of or pertaining to government, including any court, or any other entity of any kind.

“Registration Rights Agreement” shall mean the Registration Rights Agreement, dated as of _____, 2015, by and among the Corporation and the stockholders party thereto from time to time, as the same may be amended, restated, modified or supplemented from time to time.

“Sale Obligations” shall mean any liabilities and obligations (including liabilities and obligations for indemnification, amounts paid into escrow and post-closing adjustments) incurred by any NMP Holder and its Affiliates in connection with any Transaction.

“Specified Person” shall mean a stockholder of the Corporation or any of such stockholder’s Affiliates, or any officer, director, manager, member, partner, stockholder, employee, advisor or agent of such stockholder or any of its Affiliates (including any individual serving as a director of the Corporation), except those stockholders who are employees of the Corporation or any of its subsidiaries, provided, however, that for purposes of this definition of “Specified Person,” none of the Specified Persons, on one hand, or the Corporation, on the other hand, shall be deemed to be an Affiliate of one another.

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“Third Party” shall mean (a) with respect to any stockholder of the Corporation that is an individual, any Person other than a Family Member, or an Affiliate of a Family Member, of such stockholder, and (b) with respect to any stockholder of the Corporation that is not an individual, any Person other than an Affiliate of such stockholder.

“Transaction” shall mean any sale or other transfer for value pursuant to Section 3, 4 or 6 of Article VII.

“Transfer” shall mean to directly or indirectly transfer, sell, pledge, assign, exchange, encumber, hypothecate or otherwise dispose of, including by gift, by way of a merger (forward or reverse) or similar transaction, by operation of law or otherwise, or grant any option or right to purchase or any legal or beneficial interest therein or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership, in each case whether or not for value. A “Transfer” shall also include a transfer of any share of Common Stock into the name of a broker or other nominee (regardless of whether there is a corresponding change in beneficial ownership) or the transfer of, or entering into a binding agreement with respect to, the power to vote or direct the voting of any Voting Common Stock by proxy, voting agreement or otherwise; provided that neither of the following shall constitute a “Transfer”: (a) granting a proxy to one or more officers or directors of the Corporation at the request, or with the consent, of the Board of Directors, or (b) entering into a voting trust, voting agreement or voting arrangement (with or without granting a proxy) solely pursuant to or as contemplated by the Voting Agreement, dated as of February 12, 2014, by and among the Corporation and the stockholders party thereto from time to time, as the same may be amended, restated, modified or supplemented from time to time. In addition, (i) any Transfer of an interest in any stockholder of the Corporation that is treated as a partnership for federal income tax purposes and which results in the beneficial owners of such stockholder as of February 12, 2014, together with the Affiliates of such stockholder, ceasing to beneficially own in the aggregate at least 75% of the equity interests of such stockholder outstanding immediately after such Transfer shall be deemed to be a Transfer of the shares of Common Stock held by such stockholder subject to the provisions of Article VII, to the same extent such provisions apply to such stockholder, (ii) any Transfer of equity interests in any stockholder that is treated as a “disregarded entity” for federal income tax purposes shall be deemed to be a Transfer of the shares of Common Stock held by such stockholder subject to the provisions of Article VII, to the same extent such provisions apply to such stockholder, and (iii) any Transfer of equity interests in any stockholder of the Corporation that is not treated as a partnership or disregarded entity for federal income tax purposes, other than a Transfer effected on a national securities exchange, shall be deemed to be a Transfer of the shares of Common Stock held by such stockholder subject to the provisions of Article VII, to the same extent such provisions apply to such stockholder.

For purposes of this Certificate of Incorporation:

- (a) All pronouns shall be deemed to refer to the masculine, feminine or neuter, singular or plural, as the identity of the Person or Persons may require;
- (b) References to “days” shall refer to calendar days unless Business Days are specified. If any period expires on a day which is not a Business Day or any event or condition is required by the terms of this Certificate of Incorporation to occur or be fulfilled on a day which is

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not a Business Day, such period shall expire or such event or condition shall occur or be fulfilled, as the case may be, on the next succeeding Business Day;

- (c) Any action required to be taken “within” a specified time period following the occurrence of an event shall be required to be taken no later than 5:00 p.m., Eastern time, on the last day of the time period, which shall be calculated starting with the day immediately following the date of the event;
- (d) References to “include,” “includes” and “including” shall be deemed to be followed by “, without limitation,” whether or not so specified; and
- (e) The word “extent” in the phrase “to the extent” shall mean the degree to which a subject or other theory extends, and such phrase shall not mean “if.”

ARTICLE XV FORUM SELECTION

Unless the Corporation consents in writing to the selection of an alternative forum (including by entering into a written agreement or executing a written instrument which provides for a different forum to have jurisdiction or provides that an action, suit or proceeding may be brought in any court of competent jurisdiction or provides for arbitration), and except as otherwise provided in this Certificate of Incorporation, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (a) any derivative action, suit or proceeding brought on behalf of the Corporation, (b) any action, suit or proceeding asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation’s stockholders, (c) any action, suit or proceeding asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the General Corporation Law of the State of Delaware or this Certificate of Incorporation or the By-Laws of the Corporation or (d) any action, suit or proceeding asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of clauses (a) through (d) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article XV shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article XV (including, without limitation, each portion of any sentence of this Article XV containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby. Any Person purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Corporation shall be deemed to have received notice of and consented to the provisions of this Article XV.

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ARTICLE XVI INCORPORATOR

The incorporator of the Corporation is Jonathan M. Peacock, whose mailing address is c/o Bellerophon Therapeutics, Inc., 53 Frontage Road, Suite 301, Hampton, New Jersey 08827.

ARTICLE XVII INITIAL BOARD OF DIRECTORS

The powers of the incorporator are to terminate upon the filing of this Certificate of Incorporation with the Secretary of State of the State of Delaware. The names of the persons who are to serve as the initial directors of the Corporation until the first annual meeting of stockholders of the Corporation, or until their successors are duly elected and qualified, are:

Jonathan M. Peacock
Jens Luehring
Matthew S. Holt
Andre V. Moura
Robert T. Nelsen
Daniel Tassé
Adam B. Weinstein

The mailing address of each such director is: c/o Bellerophon Therapeutics, Inc., 53 Frontage Road, Suite 301, Hampton, New Jersey 08827.

* * * *

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The undersigned incorporator hereby acknowledges that the foregoing certificate of incorporation is his act and deed on this the _____ day of _____, 2015.

Jonathan M. Peacock, Incorporator

BY-LAWS

OF

BELLEROPHON THERAPEUTICS, INC.

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ARTICLE I

STOCKHOLDERS

1.1 **Place of Meetings.** All meetings of stockholders shall be held at such place as may be designated from time to time by the Board of Directors, the Chairman of the Board, the Chief Executive Officer or the President or, if not so designated, at the principal office of the corporation. The Board of Directors may, in its sole discretion, determine that a meeting shall not be held at any place, but may instead be held solely by means of remote communication in a manner consistent with the General Corporation Law of the State of Delaware.

1.2 **Annual Meeting.** The annual meeting of stockholders for the election of directors and for the transaction of such other business as may properly be brought before the meeting shall be held on a date and at a time designated by the Board of Directors, the Chairman of the Board, the Chief Executive Officer or the President (which date shall not be a legal holiday in the place where the meeting is to be held).

1.3 **Special Meetings.** Special meetings of stockholders for any purpose or purposes may be called at any time by only the Board of Directors, the Chairman of the Board, the Lead Director, the Chief Executive Officer, the President or the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation, and may not be called by any other person or persons. The Board of Directors or the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation may postpone or reschedule any previously scheduled special meeting of stockholders. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of meeting.

1.4 **Notice of Meetings.** Except as otherwise provided by law, notice of each meeting of stockholders, whether annual or special, shall be given not less than 10 nor more than 60 days before the date of the meeting to each stockholder entitled to vote at such meeting. Without limiting the manner by which notice otherwise may be given to stockholders, any notice shall be effective if given by a form of electronic transmission consented to (in a manner consistent with the General Corporation Law of the State of Delaware) by the stockholder to whom the notice is given. The notices of all meetings shall state the place, if any, date and time of the meeting and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting. The notice of a special meeting shall state, in addition, the purpose or purposes for which the meeting is called. If notice is given by mail, such notice shall be deemed given when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the corporation. If notice is given by electronic transmission, such notice shall be deemed given at the time specified in Section 232 of the General Corporation Law of the State of Delaware.

1.5 **Voting List.** The Secretary shall prepare, at least 10 days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any

stockholder, for any purpose germane to the meeting, for a period of at least 10 days prior to the meeting: (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (b) during ordinary business hours, at the principal place of business of the corporation. If the meeting is to be held at a physical location (and not solely by means of remote communication), then the list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. The list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

1.6 **Quorum.** Except as otherwise provided by law, the Certificate of Incorporation or these By-laws, the holders of a majority in voting power of the capital stock of the corporation issued and outstanding, present in person, present by means of remote communication in a manner, if any, authorized by the Board of Directors in its sole discretion, or represented by proxy, shall constitute a quorum for the transaction of business; provided, however, that where a separate vote by a class or classes or series of capital stock is required by law or the Certificate of Incorporation, the holders of a majority in voting power of the shares of such class or classes or series of the capital stock of the corporation issued and outstanding and entitled to vote on such matter, present in person, present by means of remote communication in a manner, if any, authorized by the Board of Directors in its sole discretion, or represented by proxy, shall constitute a quorum entitled to take action with respect to the vote on such matter. A quorum, once established at a meeting, shall not be broken by the withdrawal of enough votes to leave less than a quorum.

1.7 **Adjournments.** Any meeting of stockholders may be adjourned from time to time to any other time and to any other place at which a meeting of stockholders may be held under these By-laws by the stockholders present or represented at the meeting and entitled to vote, although less than a quorum. It shall not be necessary to notify any stockholder of any adjournment of less than 30 days if the time and place, if any, of the adjourned meeting, and the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting, are announced at the meeting at which adjournment is taken, unless after the adjournment a new record date is fixed for the adjourned meeting. At the adjourned meeting, the corporation may transact any business which might have been transacted at the original meeting.

1.8 **Voting and Proxies.** Each stockholder shall have one vote for each share of stock entitled to vote held of record by such stockholder and a proportionate vote for each fractional share so held, unless otherwise provided by law or the Certificate of Incorporation. Each stockholder of record entitled to vote at a meeting of

stockholders, or to express consent or dissent to corporate action without a meeting, may vote or express such consent or dissent in person (including by means of remote communications, if any, by which stockholders may be deemed to be present in person and vote at such meeting) or may authorize another person or persons to vote or act for such stockholder by a proxy executed or transmitted in a manner permitted by the General Corporation Law of the State of Delaware by the stockholder or such

stockholder's authorized agent and delivered (including by electronic transmission) to the Secretary of the corporation. No such proxy shall be voted or acted upon after three years from the date of its execution, unless the proxy expressly provides for a longer period.

1.9 Action at Meeting. When a quorum is present at any meeting, any matter other than the election of directors to be voted upon by the stockholders at such meeting shall be decided by the vote of the holders of shares of stock having a majority in voting power of the votes cast by the holders of all of the shares of stock present or represented at the meeting and voting affirmatively or negatively on such matter (or if there are two or more classes or series of stock entitled to vote as separate classes, then in the case of each such class or series, the holders of a majority in voting power of the shares of stock of that class or series present or represented at the meeting and voting affirmatively or negatively on such matter), except when a different vote is required by law, the Certificate of Incorporation or these By-laws. Any election by stockholders of directors shall be determined by the affirmative vote of the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation.

1.10 Conduct of Meetings.

(a) Chairman of Meeting. Meetings of stockholders shall be presided over by the Chairman of the Board, if any, or in the Chairman's absence by the Lead Director, if any, or in the Lead Director's absence by the Chief Executive Officer, or in the Chief Executive Officer's absence, by the President, or in the President's absence by a Vice President, or in the absence of all of the foregoing persons by a chairman designated by the Board of Directors, or in the absence of such designation by a chairman chosen by vote of the stockholders present, in person or by proxy, at the meeting. The Secretary shall act as secretary of the meeting, but in the Secretary's absence the chairman of the meeting may appoint any person to act as secretary of the meeting.

(b) Rules, Regulations and Procedures. The Board of Directors may adopt by resolution such rules, regulations and procedures for the conduct of any meeting of stockholders of the corporation as it shall deem appropriate including, without limitation, such guidelines and procedures as it may deem appropriate regarding the participation by means of remote communication of stockholders and proxyholders not physically present at a meeting. Except to the extent inconsistent with such rules, regulations and procedures as adopted by the Board of Directors, the chairman of any meeting of stockholders shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board of Directors or prescribed by the chairman of the meeting, may include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders of record of the corporation, their duly authorized and constituted proxies or such other persons as shall be determined; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (v) limitations on the time allotted to questions or comments by participants. Unless and to the extent determined by the Board of Directors or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

1.11 Action without Meeting.

(a) Taking of Action by Consent. Any action required or permitted to be taken at any annual or special meeting of stockholders of the corporation (including the election of directors) may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, is signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote on such action were present and voted.

(b) Electronic Transmission of Consents. A telegram, cablegram or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, or by a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed and dated for the purposes of this section, provided that any such telegram, cablegram or other electronic transmission sets forth or is delivered with information from which the corporation can determine (i) that the telegram, cablegram or other electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder or proxyholder and (ii) the date on which such stockholder or proxyholder or authorized person or persons transmitted such telegram, cablegram or electronic transmission. The date on which such telegram, cablegram or electronic transmission is transmitted shall be deemed to be the date on which such consent was signed. No consent given by telegram, cablegram or other electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form shall be delivered to the corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by telegram, cablegram or other electronic transmission may be otherwise delivered to the principal place of business of the corporation or to an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded if, to the extent and in the manner provided by resolution of the Board of Directors. Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, provided that such copy, facsimile or other reproduction shall be a complete reproduction of the entire original writing.

(c) Notice of Taking of Corporate Action. Prompt notice of the taking of corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for such meeting had been the date that written consents signed by a sufficient number of holders to take the action were delivered to the corporation.

ARTICLE II

DIRECTORS

2.1 General Powers. The business and affairs of the corporation shall be managed by or under the direction of a Board of Directors, which may exercise all of the powers of the corporation and do all such lawful acts and things as are not by applicable law, the Certificate of Incorporation, these By-laws or any agreement

binding upon the corporation directed or required to be exercised or done by the stockholders. The directors shall act only as a Board of Directors and the individual directors shall have no power as such.

2.2 Number, Election and Qualification. Except as set forth in any agreement binding upon the corporation, the number of directors of the corporation shall be established from time to time by the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation, but shall not be fewer than the number of directors then in office (absent a related removal of a director pursuant to Section 2.7 of these By-laws). Except as otherwise provided by the Certificate of Incorporation, these By-laws or in any agreement binding upon the corporation, the directors shall be elected at the annual meeting of stockholders by the affirmative vote of the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation. Election of directors need not be by written ballot. Directors need not be stockholders of the corporation.

2.3 Chairman of the Board; Lead Director. The holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation shall appoint (and may remove) a Chairman of the Board and a Lead Director, in each case, from among the members of the Board of Directors, none of whom needs to be an employee or officer of the corporation. If the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation appoint a Chairman of the Board or a Lead Director, such Chairman of the Board or Lead Director, as applicable, shall perform such duties and possess such powers as are assigned by such stockholders and by the Board of Directors and, if the Chairman of the Board is also designated as the corporation's Chief Executive Officer, the Chairman of the Board shall have the powers and duties of the Chief Executive Officer prescribed in Section 3.7 of these By-laws. Unless otherwise provided by the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation, the Chairman of the Board or, in the Chairman's absence, the Lead Director, if any, shall preside at all meetings of the Board of Directors.

2.4 Tenure. Each director shall hold office until the next annual meeting of stockholders and until a successor is elected and qualified, or until such director's earlier death, resignation or removal.

2.5 Quorum. A majority of the directors at any time in office (which shall include at least one NMP Director (as defined in the Voting Agreement, dated as of February 12, 2014, by and among the Corporation and the stockholders party thereto from time to time, as the same may be amended, restated, modified or supplemented from time to time)) shall constitute a quorum of the Board of Directors. If at any meeting of the Board of Directors there shall be less than such a quorum, a majority of the directors present may adjourn the meeting from time to

time without further notice other than announcement at the meeting, until a quorum shall be present.

2.6 Action at Meeting. Every act or decision done or made by a majority of the directors present at a meeting of the Board of Directors duly held at which a quorum is present shall be regarded as the act of the Board of Directors, unless a greater number is required by law or by the Certificate of Incorporation.

2.7 Removal. Except as otherwise provided by the General Corporation Law of the State of Delaware, the Certificate of Incorporation or any agreement binding upon the corporation, any one or more or all of the directors of the corporation may be removed, with or without cause, by the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation.

2.8 Vacancies. Subject to any agreement binding upon the corporation, any vacancy or newly-created directorship on the Board of Directors, however occurring, shall be filled by the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation.

2.9 Resignation. Any director may resign by delivering a resignation in writing or by electronic transmission to the corporation at its principal office or to the Chairman of the Board, the Chief Executive Officer, the President or the Secretary. Such resignation shall be effective upon delivery unless it is specified to be effective at some later time or upon the happening of some later event. Unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

2.10 Regular Meetings. Regular meetings of the Board of Directors may be held without notice at such time and place as shall be determined from time to time by the Board of Directors; provided that any director who is absent when such a determination is made shall be given notice of the determination. A regular meeting of the Board of Directors may be held without notice immediately after and at the same place as the annual meeting of stockholders.

2.11 Special Meetings. Special meetings of the Board of Directors may be held at any time and place designated in a call by the Chairman of the Board, the Lead Director, the Chief Executive Officer, the President, any four or more directors, or in the event that there are fewer than four directors in office, by all directors in office (including by one director in the event that there is only a single director in office), or by the holders of at least 50% of the voting power of the issued and outstanding capital stock of the corporation.

2.12 Notice of Special Meetings. Notice of the date, place, if any, and time of any special meeting of directors shall be given to each director by the Secretary or by the officer or one of the directors calling the meeting. Notice shall be duly given to each director (a) in person or by telephone at least 24 hours in advance of the meeting, (b) by sending written notice by reputable overnight courier, telecopy, facsimile or electronic transmission, or delivering written notice by hand, to such director's last known business, home or electronic transmission address at least 48 hours in advance of the meeting, or (c) by sending written notice by first-class mail to such director's last known business or home address at least 72 hours in advance of the meeting.

A notice or waiver of notice of a meeting of the Board of Directors need not specify the purposes of the meeting.

2.13 Meetings by Conference Communications Equipment. Unless restricted by applicable law, the Certificate of Incorporation, these By-laws or any agreement binding upon the corporation, directors may participate in meetings of the Board of Directors or any committee thereof by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation by such means shall constitute presence in person at such meeting.

2.14 Action by Consent. Any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board of Directors or committee, as the case may be, consent to the action in writing or by electronic transmission, and the written consents or electronic transmissions are filed with the minutes of proceedings of the Board of Directors or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

2.15 Committees. Except as otherwise provided in any agreement binding upon the corporation, the Board of Directors may designate one or more committees, each committee to consist of two or more of the directors of the corporation, at least one of which shall be an NMP Director, with such lawfully delegable powers and duties as the Board of Directors thereby confers, to serve at the pleasure of the Board of Directors. The Board of Directors may designate one or more

directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members of the committee present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors and subject to the provisions of law and any agreement binding upon the corporation, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation and may authorize the seal of the corporation, if any, to be affixed to all papers which may require it. Each such committee shall keep minutes and make such reports as the Board of Directors may from time to time request. Except as the Board of Directors may otherwise determine, any committee may make rules for the conduct of its business, but unless otherwise provided by the directors or in such rules, its business shall be conducted as nearly as possible in the same manner as is provided in these By-laws for the Board of Directors. Unless otherwise provided in a resolution adopted by the Board of Directors, the presence of at least a majority of the members of a committee (which shall include at least one NMP Director) shall be necessary to constitute a quorum. Except as otherwise provided in the Certificate of Incorporation, these By-laws, or the resolution of the Board of Directors designating the committee, a committee may create one or more subcommittees, each subcommittee to consist of one or more members of the committee, and delegate to a subcommittee any or all of the powers and authority of the committee.

2.16 Compensation of Directors. Directors may be paid such compensation for their services and such reimbursement for expenses of attendance at meetings as the Board of

Directors may from time to time determine. No such payment shall preclude any director from serving the corporation or any of its parent or subsidiary entities in any other capacity and receiving compensation for such service.

ARTICLE III

OFFICERS

3.1 Titles. The officers of the corporation shall consist of a Chief Executive Officer, a President, a Secretary, a Treasurer and such other officers with such other titles as the Board of Directors shall determine, including one or more Vice Presidents, Assistant Treasurers and Assistant Secretaries. The Board of Directors may appoint such other officers as it may deem appropriate.

3.2 Election. The Chief Executive Officer, President, Treasurer and Secretary shall be elected annually by the Board of Directors at its first meeting following the annual meeting of stockholders. Other officers may be appointed by the Board of Directors at such meeting or at any other meeting.

3.3 Qualification. No officer need be a stockholder. Any two or more offices may be held by the same person.

3.4 Tenure. Except as otherwise provided by law, by the Certificate of Incorporation or by these By-laws, each officer shall hold office until such officer's successor is elected and qualified, unless a different term is specified in the resolution electing or appointing such officer, or until such officer's earlier death, resignation or removal.

3.5 Resignation and Removal. Any officer may resign by delivering a written resignation to the corporation at its principal office or to the Chief Executive Officer, the President or the Secretary. Such resignation shall be effective upon receipt unless it is specified to be effective at some later time or upon the happening of some later event. Unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective. Any officer may be removed at any time, with or without cause, by vote of a majority of the directors then in office. Except as the Board of Directors may otherwise determine, no officer who resigns or is removed shall have any right to any compensation as an officer for any period following such officer's resignation or removal, or any right to damages on account of such removal, whether such officer's compensation be by the month or by the year or otherwise, unless such compensation is expressly provided for in a duly authorized written agreement with the corporation.

3.6 Vacancies. The Board of Directors may fill any vacancy occurring in any office for any reason and may, in its discretion, leave unfilled for such period as it may determine any offices other than those of Chief Executive Officer, President, Treasurer and Secretary. Each such successor shall hold office for the unexpired term of such officer's predecessor and until a successor is elected and qualified, or until such officer's earlier death, resignation or removal.

3.7 President; Chief Executive Officer. Unless the Board of Directors has designated another person as the corporation's Chief Executive Officer, the President shall be the Chief Executive Officer of the corporation. The Chief Executive Officer shall have general charge and supervision of the business of the corporation subject to the direction of the Board of Directors, and shall perform all duties and have all powers that are commonly incident to the office of chief executive or that are delegated to such officer by the Board of Directors. The President shall perform such other duties and shall have such other powers as the Board of Directors or the Chief Executive Officer (if the President is not the Chief Executive Officer) may from time to time prescribe. In the event of the absence, inability or refusal to act of the Chief Executive Officer or the President (if the President is not the Chief Executive Officer), the Vice President (or if there shall be more than one, the Vice Presidents in the order determined by the Board of Directors) shall perform the duties of the Chief Executive Officer and when so performing such duties shall have all the powers of and be subject to all the restrictions upon the Chief Executive Officer.

3.8 Vice Presidents. Each Vice President shall perform such duties and possess such powers as the Board of Directors or the Chief Executive Officer may from time to time prescribe. The Board of Directors may assign to any Vice President the title of Executive Vice President, Senior Vice President or any other title selected by the Board of Directors.

3.9 Secretary and Assistant Secretaries. The Secretary shall perform such duties and shall have such powers as the Board of Directors or the Chief Executive Officer may from time to time prescribe. In addition, the Secretary shall perform such duties and have such powers as are incident to the office of the secretary, including without limitation the duty and power to give notices of all meetings of stockholders and special meetings of the Board of Directors, to attend all meetings of stockholders and the Board of Directors and keep a record of the proceedings, to maintain a stock ledger and prepare lists of stockholders and their addresses as required, to be custodian of corporate records and the corporate seal and to affix and attest to the same on documents.

Any Assistant Secretary shall perform such duties and possess such powers as the Board of Directors, the Chief Executive Officer or the Secretary may from time to time prescribe. In the event of the absence, inability or refusal to act of the Secretary, the Assistant Secretary (or if there shall be more than one, the Assistant Secretaries in the order determined by the Board of Directors) shall perform the duties and exercise the powers of the Secretary.

In the absence of the Secretary or any Assistant Secretary at any meeting of stockholders or directors, the chairman of the meeting shall designate a temporary secretary to keep a record of the meeting.

3.10 Treasurer and Assistant Treasurers. The Treasurer shall perform such duties and shall have such powers as may from time to time be assigned by the Board of Directors or the Chief Executive Officer. In addition, the Treasurer shall perform such duties and have such powers as are incident to the office of treasurer, including without limitation the duty and power to keep and be responsible for all funds and securities of the corporation, to deposit funds of the corporation in depositories selected in accordance with these By-laws, to disburse such funds as ordered by the Board of Directors, to make proper accounts of such funds, and to render as

required by the Board of Directors statements of all such transactions and of the financial condition of the corporation.

The Assistant Treasurers shall perform such duties and possess such powers as the Board of Directors, the Chief Executive Officer or the Treasurer may from time to time prescribe. In the event of the absence, inability or refusal to act of the Treasurer, the Assistant Treasurer (or if there shall be more than one, the Assistant Treasurers in the order determined by the Board of Directors) shall perform the duties and exercise the powers of the Treasurer.

3.11 Salaries. Officers of the corporation shall be entitled to such salaries, compensation or reimbursement as shall be fixed or allowed from time to time by the Board of Directors.

3.12 Delegation of Authority. The Board of Directors may from time to time delegate the powers or duties of any officer to any other officer or agent, notwithstanding any provision hereof.

ARTICLE IV

CAPITAL STOCK

4.1 Issuance of Stock. Subject to the provisions of the Certificate of Incorporation or any agreement binding upon the corporation, the whole or any part of any unissued balance of the authorized capital stock of the corporation or the whole or any part of any shares of the authorized capital stock of the corporation held in the corporation's treasury may be issued, sold, transferred or otherwise disposed of by vote of the Board of Directors in such manner, for such lawful consideration and on such terms as the Board of Directors may determine.

4.2 Stock Certificates; Uncertificated Shares. The shares of the corporation shall be uncertificated shares, provided that the Board of Directors may provide by resolution or resolutions that some or all of any or all classes or series of the corporation's stock shall be represented by certificates. Every holder of stock of the corporation represented by certificates shall be entitled to have a certificate, in such form as may be prescribed by law and by the Board of Directors, representing the number of shares held by such holder registered in certificate form. Each such certificate shall be signed in a manner that complies with Section 158 of the General Corporation Law of the State of Delaware.

Each certificate for shares of stock which are subject to any restriction on transfer pursuant to the Certificate of Incorporation, these By-laws, applicable securities laws or any agreement among any number of stockholders or among such holders and the corporation shall have conspicuously noted on the face or back of the certificate either the full text of the restriction or a statement of the existence of such restriction.

If the corporation shall be authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face

or back of each certificate representing shares of such class or series of stock, provided that in lieu of the foregoing requirements there may be set forth on the face or back of each certificate representing shares of such class or series of stock a statement that the corporation will furnish without charge to each stockholder who so requests a copy of the full text of the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

Within a reasonable time after the issuance or transfer of uncertificated shares, the corporation shall send to the registered owner thereof a written notice containing the information required to be set forth or stated on certificates pursuant to Sections 151, 202(a) or 218(a) of the General Corporation Law of the State of Delaware or, with respect to Section 151 of the General Corporation Law of the State of Delaware, a statement that the corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

4.3 Transfers. Shares of stock of the corporation shall be transferable in the manner prescribed by law and in the Certificate of Incorporation and these By-laws. Transfers of shares of stock of the corporation shall be made only on the books of the corporation or by transfer agents designated to transfer shares of stock of the corporation. Subject to applicable law, shares of stock represented by certificates shall be transferred only on the books of the corporation by the surrender to the corporation or its transfer agent of the certificate representing such shares properly endorsed or accompanied by a written assignment or power of attorney properly executed, and with such proof of authority or the authenticity of signature as the corporation or its transfer agent may reasonably require, and by the delivery to the corporation of such other properly executed agreements as are required under the Certificate of Incorporation. Except as may be otherwise required by law, by the Certificate of Incorporation or by these By-laws, the corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to vote with respect to such stock, regardless of any transfer, pledge or other disposition of such stock until the shares have been transferred on the books of the corporation in accordance with the requirements of the Certificate of Incorporation and these By-laws.

4.4 Lost, Stolen or Destroyed Certificates. The corporation may issue a new certificate of stock in place of any previously issued certificate alleged to have been lost, stolen or destroyed, upon such terms and conditions as the Board of Directors may prescribe, including the presentation of reasonable evidence of such loss, theft or destruction and the giving of such indemnity and posting of such bond as the Board of Directors may require for the protection of the corporation or any transfer agent or registrar.

4.5 Record Date. The Board of Directors may fix in advance a date as a record date for the determination of the stockholders entitled to notice of or to vote at any meeting of stockholders or to express consent (or dissent) to corporate action without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action. Such record date shall not precede the date on which the resolution fixing the record date is adopted,

and such record date shall not be more than 60 nor less than 10 days before the date of such meeting, nor more than 10 days after the date of adoption of a record date for a consent without a meeting, nor more than 60 days prior to any other action to which such record date relates.

If no record date is fixed, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day before the day on which notice is given, or, if notice is waived, at the close of business on the day before the day on which the meeting is held. If no record date is fixed, the record date for determining stockholders entitled to express consent to corporate action without a meeting, when no prior action by the Board of Directors is necessary, shall be the day on which the first consent is properly delivered to the corporation. If no record date is fixed, the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating to such purpose.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

4.6 **Regulations.** The issue, transfer, conversion and registration of shares of stock of the corporation shall be governed by such other regulations, not inconsistent with the Certificate of Incorporation, these By-laws and any agreement binding upon the corporation, as the Board of Directors may establish.

ARTICLE V

GENERAL PROVISIONS

5.1 **Fiscal Year.** Except as from time to time otherwise designated by the Board of Directors, the fiscal year of the corporation shall begin on the first day of January of each year and end on the last day of December in each year.

5.2 **Corporate Seal.** The corporate seal, if any, shall be in such form as shall be approved by the Board of Directors, which form may be changed by resolution of the Board of Directors.

5.3 **Waiver of Notice.** Whenever notice is required to be given by law, by the Certificate of Incorporation or by these By-laws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before, at or after the time of the event for which notice is to be given, shall be deemed equivalent to notice required to be given to such person. Neither the business nor the purpose of any meeting need be specified in any such waiver. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

5.4 **Voting of Securities.** Except as the Board of Directors may otherwise designate, the Chief Executive Officer, the President or the Treasurer may waive notice of, vote, or appoint

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any person or persons to vote, on behalf of the corporation at, and act as, or appoint any person or persons to act as, proxy or attorney-in-fact for this corporation (with or without power of substitution) at, any meeting of stockholders or securityholders of any other entity, the securities of which may be held by this corporation.

5.5 **Evidence of Authority.** A certificate by the Secretary, or an Assistant Secretary, or a temporary Secretary, as to any action taken by the stockholders, directors, a committee or any officer or representative of the corporation shall as to all persons who rely on the certificate in good faith be conclusive evidence of such action.

5.6 **Certificate of Incorporation.** All references in these By-laws to the Certificate of Incorporation shall be deemed to refer to the Certificate of Incorporation of the corporation, as amended and in effect from time to time.

5.7 **Severability.** Any determination that any provision of these By-laws is for any reason inapplicable, illegal or ineffective shall not affect or invalidate any other provision of these By-laws.

5.8 **Pronouns.** All pronouns used in these By-laws shall be deemed to refer to the masculine, feminine or neuter, singular or plural, as the identity of the person or persons may require.

ARTICLE VI

AMENDMENTS

6.1 **By the Board of Directors.** Subject to any agreement binding upon the corporation, these By-laws may be altered, amended or repealed, in whole or in part, or new by-laws may be adopted by the Board of Directors.

6.2 **By the Stockholders.** Subject to any agreement binding upon the corporation, these By-laws may be altered, amended or repealed, in whole or in part, or new by-laws may be adopted by the affirmative vote of the holders of at least 50% of the voting power of the capital stock of the corporation issued and outstanding, voting together as a single class, at any annual meeting of stockholders, or at any special meeting of stockholders, provided notice of such alteration, amendment, repeal or adoption of new by-laws shall have been stated in the notice of such special meeting.

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RESTATED CERTIFICATE OF INCORPORATION

OF

BELLEROPHON THERAPEUTICS, INC.

(originally incorporated on , 2015)

FIRST: The name of the Corporation is Bellerophon Therapeutics, Inc.

SECOND: The address of the Corporation's registered office in the State of Delaware is Corporation Service Company, 2711 Centerville Road, Suite 400, in the City of Wilmington, County of New Castle, 19808. The name of its registered agent at that address is Corporation Service Company.

THIRD: The nature of the business or purposes to be conducted or promoted by the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is 130,000,000 shares, consisting of (i) 125,000,000 shares of Common Stock, \$0.01 par value per share ("Common Stock"), and (ii) 5,000,000 shares of Preferred Stock, \$0.01 par value per share ("Preferred Stock").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A COMMON STOCK.

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights of the holders of the Preferred Stock of any series as may be designated by the Board of Directors of the Corporation (the "Board of Directors") upon any issuance of the Preferred Stock of any series.

2. Voting. The holders of the Common Stock shall have voting rights at all meetings of stockholders, each such holder being entitled to one vote for each share thereof held by such holder; provided, however, that, except as otherwise required by law, holders of Common Stock shall not be entitled to vote on any amendment to this Certificate of Incorporation (which, as used herein, shall mean the certificate of incorporation of the Corporation, as amended from time to time, including the terms of any certificate of designations of any series of Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon pursuant to this Certificate of Incorporation. There shall be no cumulative voting.

The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the voting power of the outstanding capital stock of the Corporation entitled to vote thereon, voting as a single class, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of the State of Delaware.

3. Dividends. Dividends may be declared and paid on the Common Stock from funds lawfully available therefor as and when determined by the Board of Directors and subject to any preferential dividend or other rights of any then outstanding Preferred Stock.

4. Liquidation. Upon the dissolution or liquidation of the Corporation, whether voluntary or involuntary, holders of Common Stock will be entitled to receive all assets of the Corporation available for distribution to its stockholders, subject to any preferential or other rights of any then outstanding Preferred Stock.

B PREFERRED STOCK.

Preferred Stock may be issued from time to time in one or more series, each of such series to have such terms as stated or expressed herein and in the resolution or resolutions providing for the issue of such series adopted by the Board of Directors as hereinafter provided. Any shares of Preferred Stock which may be redeemed, purchased or acquired by the Corporation may be reissued except as otherwise provided by law.

Authority is hereby expressly granted to the Board of Directors from time to time to issue the Preferred Stock in one or more series, and in connection with the creation of any such series, by adopting a resolution or resolutions providing for the issuance of the shares thereof and by filing a certificate of designations relating thereto in accordance with the General Corporation Law of the State of Delaware, to determine and fix the number of shares of such series and such voting powers, full or limited, or no voting powers, and such designations, preferences and relative participating, optional or other special rights, and qualifications, limitations or restrictions thereof, including, without limitation thereof, dividend rights, conversion rights, redemption privileges and liquidation preferences, as shall be stated and expressed in such resolution or resolutions, all to the fullest extent now or hereafter permitted by the General Corporation Law of the State of Delaware. Without limiting the generality of the foregoing, the resolution or resolutions providing for issuance of any series of Preferred Stock may provide that such series shall be superior or rank equally or be junior to any other series of Preferred Stock to the extent permitted by law.

The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares then outstanding) by the affirmative vote of the holders of a majority of the voting power of the outstanding capital stock of the Corporation entitled to vote thereon, voting as a single class, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of the State of Delaware.

FIFTH: Except as otherwise provided herein, the Corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the

SIXTH: In furtherance and not in limitation of the powers conferred upon it by the General Corporation Law of the State of Delaware, and subject to the terms of any series of Preferred Stock, the Board of Directors shall have the power to adopt, amend, alter or repeal the By-laws of the Corporation by the affirmative vote of a majority of the directors present at any regular or special meeting of the Board of Directors at which a quorum is present. The stockholders may not adopt, amend, alter or repeal the By-laws of the Corporation, or adopt any provision inconsistent therewith, unless such action is approved, in addition to any other vote required by this Certificate of Incorporation, by the affirmative vote of the holders of at least seventy-five percent (75%) of the votes that all the stockholders would be entitled to cast in any annual election of directors or class of directors. Notwithstanding any other provisions of law, this Certificate of Incorporation or the By-laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast in any annual election of directors or class of directors shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article SIXTH.

SEVENTH: No director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for any breach of fiduciary duty as a director, provided that the foregoing shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law of the State of Delaware, or (iv) for any transaction from which the director derived an improper personal benefit. If the General Corporation Law of the State of Delaware is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law of the State of Delaware, as so amended. No amendment to or repeal of this Article SEVENTH shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment or repeal.

EIGHTH: The Corporation shall provide indemnification as follows:

1. Actions, Suits and Proceedings Other than by or in the Right of the Corporation. The Corporation shall, to the fullest extent permitted by Section 145 of the General Corporation Law of the State of Delaware, as amended from time to time, indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Corporation), by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, member, employee or trustee of, or in a similar capacity with, another corporation, partnership, limited liability company, joint venture, trust or other enterprise (including any employee benefit plan) (all such persons being referred to hereafter as an "Indemnitee"), or by reason of any action alleged to have been taken

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or omitted in such capacity, against all expenses (including attorneys' fees), liabilities, losses, damages, judgments, fines, penalties, excise taxes (including excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974, as amended from time to time), and amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action, suit or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action, suit or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

2. Actions, Suits and Proceedings by or in the Right of the Corporation. The Corporation shall indemnify any Indemnitee who was or is a party to or threatened to be made a party to any threatened, pending or completed action, suit or proceeding by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that Indemnitee is or was, or has agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, member, employee or trustee of, or in a similar capacity with, another corporation, partnership, limited liability company, joint venture, trust or other enterprise (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, except that no indemnification shall be made under this Section 2 in respect of any claim, issue or matter as to which Indemnitee shall have been adjudged to be liable to the Corporation, unless, and only to the extent that, the Court of Chancery of Delaware or the court in which such action, suit or proceeding was brought shall determine upon application that, despite the adjudication of such liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnity for such expenses (including attorneys' fees) which the Court of Chancery of Delaware or such other court shall deem proper.

3. Indemnification for Expenses of Successful Party. Notwithstanding any other provisions of this Article EIGHTH, to the extent that an Indemnitee has been successful, on the merits or otherwise, in defense of any action, suit or proceeding referred to in Sections 1 and 2 of this Article EIGHTH, or in defense of any claim, issue or matter therein, or on appeal from any such action, suit or proceeding, Indemnitee shall be indemnified against all expenses (including attorneys' fees) actually and reasonably incurred by or on behalf of Indemnitee in connection therewith. Without limiting the foregoing, if any action, suit or proceeding is disposed of, on the merits or otherwise (including a disposition without prejudice), without (i) the disposition being adverse to Indemnitee, (ii) an adjudication that Indemnitee was liable to the Corporation, (iii) a plea of guilty or nolo contendere by Indemnitee, (iv) an adjudication that Indemnitee did not act in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the Corporation, and (v) with respect to any criminal proceeding, an adjudication that

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Indemnitee had reasonable cause to believe his or her conduct was unlawful, Indemnitee shall be considered for the purposes hereof to have been wholly successful with respect thereto.

4. Notification and Defense of Claim. Indemnitee shall notify the Corporation in writing as soon as practicable of any action, suit, proceeding or investigation involving such Indemnitee for which indemnity will or could be sought, but failure to do so shall not adversely affect Indemnitee's rights to indemnification unless, and then only to the extent that, the Corporation was materially and adversely affected thereby. With respect to any action, suit, proceeding or investigation of which the Corporation is so notified, the Corporation will be entitled to participate therein at its own expense and/or to assume the defense thereof at its own expense, with legal counsel reasonably acceptable to Indemnitee. After notice from the Corporation to Indemnitee of its election so to assume such defense, the Corporation shall not be liable to Indemnitee for any legal or other expenses subsequently incurred by Indemnitee in connection with such action, suit, proceeding or investigation, other than as provided below in this Section 4. Indemnitee shall have the right to employ his or her own counsel in connection with such action, suit, proceeding or investigation, but the fees and expenses of such counsel incurred after notice from the Corporation of its assumption of the defense thereof shall be at the expense of Indemnitee unless (i) the employment of counsel by Indemnitee has been authorized by the Corporation, (ii) counsel to Indemnitee shall have reasonably concluded that there may be a conflict of interest or position on any significant issue between the Corporation and Indemnitee in the conduct of the defense of such action, suit, proceeding or investigation or (iii) the Corporation shall not in fact have employed counsel to assume the defense of such action, suit, proceeding or investigation, in each of which cases the fees and expenses of counsel for Indemnitee shall be at the expense of the Corporation, except as otherwise expressly provided by this Article EIGHTH. The Corporation shall not be entitled, without the consent of Indemnitee, to assume the defense of any claim brought by or in the right of the Corporation or as to which

counsel for Indemnitee shall have reasonably made the conclusion provided for in clause (ii) above. The Corporation shall not be required to indemnify Indemnitee under this Article EIGHTH for any amounts paid in settlement of any action, suit, proceeding or investigation effected without its written consent. The Corporation shall not settle any action, suit, proceeding or investigation in any manner which would impose any penalty or limitation on Indemnitee, or any payment obligation on Indemnitee (unless the Corporation has irrevocably agreed in writing that it is responsible for such payment obligation and will make such payment without seeking any reimbursement or contribution from Indemnitee) without Indemnitee's written consent. Neither the Corporation nor Indemnitee will unreasonably withhold or delay its consent to any proposed settlement.

5. Advance of Expenses. In the event of any threatened or pending action, suit, proceeding or investigation of which the Corporation receives notice under this Article EIGHTH, any expenses (including attorneys' fees) incurred by or on behalf of Indemnitee in defending an action, suit, proceeding or investigation or any appeal therefrom shall be paid by the Corporation in advance of the final disposition of such matter; provided, however, that the payment of such expenses incurred by or on behalf of Indemnitee in advance of the final disposition of such matter shall be made only upon receipt of an undertaking by or on behalf of Indemnitee to repay all amounts so advanced in the event that it shall ultimately be determined by final judicial decision of a court of competent jurisdiction from which there is no further right to appeal that Indemnitee is not entitled to be indemnified by the Corporation as authorized in this Article

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EIGHTH. Such undertaking shall be accepted without reference to the financial ability of Indemnitee to make such repayment. Any such advancement of expenses shall be made promptly, and in any event within 20 days, after receipt by the Corporation of the written request of Indemnitee therefor.

6. Procedure for Indemnification. In order to obtain indemnification pursuant to Section 1, 2 or 3 of this Article EIGHTH, an Indemnitee shall submit to the Corporation a written request. Any such indemnification, unless ordered by a court, shall be made with respect to requests under Section 1 or 2 of this Article EIGHTH only as authorized in the specific case upon a determination by the Corporation that the indemnification of Indemnitee is proper because Indemnitee has met the applicable standard of conduct set forth in Section 1 or 2 of this Article EIGHTH, as the case may be. Such determination shall be made in each instance (a) by a majority vote of the directors of the Corporation consisting of persons who are not at that time parties to the action, suit or proceeding in question ("disinterested directors"), whether or not a quorum, (b) by a committee of disinterested directors designated by majority vote of disinterested directors, whether or not a quorum, (c) if there are no disinterested directors, or if the disinterested directors so direct, by independent legal counsel (who shall not be regular legal counsel to the Corporation) in a written opinion, or (d) by the stockholders of the Corporation. In making any determination hereunder, Indemnitee shall be presumed to have met the applicable standard of conduct so as to be entitled to indemnification, and the Corporation shall have the burden of proving otherwise. Any indemnification under this Article EIGHTH shall be made promptly, and in any event within 60 days, upon the written request of Indemnitee.

7. Remedies. The right to indemnification or advancement of expenses as granted by this Article EIGHTH shall be enforceable by Indemnitee in any court of competent jurisdiction. Neither the failure of the Corporation to have made a determination prior to the commencement of such action, suit or proceeding that indemnification of Indemnitee is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Corporation pursuant to Section 6 of this Article EIGHTH that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action, suit or proceeding or create a presumption that Indemnitee has not met the applicable standard of conduct. In any action, suit or proceeding brought by Indemnitee to enforce a right to indemnification, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall have the burden of proving that Indemnitee is not entitled to be indemnified under this Article EIGHTH. Indemnitee's expenses (including attorneys' fees) reasonably incurred in connection with successfully establishing Indemnitee's right to indemnification, in whole or in part, in any such proceeding shall also be indemnified by the Corporation. Subject to the foregoing, in any action, suit or proceeding brought by Indemnitee to enforce a right to indemnification hereunder it shall be a defense that Indemnitee has not met any applicable standard for indemnification set forth in the General Corporation Law of the State of Delaware.

8. Limitations. Notwithstanding anything to the contrary in this Article EIGHTH, except as set forth in Section 7 of this Article EIGHTH, the Corporation shall not indemnify an Indemnitee pursuant to this Article EIGHTH in connection with a proceeding (or part thereof) initiated by such Indemnitee unless the initiation thereof was approved by the Board of Directors or a committee thereof designated by the Board of Directors. This Section 8 shall not apply to

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counterclaims or affirmative defenses asserted by Indemnitee in any action, suit or proceeding brought against Indemnitee, nor shall it apply to any action, suit or proceeding brought by Indemnitee to enforce Indemnitee's rights under any liability insurance policy paid for by the Company and insuring Indemnitee.

9. Subsequent Amendment. No amendment, termination or repeal of this Article EIGHTH or of the relevant provisions of the General Corporation Law of the State of Delaware or any other applicable laws shall adversely affect or diminish in any way the rights of any Indemnitee to indemnification under the provisions hereof with respect to any action, suit, proceeding or investigation arising out of or relating to any actions, transactions or facts occurring prior to the final adoption of such amendment, termination or repeal.

10. Other Rights. The indemnification and advancement of expenses provided by this Article EIGHTH shall not be deemed exclusive of any other rights to which an Indemnitee seeking indemnification or advancement of expenses may be entitled under any law (common or statutory), agreement or vote of stockholders or disinterested directors or otherwise, both as to action in Indemnitee's official capacity and as to action in any other capacity while holding office for the Corporation, and shall continue as to an Indemnitee who has ceased to be a director or officer, or has ceased to serve in such other capacity, and shall inure to the benefit of the estate, heirs, executors and administrators of Indemnitee. All rights to indemnification under this Article EIGHTH shall be deemed to be a contract between the Corporation and Indemnitee. Nothing contained in this Article EIGHTH shall be deemed to prohibit, and the Corporation is specifically authorized to enter into, agreements with officers and directors providing indemnification rights and procedures different from (including rights and procedures which provide broader indemnification or are otherwise more favorable to Indemnitee than) those set forth in this Article EIGHTH. In addition, the Corporation may, to the extent authorized from time to time by its Board of Directors, grant indemnification rights to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article EIGHTH.

11. Partial Indemnification. If an Indemnitee is entitled under any provision of this Article EIGHTH to indemnification by the Corporation for some or a portion of the expenses (including attorneys' fees), liabilities, losses, judgments, fines (including excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974) or amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with any action, suit, proceeding or investigation and any appeal therefrom but not, however, for the total amount thereof, the Corporation shall nevertheless indemnify Indemnitee for the portion of such expenses (including attorneys' fees), liabilities, losses, damages, judgments, fines, penalties, excise taxes (including excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974, as amended from time to time) or amounts paid in settlement to which Indemnitee is entitled.

12. Insurance. The Corporation may purchase and maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, limited liability company, joint venture, trust or other enterprise (including any employee benefit plan) against any expense, liability or loss incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the

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Corporation would have the power to indemnify such person against such expense, liability or loss under the General Corporation Law of the State of Delaware.

13. Savings Clause. If this Article EIGHTH or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each Indemnitee as to any expenses (including attorneys' fees), liabilities, losses, judgments, fines (including excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974) and amounts paid in settlement in connection with any action, suit, proceeding or investigation, whether civil, criminal or administrative, including an action by or in the right of the Corporation, to the fullest extent permitted by any applicable portion of this Article EIGHTH that shall not have been invalidated and to the fullest extent permitted by applicable law.

14. Definitions. Terms used herein and defined in Section 145(h) and Section 145(i) of the General Corporation Law of the State of Delaware shall have the respective meanings assigned to such terms in such Section 145(h) and Section 145(i).

NINTH: This Article NINTH is inserted for the management of the business and for the conduct of the affairs of the Corporation.

1. General Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

2. Number of Directors; Election of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the number of directors of the Corporation shall be established by the Board of Directors. Election of directors need not be by written ballot, except as and to the extent provided in the By-laws of the Corporation.

3. Classes of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the Board of Directors shall be and is divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the entire Board of Directors. The Board of Directors is authorized to assign members of the Board of Directors already in office to Class I, Class II or Class III at the time such classification becomes effective.

4. Terms of Office. Subject to the rights of holders of any series of Preferred Stock to elect directors, each director shall serve for a term ending on the date of the third annual meeting of stockholders following the annual meeting of stockholders at which such director was elected; provided that each director initially assigned to Class I shall serve for a term expiring at the Corporation's first annual meeting of stockholders held after the effectiveness of this Restated Certificate of Incorporation; each director initially assigned to Class II shall serve for a term expiring at the Corporation's second annual meeting of stockholders held after the effectiveness of this Restated Certificate of Incorporation; and each director initially assigned to Class III shall serve for a term expiring at the Corporation's third annual meeting of stockholders held after the effectiveness of this Restated Certificate of Incorporation; provided further, that the term of each director shall continue until the election and qualification of his or her successor and be subject to his or her earlier death, resignation or removal.

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5. Quorum. The greater of (i) a majority of the directors at any time in office and (ii) one-third of the number of directors fixed pursuant to Section 2 of this Article NINTH shall constitute a quorum of the Board of Directors. If at any meeting of the Board of Directors there shall be less than such a quorum, a majority of the directors present may adjourn the meeting from time to time without further notice other than announcement at the meeting, until a quorum shall be present.

6. Action at Meeting. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act of the Board of Directors unless a greater number is required by law or by this Certificate of Incorporation.

7. Removal. Subject to the rights of holders of any series of Preferred Stock and/or any agreement binding upon the Corporation, directors of the Corporation may be removed only for cause and only by the affirmative vote of the holders of at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast in any annual election of directors or class of directors.

8. Vacancies. Subject to the rights of holders of any series of Preferred Stock and/or any agreement binding upon the Corporation, any vacancy or newly created directorship in the Board of Directors, however occurring, shall be filled only by vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director and shall not be filled by the stockholders. A director elected to fill a vacancy shall hold office until the next election of the class for which such director shall have been chosen, subject to the election and qualification of a successor and to such director's earlier death, resignation or removal.

9. Stockholder Nominations and Introduction of Business, Etc. Advance notice of stockholder nominations for election of directors and other business to be brought by stockholders before a meeting of stockholders shall be given in the manner provided by the By-laws of the Corporation.

10. Amendments to Article. Notwithstanding any other provisions of law, this Certificate of Incorporation or the By-laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast in any annual election of directors or class of directors shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article NINTH.

TENTH: Stockholders of the Corporation may not take any action by written consent in lieu of a meeting. Notwithstanding any other provisions of law, this Certificate of Incorporation or the By-laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast in any annual election of directors or class of directors shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article TENTH.

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ELEVENTH: Special meetings of stockholders for any purpose or purposes may be called at any time by only the Board of Directors, the Chairman of the Board, the Lead Director or the Chief Executive Officer, and may not be called by any other person or persons. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of meeting. Notwithstanding any other provisions of law, this Certificate of Incorporation or the By-laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast in any annual election of directors or class of directors shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article ELEVENTH.

TWELFTH: Except as otherwise agreed in writing, (i) to the fullest extent permitted by Section 122(17) of the General Corporation Law of the State of Delaware, the Corporation hereby renounces any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Corporate Opportunity; and (ii) the Corporation acknowledges that, to the fullest extent permitted by law, no Specified Person shall be liable to the Corporation or its stockholders for breach of any fiduciary or other duty by reason of the fact that such Specified Person pursues or acquires a Corporate Opportunity for itself, directs a Corporate

Opportunity to another Person, or does not communicate or offer information regarding a Corporate Opportunity to the Corporation; provided, that, in the case of a Specified Person that is a director, officer or employee of the Corporation, the Corporation does not renounce any interest or expectancy in any Corporate Opportunity that is expressly offered to such Specified Person in writing solely in his or her capacity as a director, officer or employee of the Corporation. In the event any Specified Person acquires knowledge of a potential transaction or matter which may constitute a Corporate Opportunity, such Specified Person shall, to the fullest extent permitted by law, have no duty to offer or communicate information regarding any Corporate Opportunity to the Corporation, and such Specified Person shall have the right to take for his, her or its own account (individually or as a partner or fiduciary) or to recommend to another Person any such Corporate Opportunity, unless in the case of a Specified Person that is a director, officer or employee of the Corporation, such Corporate Opportunity is expressly offered to such Specified Person in writing solely in his or her capacity as a director, officer or employee of the Corporation. No Specified Person shall be obligated to finance any Corporate Opportunity for the Corporation.

For purposes of this Article TWELFTH, (i) the term “Affiliate” shall mean, with respect to any Person, any other Person that, directly or indirectly, controls, is controlled by or is under common control with such Person, where “control” means the possession, directly or indirectly, of the power to direct the management and policies of such Person, whether through the ownership of voting securities, by contract, or otherwise; (ii) the term “Corporate Opportunity” shall mean an investment, business opportunity or prospective economic or competitive advantage, including, without limitation, any matter (A) in which the Corporation could have an interest or expectancy, (B) which the Corporation is financially able to undertake, or with respect to which the Corporation would reasonably be able to obtain debt or equity financing, and (C) which is, from its nature, in the line or lines of the Corporation’s business or reasonable expansion thereof; (iii) the term “Corporation” shall mean the Corporation and all corporations, partnerships, joint ventures, associations and other entities in which the Corporation beneficially owns (directly or indirectly) 50% or more of the outstanding voting stock, voting power,

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partnership interests or similar voting interests; (iv) the term “Person” shall mean an individual, partnership, association, corporation, limited liability company, unincorporated organization, trust, estate or joint venture, or a nation, government, governmental agency or political subdivision thereof, or any person exercising executive, legislative, judicial, regulatory, administrative or taxing functions of or pertaining to government, including any court, or any other entity of any kind; and (v) the term “Specified Person” shall mean a stockholder of the Corporation or any of such stockholder’s Affiliates, or any officer, director, manager, member, partner, stockholder, employee, advisor or agent of such stockholder or any of its Affiliates (including any individual serving as a director of the Corporation), except those stockholders who are employees of the Corporation or any of its subsidiaries, provided, however, that for purposes of this definition of “Specified Person,” none of the Specified Persons, on one hand, or the Corporation, on the other hand, shall be deemed to be an Affiliate of one another.

Neither the alteration, amendment or repeal of this Article TWELFTH nor the adoption of any provisions of this Certificate of Incorporation inconsistent with this Article TWELFTH shall eliminate or reduce the effect of this Article TWELFTH in respect of any matter occurring, or any cause of action, suit or claim that, but for this Article TWELFTH, would accrue or arise prior to such alteration, amendment, repeal or adoption.

THIRTEENTH: Section 203 of the General Corporation Law of the State of Delaware, as it may be amended from time to time, shall (a) prior to the NMP Holder Transition Time, not apply to the Corporation and (b) from and after the NMP Holder Transition Time, apply to the Corporation in accordance with its terms.

For purposes of this Article THIRTEENTH, (i) the term “NMP Affiliate” shall mean an Affiliate of the NMP Entities, (ii) the term “NMP Holder Transition Time” shall mean the first time that neither (A) the NMP Entities and the NMP Affiliates nor (B) any Qualified Transferee Beneficially Owns 15% or more of the Quarterly Outstanding Common Stock, (iii) the term “Qualified Transferee” shall mean any Person that has acquired at least 15% of the Quarterly Outstanding Common Stock, as of the date of such acquisition, from the NMP Entities and/or the NMP Affiliates in a transaction other than a Public Offering or a sale pursuant to Rule 144 and (iv) the terms “Affiliate,” “Beneficially Own,” “NMP Entities,” “Person,” “Public Offering,” “Quarterly Outstanding Common Stock” and “Rule 144” shall have the respective meanings given to such terms in the Registration Rights Agreement, dated as of _____, 2015, by and among the Corporation and the other parties thereto, as the same may be amended, restated, modified or supplemented from time to time.

FOURTEENTH: Unless the Corporation consents in writing to the selection of an alternative forum (including by entering into a written agreement or executing a written instrument which provides for a different forum to have jurisdiction or provides that an action, suit or proceeding may be brought in any court of competent jurisdiction or provides for arbitration), and except as otherwise provided in this Certificate of Incorporation, the Court of Chancery in the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action, suit or proceeding brought on behalf of the Corporation, (ii) any action, suit or proceeding asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation’s stockholders, (iii) any action, suit or

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proceeding asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the Delaware General Corporation Law or this Certificate of Incorporation or the By-laws of the Corporation or (iv) any action, suit or proceeding asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of clauses (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article FOURTEENTH shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article FOURTEENTH (including, without limitation, each portion of any sentence of this Article FOURTEENTH containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby. Any person purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Corporation shall be deemed to have received notice of and consented to the provisions of this Article FOURTEENTH.

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IN WITNESS WHEREOF, this Restated Certificate of Incorporation, which restates, integrates and amends the certificate of incorporation of the Corporation, and which has been duly adopted in accordance with Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware, has been executed by its duly authorized officer this _____ day of _____, 2015.

BELLEROPHON THERAPEUTICS, INC.

By:

Name: Jonathan Peacock

Title: President and Chief Executive Officer

AMENDED AND RESTATED BY-LAWS
OF
BELLEROPHON THERAPEUTICS, INC.

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STOCKHOLDERS

- 1.1 Place of Meetings. All meetings of stockholders shall be held at such place as may be designated from time to time by the Board of Directors, the Chairman of the Board, the Chief Executive Officer or the President or, if not so designated, at the principal office of the corporation. The Board of Directors may, in its sole discretion, determine that a meeting shall not be held at any place, but may instead be held solely by means of remote communication in a manner consistent with the General Corporation Law of the State of Delaware.
- 1.2 Annual Meeting. The annual meeting of stockholders for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly be brought before the meeting shall be held on a date and at a time designated by the Board of Directors, the Chairman of the Board, the Chief Executive Officer or the President (which date shall not be a legal holiday in the place where the meeting is to be held).
- 1.3 Special Meetings. Special meetings of stockholders for any purpose or purposes may be called at any time by only the Board of Directors, the Chairman of the Board, the Lead Director or the Chief Executive Officer, and may not be called by any other person or persons. The Board of Directors may postpone or reschedule any previously scheduled special meeting of stockholders. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of meeting.
- 1.4 Notice of Meetings. Except as otherwise provided by law, notice of each meeting of stockholders, whether annual or special, shall be given not less than 10 nor more than 60 days before the date of the meeting to each stockholder entitled to vote at such meeting. Without limiting the manner by which notice otherwise may be given to stockholders, any notice shall be effective if given by a form of electronic transmission consented to (in a manner consistent with the General Corporation Law of the State of Delaware) by the stockholder to whom the notice is given. The notices of all meetings shall state the place, if any, date and time of the meeting and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting. The notice of a special meeting shall
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- state, in addition, the purpose or purposes for which the meeting is called. If notice is given by mail, such notice shall be deemed given when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the corporation. If notice is given by electronic transmission, such notice shall be deemed given at the time specified in Section 232 of the General Corporation Law of the State of Delaware.
- 1.5 Voting List. The Secretary shall prepare, at least 10 days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, for a period of at least 10 days prior to the meeting: (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (b) during ordinary business hours, at the principal place of business of the corporation. If the meeting is to be held at a physical location (and not solely by means of remote communication), then the list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. The list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.
- 1.6 Quorum. Except as otherwise provided by law, the Certificate of Incorporation or these By-laws, the holders of a majority in voting power of the shares of the capital stock of the corporation issued and outstanding and entitled to vote at the meeting, present in person, present by means of remote communication in a manner, if any, authorized by the Board of Directors in its sole discretion, or represented by proxy, shall constitute a quorum for the transaction of business; provided, however, that where a separate vote by a class or classes or series of capital stock is required by law or the Certificate of Incorporation, the holders of a majority in voting power of the shares of such class or classes or series of the capital stock of the corporation issued and outstanding and entitled to vote on such matter, present in person, present by means of
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- remote communication in a manner, if any, authorized by the Board of Directors in its sole discretion, or represented by proxy, shall constitute a quorum entitled to take action with respect to the vote on such matter. A quorum, once established at a meeting, shall not be broken by the withdrawal of enough votes to leave less than a quorum.
- 1.7 Adjournments. Any meeting of stockholders may be adjourned from time to time to any other time and to any other place at which a meeting of stockholders may be held under these By-laws by the chairman of the meeting or by the stockholders present or represented at the meeting and entitled to vote thereat, although less than a quorum. It shall not be necessary to notify any stockholder of any adjournment of less than 30 days if the time and place, if any, of the adjourned meeting, and the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting, are announced at the meeting at which adjournment is taken, unless after the adjournment a new record date is fixed for the adjourned meeting. At the adjourned meeting, the corporation may transact any business which might have been transacted at the original meeting.
- 1.8 Voting and Proxies. Each stockholder shall have one vote for each share of stock entitled to vote held of record by such stockholder and a proportionate vote for each fractional share so held, unless otherwise provided by law or the Certificate of Incorporation. Each stockholder of record entitled to vote at a meeting of stockholders may vote in person (including by means of remote communications, if any, by which stockholders may be deemed to be present in person and vote at such meeting) or may authorize another person or persons to vote for such stockholder by a proxy executed or transmitted in a manner permitted by the General Corporation Law of the State of Delaware by the stockholder or such stockholder's authorized agent and delivered (including by electronic transmission) to the Secretary of the corporation. No such proxy shall be voted upon after three years from the date of its execution, unless the proxy expressly provides for a longer period.
- 1.9 Action at Meeting. When a quorum is present at any meeting, any matter other than the election of directors to be voted upon by the stockholders at such meeting shall be decided by the vote of the holders of shares of stock having a majority in voting power of the votes cast by the holders of all of the shares of stock present or represented at the meeting and
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voting affirmatively or negatively on such matter (or if there are two or more classes or series of stock entitled to vote as separate classes, then in the case of each such class or series, the holders of a majority in voting power of the shares of stock of that class or series present or represented at the meeting and voting affirmatively or

negatively on such matter), except when a different vote is required by law, the Certificate of Incorporation or these By-laws. When a quorum is present at any meeting, any election by stockholders of directors shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election.

1.10 Nomination of Directors.

(a) Except (1) for any directors entitled to be elected by the holders of preferred stock, (2) for any directors elected in accordance with Section 2.9 hereof by the Board of Directors to fill a vacancy or newly-created directorship, (3) as otherwise required by any agreement binding upon the corporation, or (4) as otherwise required by applicable law or stock exchange regulation, at any meeting of stockholders, only persons who are nominated in accordance with the procedures in this Section 1.10 shall be eligible for election as directors. Nomination for election to the Board of Directors at a meeting of stockholders may be made (i) by or at the direction of the Board of Directors or (ii) by any stockholder of the corporation who (x) timely complies with the notice procedures in Section 1.10(b), (y) is a stockholder of record on the date of the giving of such notice and on the record date for the determination of stockholders entitled to vote at such meeting and (z) is entitled to vote at such meeting.

(b) To be timely, a stockholder's notice must be received in writing by the Secretary at the principal executive offices of the corporation as follows: (i) in the case of an election of directors at an annual meeting of stockholders, not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting; provided, however, that (x) in the case of the annual meeting of stockholders of the corporation to be held in 2016 or (y) in the event that the date of the annual meeting in any other year is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received not earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the tenth day following the day on which notice of the

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date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs; or (ii) in the case of an election of directors at a special meeting of stockholders, provided that the Board of Directors, the Chairman of the Board or the Chief Executive Officer has determined, in accordance with Section 1.3, that directors shall be elected at such special meeting and provided further that the nomination made by the stockholder is for one of the director positions that the Board of Directors, the Chairman of the Board or the Chief Executive Officer, as the case may be, has determined will be filled at such special meeting, not earlier than the 120th day prior to such special meeting and not later than the close of business on the later of (x) the 90th day prior to such special meeting and (y) the tenth day following the day on which notice of the date of such special meeting was mailed or public disclosure of the date of such special meeting was made, whichever first occurs. In no event shall the adjournment or postponement of a meeting (or the public disclosure thereof) commence a new time period (or extend any time period) for the giving of a stockholder's notice.

The stockholder's notice to the Secretary shall set forth: (A) as to each proposed nominee (1) such person's name, age, business address and, if known, residence address, (2) such person's principal occupation or employment, (3) the class and series and number of shares of stock of the corporation that are, directly or indirectly, owned, beneficially or of record, by such person, (4) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among (x) the stockholder, the beneficial owner, if any, on whose behalf the nomination is being made and the respective affiliates and associates of, or others acting in concert with, such stockholder and such beneficial owner, on the one hand, and (y) each proposed nominee, and his or her respective affiliates and associates, or others acting in concert with such nominee(s), on the other hand, including all information that would be required to be disclosed pursuant to Item 404 of Regulation S-K if the stockholder making the nomination and any beneficial owner on whose behalf the nomination is made or any affiliate or associate thereof or person acting in concert therewith were the "registrant" for purposes of such Item and the proposed nominee were a director or executive officer of such registrant, and (5) any other information concerning such person that must be disclosed as to nominees in proxy solicitations pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the

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"Exchange Act"); and (B) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is being made (1) the name and address of such stockholder, as they appear on the corporation's books, and of such beneficial owner, (2) the class and series and number of shares of stock of the corporation that are, directly or indirectly, owned, beneficially or of record, by such stockholder and such beneficial owner, (3) a description of any agreement, arrangement or understanding between or among such stockholder and/or such beneficial owner and each proposed nominee and any other person or persons (including their names) pursuant to which the nomination(s) are being made or who may participate in the solicitation of proxies in favor of electing such nominee(s), (4) a description of any agreement, arrangement or understanding (including any derivative or short positions, swaps, profit interests, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such stockholder or such beneficial owner, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder or such beneficial owner with respect to shares of stock of the corporation, (5) any other information relating to such stockholder and such beneficial owner that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the election of directors in a contested election pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder, (6) a representation that such stockholder intends to appear in person or by proxy at the meeting to nominate the person(s) named in its notice and (7) a representation whether such stockholder and/or such beneficial owner intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the corporation's outstanding capital stock reasonably believed by such stockholder or such beneficial owner to be sufficient to elect the nominee (and such representation shall be included in any such proxy statement and form of proxy) and/or (y) otherwise to solicit proxies from stockholders in support of such nomination (and such representation shall be included in any such solicitation materials). Not later than 10 days after the record date for the meeting, the information required by Items (A)(1)-(5) and (B)(1)-(5) of the prior sentence shall be supplemented by the stockholder giving the notice to provide updated information as of the record date. In addition, to be effective, the stockholder's notice must be accompanied by the

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written consent of the proposed nominee to serve as a director if elected. The corporation may require any proposed nominee to furnish such other information as the corporation may reasonably require to determine the eligibility of such proposed nominee to serve as a director of the corporation or whether such nominee would be independent under applicable Securities and Exchange Commission and stock exchange rules and the corporation's publicly disclosed corporate governance guidelines. A stockholder shall not have complied with this Section 1.10(b) if the stockholder (or beneficial owner, if any, on whose behalf the nomination is made) solicits or does not solicit, as the case may be, proxies in support of such stockholder's nominee in contravention of the representations with respect thereto required by this Section 1.10.

(c) The chairman of any meeting shall have the power and duty to determine whether a nomination was made in accordance with the provisions of this Section 1.10 (including whether the stockholder or beneficial owner, if any, on whose behalf the nomination is made solicited (or is part of a group which solicited) or did not so solicit, as the case may be, proxies in support of such stockholder's nominee in compliance with the representations with respect thereto required by this

Section 1.10), and if the chairman should determine that a nomination was not made in accordance with the provisions of this Section 1.10, the chairman shall so declare to the meeting and such nomination shall not be brought before the meeting.

(d) Except as otherwise required by law, nothing in this Section 1.10 shall obligate the corporation or the Board of Directors to include in any proxy statement or other stockholder communication distributed on behalf of the corporation or the Board of Directors information with respect to any nominee for director submitted by a stockholder.

(e) Notwithstanding the foregoing provisions of this Section 1.10, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the meeting to present a nomination, such nomination shall not be brought before the meeting, notwithstanding that proxies in respect of such nominee may have been received by the corporation. For purposes of this Section 1.10, to be considered a “qualified representative of the stockholder”, a person must be authorized by a written instrument executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce

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such written instrument or electronic transmission, or a reliable reproduction of the written instrument or electronic transmission, at the meeting of stockholders.

(f) For purposes of this Section 1.10, “public disclosure” shall include disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act.

1.11 Notice of Business at Annual Meetings.

(a) At any annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (1) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors, (2) otherwise properly brought before the meeting by or at the direction of the Board of Directors, or (3) properly brought before the meeting by a stockholder. For business to be properly brought before an annual meeting by a stockholder, (i) if such business relates to the nomination of a person for election as a director of the corporation, the procedures in Section 1.10 must be complied with and (ii) if such business relates to any other matter, the business must constitute a proper matter under Delaware law for stockholder action and the stockholder must (x) have given timely notice thereof in writing to the Secretary in accordance with the procedures in Section 1.11(b), (y) be a stockholder of record on the date of the giving of such notice and on the record date for the determination of stockholders entitled to vote at such annual meeting and (z) be entitled to vote at such annual meeting.

(b) To be timely, a stockholder’s notice must be received in writing by the Secretary at the principal executive offices of the corporation not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year’s annual meeting; provided, however, that (x) in the case of the annual meeting of stockholders of the corporation to be held in 2016 or (y) in the event that the date of the annual meeting in any other year is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the preceding year’s annual meeting, a stockholder’s notice must be so received not earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th

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day prior to such annual meeting and (B) the tenth day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs. In no event shall the adjournment or postponement of an annual meeting (or the public disclosure thereof) commence a new time period (or extend any time period) for the giving of a stockholder’s notice.

The stockholder’s notice to the Secretary shall set forth: (A) as to each matter the stockholder proposes to bring before the annual meeting (1) a brief description of the business desired to be brought before the annual meeting, (2) the text of the proposal (including the exact text of any resolutions proposed for consideration and, in the event that such business includes a proposal to amend the By-laws, the exact text of the proposed amendment), and (3) the reasons for conducting such business at the annual meeting, and (B) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the proposal is being made (1) the name and address of such stockholder, as they appear on the corporation’s books, and of such beneficial owner, (2) the class and series and number of shares of stock of the corporation that are, directly or indirectly, owned, beneficially or of record, by such stockholder and such beneficial owner, (3) a description of any material interest of such stockholder or such beneficial owner and the respective affiliates and associates of, or others acting in concert with, such stockholder or such beneficial owner in such business, (4) a description of any agreement, arrangement or understanding between or among such stockholder and/or such beneficial owner and any other person or persons (including their names) in connection with the proposal of such business or who may participate in the solicitation of proxies in favor of such proposal, (5) a description of any agreement, arrangement or understanding (including any derivative or short positions, swaps, profit interests, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such stockholder or such beneficial owner, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder or such beneficial owner with respect to shares of stock of the corporation, (6) any other information relating to such stockholder and such beneficial owner that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the business proposed pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder, (7) a representation that

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such stockholder intends to appear in person or by proxy at the annual meeting to bring such business before the meeting and (8) a representation whether such stockholder and/or such beneficial owner intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the corporation’s outstanding capital stock required to approve or adopt the proposal (and such representation shall be included in any such proxy statement and form of proxy) and/or (y) otherwise to solicit proxies from stockholders in support of such proposal (and such representation shall be included in any such solicitation materials). Not later than 10 days after the record date for the meeting, the information required by Items (A)(3) and (B)(1)-(6) of the prior sentence shall be supplemented by the stockholder giving the notice to provide updated information as of the record date. Notwithstanding anything in these By-laws to the contrary, no business shall be conducted at any annual meeting of stockholders except in accordance with the procedures in this Section 1.11; provided that any stockholder proposal which complies with Rule 14a-8 of the proxy rules (or any successor provision) promulgated under the Exchange Act and is to be included in the corporation’s proxy statement for an annual meeting of stockholders shall be deemed to comply with the notice requirements of this Section 1.11. A stockholder shall not have complied with this Section 1.11(b) if the stockholder (or beneficial owner, if any, on whose behalf the proposal is made) solicits or does not solicit, as the case may be, proxies in support of such stockholder’s proposal in contravention of the representations with respect thereto required by this Section 1.11.

(c) The chairman of any annual meeting shall have the power and duty to determine whether business was properly brought before the annual meeting in accordance with the provisions of this Section 1.11 (including whether the stockholder or beneficial owner, if any, on whose behalf the proposal is made solicited (or is part of a group which solicited) or did not so solicit, as the case may be, proxies in support of such stockholder's proposal in compliance with the representation with respect thereto required by this Section 1.11), and if the chairman should determine that business was not properly brought before the annual meeting in accordance with the provisions of this Section 1.11, the chairman shall so declare to the meeting and such business shall not be brought before the annual meeting.

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(d) Except as otherwise required by law, nothing in this Section 1.11 shall obligate the corporation or the Board of Directors to include in any proxy statement or other stockholder communication distributed on behalf of the corporation or the Board of Directors information with respect to any proposal submitted by a stockholder.

(e) Notwithstanding the foregoing provisions of this Section 1.11, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual meeting to present business, such business shall not be considered, notwithstanding that proxies in respect of such business may have been received by the corporation.

(f) For purposes of this Section 1.11, the terms "qualified representative of the stockholder" and "public disclosure" shall have the same meaning as in Section 1.10.

1.12 Conduct of Meetings.

(a) Meetings of stockholders shall be presided over by the Chairman of the Board, if any, or in the Chairman's absence, by the Lead Director of the Board, if any, or in the Lead Director's absence, by the Chief Executive Officer, or in the Chief Executive Officer's absence, by the President, or in the President's absence by a Vice President, or in the absence of all of the foregoing persons by a chairman designated by the Board of Directors. The Secretary shall act as secretary of the meeting, but in the Secretary's absence the chairman of the meeting may appoint any person to act as secretary of the meeting.

(b) The Board of Directors may adopt by resolution such rules, regulations and procedures for the conduct of any meeting of stockholders of the corporation as it shall deem appropriate including, without limitation, such guidelines and procedures as it may deem appropriate regarding the participation by means of remote communication of stockholders and proxyholders not physically present at a meeting. Except to the extent inconsistent with such rules, regulations and procedures as adopted by the Board of Directors, the chairman of any meeting of stockholders shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by

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the Board of Directors or prescribed by the chairman of the meeting, may include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders of record of the corporation, their duly authorized and constituted proxies or such other persons as shall be determined; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (v) limitations on the time allotted to questions or comments by participants. Unless and to the extent determined by the Board of Directors or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

(c) The chairman of the meeting shall announce at the meeting when the polls for each matter to be voted upon at the meeting will be opened and closed. After the polls close, no ballots, proxies or votes or any revocations or changes thereto may be accepted.

(d) In advance of any meeting of stockholders, the Board of Directors, the Chairman of the Board, the Chief Executive Officer or the President shall appoint one or more inspectors of election to act at the meeting and make a written report thereof. One or more other persons may be designated as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is present, ready and willing to act at a meeting of stockholders, the chairman of the meeting shall appoint one or more inspectors to act at the meeting. Unless otherwise required by law, inspectors may be officers, employees or agents of the corporation. Each inspector, before entering upon the discharge of such inspector's duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of such inspector's ability. The inspector shall have the duties prescribed by law and shall take charge of the polls and, when the vote is completed, shall make a certificate of the result of the vote taken and of such other facts as may be required by law. Every vote taken by ballots shall be counted by a duly appointed inspector or duly appointed inspectors.

1.13 No Action by Consent in Lieu of a Meeting. Stockholders of the corporation may not take any action by written consent in lieu of a meeting.

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ARTICLE II

DIRECTORS

2.1 General Powers. The business and affairs of the corporation shall be managed by or under the direction of a Board of Directors, who may exercise all of the powers of the corporation except as otherwise provided by law or the Certificate of Incorporation.

2.2 Number, Election and Qualification. Subject to the rights of holders of any series of Preferred Stock to elect directors, the number of directors of the corporation shall be established by the Board of Directors. Election of directors need not be by written ballot. Directors need not be stockholders of the corporation.

2.3 Chairman of the Board; Lead Director.

(a) The Board of Directors may appoint from its members a Chairman of the Board, who need not be an employee or officer of the corporation. If the Board of Directors appoints a Chairman of the Board, such Chairman shall perform such duties and possess such powers as are assigned by the Board of Directors and, if the Chairman of the Board is also designated as the corporation's Chief Executive Officer, shall have the powers and duties of the Chief Executive Officer prescribed in Section 3.7 of these By-laws. Unless otherwise provided by the Board of Directors, the Chairman of the Board, if any, or, in the Chairman's absence, the Lead Director, if any, shall preside at all meetings of the Board of Directors.

(b) If required by any stockholders agreement or other agreement binding upon the corporation, the Board of Directors shall appoint a Lead Director in accordance with the provisions of such agreement. In the absence of any such agreement, the Board of Directors may appoint from its members a Lead Director. The Lead Director need not be an employee or officer of the corporation. The Lead Director's powers and duties shall include: (i) chairing any meeting of the non-management directors in executive session; (ii) facilitating communications between other members of the Board of Directors and the Chairman of the Board and/or the Chief Executive Officer (provided that each director shall remain free to communicate directly with the Chairman of the Board or with the Chief Executive Officer); (iii) working with the

Chairman of the Board in the preparation of the agenda for each meeting of the Board of Directors and in determining the need for special meetings of the Board; and (iv) otherwise consulting with the Chairman of the Board and/or the Chief Executive Officer on matters relating to corporate governance and the performance of the Board of Directors.

2.4 Classes of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the Board of Directors shall be and is divided into three classes: Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the entire Board of Directors. The allocation of directors among classes shall be determined by resolution of the Board of Directors.

2.5 Terms of Office. Subject to the rights of holders of any series of Preferred Stock to elect directors, each director shall serve for a term ending on the date of the third annual meeting of stockholders following the annual meeting of stockholders at which such director was elected; provided that each director initially assigned to Class I shall serve for a term expiring at the corporation's first annual meeting of stockholders held after the effectiveness of these Amended and Restated By-laws; each director initially assigned to Class II shall serve for a term expiring at the corporation's second annual meeting of stockholders held after the effectiveness of these Amended and Restated By-laws; and each director initially assigned to Class III shall serve for a term expiring at the corporation's third annual meeting of stockholders held after the effectiveness of these Amended and Restated By-laws; provided, further, that the term of each director shall continue until the election and qualification of his or her successor and be subject to his or her earlier death, resignation or removal.

2.6 Quorum. The greater of (a) a majority of the directors at any time in office and (b) one-third of the number of directors established by the Board of Directors pursuant to Section 2.2 of these By-laws shall constitute a quorum of the Board of Directors. If at any meeting of the Board of Directors there shall be less than such a quorum, a majority of the directors present may adjourn the meeting from time to time without further notice other than announcement at the meeting, until a quorum shall be present.

2.7 Action at Meeting. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act

of the Board of Directors, unless a greater number is required by law or by the Certificate of Incorporation.

2.8 Removal. Subject to the rights of holders of any series of Preferred Stock and/or any agreement binding upon the corporation, directors of the corporation may be removed only for cause and only by the affirmative vote of the holders of at least 75% of the votes which all the stockholders would be entitled to cast in any annual election of directors or class of directors.

2.9 Vacancies. Subject to the rights of holders of any series of Preferred Stock and/or any agreement binding upon the corporation, any vacancy or newly-created directorship on the Board of Directors, however occurring, shall be filled only by vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director and shall not be filled by the stockholders. A director elected to fill a vacancy shall hold office until the next election of the class for which such director shall have been chosen, subject to the election and qualification of a successor or until such director's earlier death, resignation or removal.

2.10 Resignation. Any director may resign by delivering a resignation in writing or by electronic transmission to the corporation at its principal office or to the Chairman of the Board, the Chief Executive Officer, the President or the Secretary. Such resignation shall be effective upon delivery unless it is specified to be effective at some later time or upon the happening of some later event.

2.11 Regular Meetings. Regular meetings of the Board of Directors may be held without notice at such time and place as shall be determined from time to time by the Board of Directors; provided that any director who is absent when such a determination is made shall be given notice of the determination. A regular meeting of the Board of Directors may be held without notice immediately after and at the same place as the annual meeting of stockholders.

2.12 Special Meetings. Special meetings of the Board of Directors may be held at any time and place designated in a call by the Chairman of the Board, the Lead Director, the Chief Executive Officer, the President, any four or more directors, or in the event that there are fewer than four directors in office, by all directors in office (including by one director in the event that there is only a single director in office).

2.13 Notice of Special Meetings. Notice of the date, place and time of any special meeting of directors shall be given to each director by the Secretary or by the officer or one of the directors calling the meeting. Notice shall be duly given to each director (a) in person or by telephone at least 24 hours in advance of the meeting, (b) by sending written notice by reputable overnight courier, telecopy, facsimile or electronic transmission, or delivering written notice by hand, to such director's last known business, home or electronic transmission address at least 48 hours in advance of the meeting, or (c) by sending written notice by first-class mail to such director's last known business or home address at least 72 hours in advance of the meeting. A notice or waiver of notice of a meeting of the Board of Directors need not specify the purposes of the meeting.

2.14 Meetings by Conference Communications Equipment. Directors may participate in meetings of the Board of Directors or any committee thereof by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation by such means shall constitute presence in person at such meeting.

2.15 Action by Consent. Any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board of Directors or committee, as the case may be, consent to the action in writing or by electronic transmission, and the written consents or electronic transmissions are filed with the minutes of proceedings of the Board of Directors or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

2.16 Committees. The Board of Directors may designate one or more committees, each committee to consist of two or more of the directors of the corporation with such lawfully delegable powers and duties as the Board of Directors thereby confers, to serve at the pleasure of the Board of Directors. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members of the committee present at any meeting and not disqualified from voting, whether or

not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors and subject to the provisions of law and any agreement binding upon the corporation, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation and may authorize the seal of the corporation, if any, to be affixed to all papers which may require it. Each such committee shall keep minutes and make such reports as the Board of Directors may from time to time request. Except as the Board of Directors may otherwise determine, any committee may make rules for the conduct of its business, but unless otherwise provided by the directors or in such rules, its business shall be conducted as nearly as possible in the same manner as is provided in these By-laws for the Board of Directors. Unless otherwise provided in a resolution adopted by the Board of Directors, the presence of at least a majority of the members of a committee shall be necessary to constitute a quorum and every act or decision done or made by a majority of the members of a committee present at a meeting duly held at which a quorum is present shall be regarded as the act of such committee. Except as otherwise provided in the Certificate of Incorporation, these By-laws, or the resolution of the Board of Directors designating the committee, a committee may create one or more subcommittees, each subcommittee to consist of one or more members of the committee, and delegate to a subcommittee any or all of the powers and authority of the committee.

2.17 Compensation of Directors. Directors may be paid such compensation for their services and such reimbursement for expenses of attendance at meetings as the Board of Directors may from time to time determine. No such payment shall preclude any director from serving the corporation or any of its parent or subsidiary entities in any other capacity and receiving compensation for such service.

ARTICLE III

OFFICERS

3.1 Titles. The officers of the corporation shall consist of a Chief Executive Officer, a President, a Secretary, a Treasurer and such other officers with such other titles as the Board of

Directors shall determine, including one or more Vice Presidents, Assistant Treasurers and Assistant Secretaries. The Board of Directors may appoint such other officers as it may deem appropriate.

3.2 Election. The Chief Executive Officer, President, Treasurer and Secretary shall be elected annually by the Board of Directors at its first meeting following the annual meeting of stockholders. Other officers may be appointed by the Board of Directors at such meeting or at any other meeting.

3.3 Qualification. No officer need be a stockholder. Any two or more offices may be held by the same person.

3.4 Tenure. Except as otherwise provided by law, by the Certificate of Incorporation or by these By-laws, each officer shall hold office until such officer's successor is elected and qualified, unless a different term is specified in the resolution electing or appointing such officer, or until such officer's earlier death, resignation or removal.

3.5 Resignation and Removal. Any officer may resign by delivering a written resignation to the corporation at its principal office or to the Chief Executive Officer, the President or the Secretary. Such resignation shall be effective upon receipt unless it is specified to be effective at some later time or upon the happening of some later event. Subject to any agreement binding upon the corporation, any officer may be removed at any time, with or without cause, by vote of a majority of the directors then in office. Except as the Board of Directors may otherwise determine, no officer who resigns or is removed shall have any right to any compensation as an officer for any period following such officer's resignation or removal, or any right to damages on account of such removal, whether such officer's compensation be by the month or by the year or otherwise, unless such compensation is expressly provided for in a duly authorized written agreement with the corporation.

3.6 Vacancies. The Board of Directors may fill any vacancy occurring in any office for any reason and may, in its discretion, leave unfilled for such period as it may determine any offices other than those of Chief Executive Officer, President, Treasurer and Secretary. Each

such successor shall hold office for the unexpired term of such officer's predecessor and until a successor is elected and qualified, or until such officer's earlier death, resignation or removal.

3.7 President; Chief Executive Officer. Unless the Board of Directors has designated another person as the corporation's Chief Executive Officer, the President shall be the Chief Executive Officer of the corporation. The Chief Executive Officer shall have general charge and supervision of the business of the corporation subject to the direction of the Board of Directors, and shall perform all duties and have all powers that are commonly incident to the office of chief executive or that are delegated to such officer by the Board of Directors. The President shall perform such other duties and shall have such other powers as the Board of Directors or the Chief Executive Officer (if the President is not the Chief Executive Officer) may from time to time prescribe. In the event of the absence, inability or refusal to act of the Chief Executive Officer or the President (if the President is not the Chief Executive Officer), the Vice President (or if there shall be more than one, the Vice Presidents in the order determined by the Board of Directors) shall perform the duties of the Chief Executive Officer and when so performing such duties shall have all the powers of and be subject to all the restrictions upon the Chief Executive Officer.

3.8 Vice Presidents. Each Vice President shall perform such duties and possess such powers as the Board of Directors or the Chief Executive Officer may from time to time prescribe. The Board of Directors may assign to any Vice President the title of Executive Vice President, Senior Vice President or any other title selected by the Board of Directors.

3.9 Secretary and Assistant Secretaries. The Secretary shall perform such duties and shall have such powers as the Board of Directors or the Chief Executive Officer may from time to time prescribe. In addition, the Secretary shall perform such duties and have such powers as are incident to the office of the secretary, including without limitation the duty and power to give notices of all meetings of stockholders and special meetings of the Board of Directors, to attend all meetings of stockholders and the Board of Directors and keep a record of the proceedings, to maintain a stock ledger and prepare lists of stockholders and their addresses as required, to be custodian of corporate records and the corporate seal and to affix and attest to the same on documents.

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Any Assistant Secretary shall perform such duties and possess such powers as the Board of Directors, the Chief Executive Officer or the Secretary may from time to time prescribe. In the event of the absence, inability or refusal to act of the Secretary, the Assistant Secretary (or if there shall be more than one, the Assistant Secretaries in the order determined by the Board of Directors) shall perform the duties and exercise the powers of the Secretary.

In the absence of the Secretary or any Assistant Secretary at any meeting of stockholders or directors, the chairman of the meeting shall designate a temporary secretary to keep a record of the meeting.

3.10 Treasurer and Assistant Treasurers. The Treasurer shall perform such duties and shall have such powers as may from time to time be assigned by the Board of Directors or the Chief Executive Officer. In addition, the Treasurer shall perform such duties and have such powers as are incident to the office of treasurer, including without limitation the duty and power to keep and be responsible for all funds and securities of the corporation, to deposit funds of the corporation in depositories selected in accordance with these By-laws, to disburse such funds as ordered by the Board of Directors, to make proper accounts of such funds, and to render as required by the Board of Directors statements of all such transactions and of the financial condition of the corporation.

The Assistant Treasurers shall perform such duties and possess such powers as the Board of Directors, the Chief Executive Officer or the Treasurer may from time to time prescribe. In the event of the absence, inability or refusal to act of the Treasurer, the Assistant Treasurer (or if there shall be more than one, the Assistant Treasurers in the order determined by the Board of Directors) shall perform the duties and exercise the powers of the Treasurer.

3.11 Salaries. Officers of the corporation shall be entitled to such salaries, compensation or reimbursement as shall be fixed or allowed from time to time by the Board of Directors.

3.12 Delegation of Authority. The Board of Directors may from time to time delegate the powers or duties of any officer to any other officer or agent, notwithstanding any provision hereof.

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ARTICLE IV

CAPITAL STOCK

4.1 Issuance of Stock. Subject to the provisions of the Certificate of Incorporation and any agreement binding upon the corporation, the whole or any part of any unissued balance of the authorized capital stock of the corporation or the whole or any part of any shares of the authorized capital stock of the corporation held in the corporation's treasury may be issued, sold, transferred or otherwise disposed of by vote of the Board of Directors in such manner, for such lawful consideration and on such terms as the Board of Directors may determine.

4.2 Stock Certificates; Uncertificated Shares. The shares of the corporation shall be uncertificated shares, provided that the Board of Directors may provide by resolution or resolutions that some or all of any or all classes or series of the corporation's stock shall be represented by certificates. Every holder of stock of the corporation represented by certificates shall be entitled to have a certificate, in such form as may be prescribed by law and by the Board of Directors, representing the number of shares held by such holder registered in certificate form. Each such certificate shall be signed in a manner that complies with Section 158 of the General Corporation Law of the State of Delaware.

Each certificate for shares of stock which are subject to any restriction on transfer pursuant to the Certificate of Incorporation, these By-laws, applicable securities laws or any agreement among any number of stockholders or among such holders and the corporation shall have conspicuously noted on the face or back of the certificate either the full text of the restriction or a statement of the existence of such restriction.

If the corporation shall be authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of each certificate representing shares of such class or series of stock, provided that in lieu of the foregoing requirements there may be set forth on the face or back of each certificate representing shares of such class or series of stock a statement that the corporation will furnish

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without charge to each stockholder who so requests a copy of the full text of the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

Within a reasonable time after the issuance or transfer of uncertificated shares, the corporation shall send to the registered owner thereof a written notice containing the information required to be set forth or stated on certificates pursuant to Section 151, 202(a) or 218(a) of the General Corporation Law of the State of Delaware, as applicable, or, with respect to Section 151 of the General Corporation Law of the State of Delaware, a statement that the corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

4.3 Transfers. Shares of stock of the corporation shall be transferable in the manner prescribed by law and in these By-laws. Transfers of shares of stock of the corporation shall be made only on the books of the corporation or by transfer agents designated to transfer shares of stock of the corporation. Subject to applicable law, shares of stock represented by certificates shall be transferred only on the books of the corporation by the surrender to the corporation or its transfer agent of the certificate representing such shares properly endorsed or accompanied by a written assignment or power of attorney properly executed, and with such proof of authority or the authenticity of signature as the corporation or its transfer agent may reasonably require. Except as may be otherwise required by law, by the Certificate of Incorporation or by these By-laws, the corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to vote with respect to such stock, regardless of any transfer, pledge or other disposition of such stock until the shares have been transferred on the books of the corporation in accordance with the requirements of these By-laws.

4.4 Lost, Stolen or Destroyed Certificates. The corporation may issue a new certificate of stock in place of any previously issued certificate alleged to have been lost, stolen or destroyed, upon such terms and conditions as the Board of Directors may prescribe, including

the presentation of reasonable evidence of such loss, theft or destruction and the giving of such indemnity and posting of such bond as the Board of Directors may require for the protection of the corporation or any transfer agent or registrar.

4.5 Record Date. The Board of Directors may fix in advance a date as a record date for the determination of the stockholders entitled to notice of or to vote at any meeting of stockholders, or entitled to receive payment of any dividend or other distribution or allotment of any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action. Such record date shall not precede the date on which the resolution fixing the record date is adopted, and such record date shall not be more than 60 nor less than 10 days before the date of such meeting, nor more than 60 days prior to any other action to which such record date relates.

If no record date is fixed, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day before the day on which notice is given, or, if notice is waived, at the close of business on the day before the day on which the meeting is held. If no record date is fixed, the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating to such purpose.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

4.6 Regulations. The issue, transfer, conversion and registration of shares of stock of the corporation shall be governed by such other regulations as the Board of Directors may establish.

ARTICLE V

GENERAL PROVISIONS

5.1 Fiscal Year. Except as from time to time otherwise designated by the Board of Directors, the fiscal year of the corporation shall begin on the first day of January of each year and end on the last day of December in each year.

5.2 Corporate Seal. The corporate seal, if any, shall be in such form as shall be approved by the Board of Directors.

5.3 Waiver of Notice. Whenever notice is required to be given by law, by the Certificate of Incorporation or by these By-laws, a written waiver signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before, at or after the time of the event for which notice is to be given, shall be deemed equivalent to notice required to be given to such person. Neither the business nor the purpose of any meeting need be specified in any such waiver. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting is not lawfully called or convened.

5.4 Voting of Securities. Except as the Board of Directors may otherwise designate, the Chief Executive Officer, the President or the Treasurer may waive notice of, vote, or appoint any person or persons to vote, on behalf of the corporation at, and act as, or appoint any person or persons to act as, proxy or attorney-in-fact for this corporation (with or without power of substitution) at, any meeting of stockholders or securityholders of any other entity, the securities of which may be held by this corporation.

5.5 Evidence of Authority. A certificate by the Secretary, or an Assistant Secretary, or a temporary Secretary, as to any action taken by the stockholders, directors, a committee or any officer or representative of the corporation shall as to all persons who rely on the certificate in good faith be conclusive evidence of such action.

5.6 Certificate of Incorporation. All references in these By-laws to the Certificate of Incorporation shall be deemed to refer to the Certificate of Incorporation of the corporation, as amended and in effect from time to time.

5.7 Severability. Any determination that any provision of these By-laws is for any reason inapplicable, illegal or ineffective shall not affect or invalidate any other provision of these By-laws.

5.8 Pronouns. All pronouns used in these By-laws shall be deemed to refer to the masculine, feminine or neuter, singular or plural, as the identity of the person or persons may require.

ARTICLE VI

AMENDMENTS

These By-laws may be altered, amended or repealed, in whole or in part, or new By-laws may be adopted by the Board of Directors or by the stockholders as provided in the Certificate of Incorporation.

ZQ|CERT#|COY|CLS|ROSTRY|ACCT#|TRANSTYPE|RUN#|TRANS#

COMMON STOCK		COMMON STOCK	
<p>Bellerophon THERAPEUTICS</p> <p>BELLEROPHON THERAPEUTICS, INC. INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE</p>		<p>THIS CERTIFICATE IS TRANSFERABLE IN CANTON, MA., JERSEY CITY, NJ AND COLLEGE STATION, TX</p> <hr/> <p>Shares</p> <p>***** ***** ***** ***** *****</p>	
<p>CERTIFICATE Number ZQ00000000</p>		<p>CUSIP 078771 10 2</p> <p>SEE REVERSE FOR CERTAIN DEFINITIONS</p>	
<p>THIS CERTIFIES THAT</p> <p>MR. SAMPLE & MRS. SAMPLE & MR. SAMPLE & MRS. SAMPLE</p> <p>is the owner of</p> <p>"ZERO HUNDRED THOUSAND ZERO HUNDRED AND ZERO"</p>			
<p>FULLY-PAID AND NON-ASSESSABLE SHARES OF COMMON STOCK OF</p> <p>Bellerophon Therapeutics, Inc. (hereinafter called the "Company"), transferable on the books of the Company in person or by duly authorized attorney, upon surrender of this Certificate properly endorsed. This Certificate and the shares represented hereby, are issued and shall be held subject to all of the provisions of the Certificate of Incorporation, as amended, and the By-Laws, as amended, of the Company (copies of which are on file with the Company and with the Transfer Agent), to all of which each holder, by acceptance hereof, assents. This Certificate is not valid unless countersigned and registered by the Transfer Agent and Registrar.</p>			
<p>Witness the facsimile seal of the Company and the facsimile signatures of its duly authorized officers.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> President </div> <div style="text-align: center;"> Treasurer </div> </div> <div style="margin-top: 20px; text-align: center;"> </div>			
<p>DATED DD MM YY</p> <p>COUNTERSIGNED AND REGISTERED: COMPUTERSHARE TRUST COMPANY, N.A. TRANSFER AGENT AND REGISTRAR,</p>		<p>By _____ AUTHORIZED SIGNATURE</p>	

1234567

1234567

BELLEROPHON THERAPEUTICS, INC.

THE COMPANY WILL FURNISH WITHOUT CHARGE TO EACH SHAREHOLDER WHO SO REQUESTS, A SUMMARY OF THE POWERS, DESIGNATIONS, PREFERENCES AND RELATIVE, PARTICIPATING, OPTIONAL OR OTHER SPECIAL RIGHTS OF EACH CLASS OF STOCK OF THE COMPANY AND THE QUALIFICATIONS, LIMITATIONS OR RESTRICTIONS OF SUCH PREFERENCES AND RIGHTS, AND THE VARIATIONS IN RIGHTS, PREFERENCES AND LIMITATIONS DETERMINED FOR EACH SERIES, WHICH ARE FIXED BY THE CERTIFICATE OF INCORPORATION OF THE COMPANY, AS AMENDED, AND THE RESOLUTIONS OF THE BOARD OF DIRECTORS OF THE COMPANY, AND THE AUTHORITY OF THE BOARD OF DIRECTORS TO DETERMINE VARIATIONS FOR FUTURE SERIES. SUCH REQUEST MAY BE MADE TO THE OFFICE OF THE SECRETARY OF THE COMPANY OR TO THE TRANSFER AGENT. THE BOARD OF DIRECTORS MAY REQUIRE THE OWNER OF A LOST OR DESTROYED STOCK CERTIFICATE, OR HIS LEGAL REPRESENTATIVES, TO GIVE THE COMPANY A BOND TO INDEMNIFY IT AND ITS TRANSFER AGENTS AND REGISTRARS AGAINST ANY CLAIM THAT MAY BE MADE AGAINST THEM ON ACCOUNT OF THE ALLEGED LOSS OR DESTRUCTION OF ANY SUCH CERTIFICATE.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM - as tenants in common	UNIF GIFT MIN ACT -Custodian (Cust) (Minor)
TEN ENT - as tenants by the entireties	under Uniform Gifts to Minors Act (State)
JT TEN - as joint tenants with right of survivorship and not as tenants in common	UNIF TRF MIN ACT -Custodian (until age) (Cust) (Minor) under Uniform Transfers to Minors Act (State)

Additional abbreviations may also be used though not in the above list.

For value received, _____ hereby sell, assign and transfer unto _____

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING POSTAL ZIP CODE, OF ASSIGNEE)

_____ Shares
of the common stock represented by the within Certificate, and do hereby irrevocably constitute and appoint _____ Attorney

to transfer the said stock on the books of the within-named Company with full power of substitution in the premises.

Dated: _____ 20 _____

Signature: _____

Signature: _____

Notice: The signature to this assignment must correspond with the name as written upon the face of the certificate, in every particular, without alteration or enlargement, or any change whatever.

Signature(s) Guaranteed: Medallion Guarantee Stamp
THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION (Banks, Stockbrokers, Savings and Loan Associations and Credit Unions) WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM, PURSUANT TO S.E.C. RULE 17A-15.

SECURITY INSTRUCTIONS

THIS IS WATERMARKED PAPER. DO NOT ACCEPT WITHOUT NOTING WATERMARK. HOLD TO LIGHT TO VERIFY WATERMARK.



The IRS requires that we report the cost basis of certain shares acquired after January 1, 2011. If your shares were covered by the legislation and you have sold or transferred the shares and requested a specific cost basis calculation method, we have processed as requested. If you did not specify a cost basis calculation method, we have defaulted to the first in, first out (FIFO) method. Please visit our website or consult your tax advisor if you need additional information about cost basis.

If you do not keep in contact with us or do not have any activity in your account for the time periods specified by state law, your property could become subject to state unclaimed property laws and transferred to the appropriate state.

1534281

STOCKHOLDERS AGREEMENT

This STOCKHOLDERS AGREEMENT, dated as of [—], 2015, is made and entered into by and among Bellerophon Therapeutics, Inc., a Delaware corporation (formerly Bellerophon Therapeutics LLC, a Delaware limited liability company), and Linde North America, Inc. (“Linde”), a Delaware corporation. Capitalized terms shall have the meanings assigned to them in Section 1.

WHEREAS, in anticipation of its public offering, Bellerophon Therapeutics LLC has been converted on the date hereof from a limited liability company into a corporation known as Bellerophon Therapeutics, Inc. (the “Conversion”); and

WHEREAS, in connection with the Conversion, the parties have agreed to enter into this Agreement to provide the parties with the rights and obligations set forth in this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Defined Terms.

1.1 Definitions. For purposes of this Agreement, the following terms have the following meanings:

“Affiliate” means, (a) with respect to any Person, any other Person which, directly or indirectly, controls, is controlled by or is under common control with such Person, where “control” means the possession, directly or indirectly, of the power to direct the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise, and (b) with respect to any individual, also means the spouse or child of such individual.

“Agreement” means this Stockholders Agreement, as the same may be amended, restated, modified or supplemented from time to time.

“Beneficially Own” means beneficially own as determined under Rule 13d-3 promulgated under the Securities Exchange Act of 1934, as amended from time to time.

“Board” means the board of directors of the Company as it may be composed from time to time in accordance with the Certificate of Incorporation, the Company’s bylaws (as in effect from time to time), this Agreement and the General Corporation Law of the State of Delaware (as in effect from time to time).

“Certificate of Incorporation” means the Certificate of Incorporation of the Company, as in effect from time to time.

“Common Stock” means any shares of common stock, par value \$0.01 per share, of the Company, now or hereafter authorized to be issued, and any and all equity interests of any kind whatsoever of the Company which may be issued on or after the date hereof in respect of, in

exchange for, or upon conversion of the Common Stock pursuant to a merger, consolidation, stock split, reverse split, stock dividend, recapitalization of the Company or otherwise.

“Company” means Bellerophon Therapeutics, Inc., a Delaware corporation, and shall, to the extent this Agreement survives, include any successor thereto by merger, consolidation, acquisition of substantially all the assets thereof, or otherwise, including any parent or subsidiary thereof that undertakes a Public Offering in lieu of the Company.

“Convertible Securities” means (a) any options or warrants to purchase or other rights to acquire Common Stock, (b) any securities by their terms convertible into, or exercisable or exchangeable for, Common Stock (directly or indirectly) and (c) any options or warrants to purchase or other rights to acquire any such convertible, exercisable or exchangeable securities.

“Initial Public Offering” means the first Public Offering.

“Linde Entities” means Linde, Linde Parent and any Affiliate of any of the foregoing.

“Linde Holder” means any of the Linde Entities and any Person that acquires shares of Common Stock from any of the Linde Entities or other Linde Holders in a transaction other than a Public Offering or a sale pursuant to Rule 144.

“Linde Parent” means Linde AG, a company incorporated under the laws of Germany.

“Person” means any individual, corporation, association, partnership (general or limited), joint venture, trust, estate, limited liability company, organization or other legal entity, or any nation, government, governmental agency or political subdivision thereof, or any person or body exercising executive, legislative, judicial, regulatory, administrative or taxing functions of or pertaining to government, including any court.

“Public Offering” means a public offering of equity interests in the Company through a registration statement (other than a Form S-8 or successor forms) filed with, and declared effective by, the United States Securities and Exchange Commission and pursuant to which such equity interests are authorized and approved for listing on a national securities exchange.

“Rule 144” means Rule 144 promulgated under the Securities Act of 1933, as amended from time to time.

“Subsidiary” means any direct or indirect subsidiary of the Company.

“Termination Date” means the first date after the consummation of an Initial Public Offering on which no Linde Holder, together with its Affiliates, Beneficially Owns (a) at least fifty percent (50%) of the sum of (i) the aggregate number of shares of Common Stock Beneficially Owned by the Linde Entities as of immediately prior to the consummation of the Initial Public Offering plus (ii) the aggregate number of shares of Common Stock, if any, acquired by any of the Linde Entities from the Company in connection with or subsequent to the

consummation of the Initial Public Offering and (b) at least ten percent (10%) of the number of shares of Common Stock that were set forth as outstanding on the cover of the Company's then most recently filed Annual Report on Form 10-K or Quarterly Report on Form 10-Q, as the case may be; provided that the Termination Date shall be deemed to have occurred in the event that: (A) a Linde Holder other than any Linde Entity, or any of their respective Affiliates, Beneficially Owns the percentage of shares described in clause (a) of this definition; (B) the rights described in Section 2.2 hereof have not been assigned to such Linde Holder pursuant to Section 3.10 hereof; and (C) the aggregate number of shares of Common Stock then Beneficially Owned by the Linde Entities constitutes less than fifteen percent (15%) of the sum of (x) the aggregate number of shares of Common Stock Beneficially Owned by the Linde Entities as of immediately prior to the consummation of the Initial Public Offering plus (y) the aggregate number of shares of Common Stock, if any, acquired by any of the Linde Entities from the Company in connection with or subsequent to the consummation of the Initial Public Offering.

"Voting Agreement" means the Voting Agreement, dated as of February 12, 2014, by and among the Company and the stockholders party thereto from time to time, as the same may be amended, restated, modified or supplemented from time to time.

1.2 Other Defined Terms. The following is a list of the remaining defined terms used in this Agreement:

Term	Section
Assignee	3.10
Conversion	Recitals
Linde	Preamble
Linde Director	2.2(a)
Linde Nominee	2.2(a)

2. Board of Directors.

2.1 Effectiveness and Termination. This Section 2 shall, without further action of any of the parties, (a) become effective concurrently with the termination of the Voting Agreement and (b) terminate automatically and be of no further force and effect at the close of business on the Termination Date.

2.2 Director Nomination Rights.

(a) Linde shall have the right, at any time and from time to time, exercisable by written notice delivered to the Company referencing this Section 2.2, to designate one (1) individual to be appointed to the Board or nominated for election to the Board in each case pursuant to the procedures set forth in this Section 2.2 (each such individual designated by Linde pursuant to this Section 2.2, a "**Linde Nominee**", and any Linde Nominee who is appointed or elected to the Board pursuant to this Section 2.2, a "**Linde Director**"), and the Company shall (as applicable) cause the Board to promptly appoint such Linde Nominee to the Board or include such Linde Nominee in the Board's slate of nominees to the stockholders of the Company for election at the applicable meeting of stockholders.

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(b) In the event that a Linde Director for any reason ceases to serve as a member of the Board, whether due to the death, disability, resignation, removal or disqualification of such Linde Director or for any other reason, Linde shall have the right, exercisable by written notice delivered to the Company referencing this Section 2.2, to designate a successor to fill such vacancy, and the Company shall cause the Board to promptly fill such vacancy with such successor designee, it being understood that any such designee shall serve the remainder of the term of the Linde Director whom such designee replaces.

(c)

(i) If any Linde Nominee is not appointed to the Board within fifteen (15) days of receipt by the Company of the written notice referred to in Section 2.2(a) or 2.2(b), as applicable (other than in the case of a notice delivered requesting the inclusion of the Linde Nominee in the Board's slate of nominees to the stockholders of the Company for election of directors at an annual or special meeting of stockholders), for any reason whatsoever, then in addition to all other remedies available to Linde hereunder, Linde shall have the right, exercisable by written notice delivered to the Company, to designate another Linde Nominee (and the provisions of this Section 2.2(c)(i) shall likewise apply to each such other Linde Nominee).

(ii) If any Linde Nominee designated by Linde for nomination to the Board pursuant to this Section 2.2 becomes incapable of serving on the Board as a result of such individual's death, withdrawal or disqualification prior to the applicable meeting of stockholders, Linde has the right, exercisable by written notice delivered to the Company, to designate another Linde Nominee to be included in the Board's slate of nominees to the stockholders of the Company for election at the applicable meeting of stockholders (and the provisions of this Section 2.2(c)(ii) shall likewise apply to each such other Linde Nominee).

(iii) In the event that the Linde Nominee included in the Board's slate of nominees to the stockholders of the Company for election of directors at an annual or special meeting of stockholders fails to be elected by the stockholders at such meeting for any reason whatsoever, the Company shall cause the Board to, as promptly as reasonably practicable, increase the size of the Board by one member and appoint the Linde Nominee to the Board in such newly-created vacancy. Any Linde Nominee appointed to the Board pursuant to the immediately preceding sentence shall be a director of the same class as the most recently elected class of directors.

(d) The Company shall:

(i) include the Linde Nominee in the Board's slate of nominees to the stockholders of the Company for each election of directors (or, if the Company then has a classified board of directors, for each election of directors of the class for which such Linde Nominee has been designated) and in the proxy statement prepared by management of the Company in connection with soliciting proxies for the meeting of the stockholders of the Company called with respect to the election of members of the Board (or the members of such class, as applicable), and at each adjournment or postponement thereof, and on each action or

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approval by written consent of the Board or the stockholders of the Company with respect to the election or appointment of members of the Board (or the members of such class, as applicable);

(ii) recommend that the Company's stockholders vote in favor of the election of the Linde Nominee (along with the other individuals in the Board's slate of nominees) and solicit proxies in favor of such election and otherwise support the Linde Nominee for election in a manner no less favorable than the manner in which the Company supports other individuals in the Board's slate of nominees for election to the Board; and

(iii) not (x) make or recommend any amendment to the Certificate of Incorporation or the Company's bylaws that could reasonably be expected to have an adverse effect on the rights of any Linde Entity under this Section 2.2 or (y) take any other action for the purpose of adversely affecting the rights of the Linde Entities under this Section 2.2, in each case without the prior written approval of Linde.

(e) As a condition to the Linde Nominee's nomination for election as a director of the Company at any annual or special meeting of stockholders of the Company, Linde must provide to the Company, to the same extent as provided with respect to the Company's other nominees to the Board, such information as is required to be disclosed in proxy statements under applicable law or which is otherwise necessary for the inclusion of the Linde Nominee on the Board's slate of nominees for election as directors.

(f) For the avoidance of doubt, the delivery of any notice by Linde to the Company pursuant to this Section 2.2 shall not be subject to the provisions of Section 1.10 of the Company's bylaws or any other similar provisions that may from time to time be set forth in the Company's bylaws.

2.3 Subsidiary Boards; Committees. Except to the extent prohibited by applicable law or any applicable listing agreement to which the Company shall be a party, at the reasonable request of Linde exercisable by written notice delivered to the Company referencing this Section 2.3, the Linde Director shall be entitled to serve on the board of directors (or equivalent governing body) of each Subsidiary and on each committee of the Board or of the board of directors (or equivalent governing body) of each Subsidiary. Neither the Board nor any board of directors (or equivalent governing body) of any Subsidiary shall establish any committee without the prior written consent of Linde except to the extent required by law or any applicable listing agreement to which the Company shall be a party.

2.4 Compliance. The Linde Director shall, during the term of his or her service as a director of the Company, comply with the Company's code of conduct and all other company policies and guidelines applicable generally to directors serving on the Board which have been or are adopted by the Board.

2.5 Expense Reimbursement; Indemnification. The Company shall treat the Linde Director during the term of his or her service as a director of the Company consistent with its treatment of all other non-employee directors on the Board with respect to expense reimbursement and directors and officers liability insurance coverage. Promptly following the election or appointment of any Linde Nominee to the Board, the Company shall enter into an

indemnification agreement with such Linde Director in form and substance consistent with the indemnification agreements then in effect between the Company and the other members of the Board.

3. Miscellaneous.

3.1 Rules of Construction.

- (a) An accounting term not otherwise defined herein has the meaning assigned to it in accordance with U.S. GAAP;
- (b) References in the singular or to "him," "her," "it," "itself," or other like references, and references in the plural or the feminine or masculine or neutral reference, as the case may be, shall also, when the context so requires, be deemed to include the plural or singular, or the masculine or feminine or neutral reference, as the case may be;
- (c) References to Sections shall refer to sections of this Agreement, unless otherwise specified;
- (d) The headings in this Agreement are for convenience and identification only and are not intended to describe, interpret, define or limit the scope, extent or intent of this Agreement or any provision hereof;
- (e) This Agreement shall be construed without regard to any presumption or other rule requiring construction against the party that drafted and caused this Agreement to be drafted;
- (f) All monetary figures shall be in United States dollars unless otherwise specified, and any monetary figure in United States dollars shall be deemed to refer to the equivalent amount of foreign currency when used in a context which refers to or includes operations conducted principally outside of the United States;
- (g) References to "include," "includes" and "including" in this Agreement shall be deemed to be followed by " , without limitation," whether or not so specified;
- (h) The word "extent" in the phrase "to the extent" shall mean the degree to which a subject or other theory extends, and such phrase shall not mean "if;" and
- (i) References to "ordinary course of business" in this Agreement shall mean "ordinary course of business consistent with past practice," whether or not so specified.

3.2 Further Actions. Each party hereto shall cooperate with each other party, shall do and perform or cause to be done and performed all further acts and things, and shall execute and deliver all other agreements, certificates, instruments and documents as any other party hereto reasonably may request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

3.3 Notices.

(a) Unless otherwise expressly provided herein, all notices, requests, demands, claims and other communications provided for under the provisions of this Agreement shall be in writing. Any notice, request, demand, claim or other communication hereunder shall be sent by (i) personal delivery (including receipted courier service) or overnight delivery service to the intended recipient at the address set forth below, (ii) facsimile or electronic mail, with confirmation of receipt, to the number or email address of the intended recipient set forth below (provided that a copy is also sent by another permitted method; and provided, further, that delivery to Linde may not be sent by facsimile), (iii) nationally recognized overnight delivery courier service to the intended recipient at the address set forth below, or (iv) registered or certified mail, return receipt requested, postage prepaid, to the intended recipient at the address set forth below:

(i) If to the Company, at the address indicated below, or at such other address as the Company may hereafter designate by written notice to Linde:

Bellerophon Therapeutics, Inc.
53 Frontage Road, Suite 301
Hampton, NJ 08827
Attn: Chief Executive Officer
Fax: 844-325-6587
Email: jon.peacock@bellerophon.com

with copies (which shall not constitute notice) to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attn: Lia Der Marderosian, Esq.
Fax: 617-526-5000
Email: lia.dermarderosian@wilmerhale.com

and

Cravath, Swaine & Moore LLP
825 Eighth Avenue
New York, NY 10019
Attn: Richard Hall, Esq.
Fax: 212-474-3700
Email: rhall@cravath.com

- (ii) If to Linde, at the address set forth below, or at such other address as Linde may hereafter designate by written notice to the Company:

Linde North America, Inc.
575 Mountain Avenue

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Murray Hill, NJ 07974
Attn: Jens Luehring
Email: Jens.Luehring@linde.com

with a copy (which shall not constitute notice) to:

Cravath, Swaine & Moore LLP
825 Eighth Avenue
New York, NY 10019
Attn: Richard Hall, Esq.
Fax: 212-474-3700
Email: rhall@cravath.com

- (b) Notices shall be deemed to have been received:

- (i) If given by personal delivery or by facsimile or electronic transmission, on the day given, if given before 5:00 PM local time on a business day in the jurisdiction of the intended recipient; otherwise on the next business day, provided that receipt of any facsimile or electronic transmission is confirmed by written evidence of delivery of facsimile, electronic confirmation of delivery or written acknowledgment of receipt thereof by the recipient;

- (ii) If given by nationally recognized overnight delivery courier service, on the date of delivery indicated in the records of such courier service; and

- (iii) If given by registered or certified mail, return receipt requested, postage prepaid, on the date of delivery indicated on the return receipt.

3.4 Governing Law. This Agreement shall in all respects be governed by, and construed in accordance with, the laws (excluding conflict of laws rules and principles) of the State of Delaware applicable to agreements made and to be performed entirely within such State, including all matters of construction, validity and performance.

3.5 Specific Performance. The parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with its specific terms or were otherwise breached and that money damages or other remedy at law would not be a sufficient or adequate remedy for any breach or violation of, or a default under, this Agreement. It is accordingly agreed that, notwithstanding anything to the contrary contained in this Agreement, each of the parties shall be entitled, without any requirement for the securing or posting of any bond with respect to such remedy, to an injunction or injunctions to prevent or restrain any breach, violation or default, or threatened breach, violation or default, of this Agreement and to enforce specifically the terms and provisions hereof exclusively in any state or federal court having jurisdiction, such remedy being in addition to any other remedy to which any party may be entitled at law or in equity.

3.6 Entire Agreement. This Agreement, including, to the extent referred to herein, the Certificate of Incorporation and the Voting Agreement, constitutes the entire

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agreement of the parties relating to the subject matter hereof and supersedes all prior agreements and undertakings, whether oral or written. There are no representations, agreements, arrangements or understandings, oral or written, between or among the parties relating to the subject matter of this Agreement which are not fully expressed in this Agreement.

3.7 Severability. Should any provision of this Agreement or the application thereof to any Person or circumstance be held invalid or unenforceable to any extent, (a) such provision shall be ineffective to the extent, and only to the extent, of such invalidity or unenforceability and shall be enforced to the greatest extent permitted by law; (b) such invalidity or unenforceability with respect to any Person or in any jurisdiction shall not invalidate or render unenforceable such provision as applied (i) to any other Persons or circumstances or (ii) in any other jurisdiction; and (c) such invalidity or unenforceability shall not affect or invalidate any other provision of this Agreement.

3.8 Amendments and Waivers. This Agreement and any of the provisions hereof may be amended, modified or supplemented, in whole or in part, only by written agreement of the parties. The observance of any provision of this Agreement may be waived in writing by the party that will lose the benefit of such provision as a result of such waiver. The waiver by any party hereto of a breach by any party hereto of any provision of this Agreement shall not operate or be construed as a waiver of such breach by any other party hereto, except as otherwise explicitly provided for in the writing evidencing such waiver. Except as otherwise expressly provided herein, no failure on the part of any party to exercise, and no delay in exercising, any right, power or remedy hereunder, or otherwise available in respect hereof at law or in equity, shall operate as a waiver thereof, nor shall any single or partial exercise of such right, power or remedy by such party preclude any other or further exercise thereof or the exercise of any other right, power or remedy.

3.9 No Third Party Beneficiaries. Nothing in this Agreement, whether express or implied, shall be construed to give any Person (other than the parties hereto and their respective successors and permitted assigns who comply with the terms hereof and agree in writing to be bound by the provisions hereof) any legal or equitable right, remedy or claim under or in respect of this Agreement or any covenants, conditions or provisions contained herein, as a third party beneficiary or otherwise. Notwithstanding the foregoing, each Linde Director shall be a third party beneficiary of the provisions of Section 2.5 and shall be entitled to enforce such provisions directly.

3.10 Assignments. The provisions of this Agreement shall be binding upon and inure to the benefit of the Company and Linde and their respective successors and permitted assigns. This Agreement shall not be assignable by any of the parties hereto without the prior written consent of the other parties; provided, that Linde (i) may assign its rights and duties under this Agreement to any other Linde Entity at any time, (ii) at any time prior to the consummation of an Initial Public Offering, may assign its rights and duties under this Agreement to any Person who acquires shares of Common Stock from any of the Linde Entities and (iii) at any time following the consummation of an Initial Public Offering, may assign its rights and duties under this Agreement to a Person who acquires, in a transaction other than a Public Offering or a sale pursuant to Rule 144, at least fifty percent (50%) of the aggregate number of shares of Common Stock owned, directly or indirectly, by the Linde Entities as of

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immediately prior to the consummation of such transaction (any Person described in the foregoing clauses (i) through (iii), an “Assignee”); provided, further, that no such assignment shall be binding upon or obligate the Company to any such Assignee unless and until such Assignee delivers to the Company (a) a written notice stating the name and address of such Assignee and identifying the shares of Common Stock owned by such Assignee and (b) a written instrument by which such Assignee agrees to be bound by the provisions of this Agreement applicable to the Linde Entities to the same extent as if such Assignee were a party hereto. Upon any assignment in accordance with this Section 3.10, the Assignee shall succeed to, and be substituted for, and may exercise every right and power of, the assigning Linde Entity under this Agreement.

3.11 Jurisdiction; Waiver of Jury Trial.

(a) Jurisdiction. Subject to Section 3.5, any action, suit or proceeding against any party to this Agreement arising out of or relating to this Agreement shall be brought in any federal or state court sitting in the Borough of Manhattan in the City of New York in the State of New York, and each of the parties hereby submits to the exclusive jurisdiction of such courts for the purpose of any such action, suit or proceeding. A final judgment in any such action, suit or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. To the extent that service of process by mail or by nationally recognized overnight delivery courier service is permitted by applicable law, each party irrevocably consents to the service of process in any such action, suit or proceeding in such courts by the mailing of such process by registered or certified mail, postage prepaid, return receipt request or by nationally recognized overnight delivery courier service to such party at its address for notices provided for in Section 3.3. Each party irrevocably waives and agrees not to assert (i) any objection which it may ever have to the laying of venue of any such action, suit or proceeding in any federal or state court located in New York County in the State of New York, and (ii) any claim that any such action, suit or proceeding brought in any such court has been brought in an inconvenient forum.

(b) Waiver of Jury Trial. EACH PARTY IRREVOCABLY WAIVES, TO THE EXTENT LAWFUL, AND AGREES NOT TO ASSERT ANY RIGHT TO TRIAL BY JURY IN ANY ACTION, SUIT OR PROCEEDING ARISING OUT OF RELATING TO THIS AGREEMENT AND AGREES THAT ANY OF THEM MAY FILE A COPY OF THIS PARAGRAPH WITH ANY COURT AS WRITTEN EVIDENCE OF THE KNOWING, VOLUNTARY AND BARGAINED-FOR AGREEMENT AMONG THE PARTIES IRREVOCABLY TO WAIVE ITS RIGHT TO TRIAL BY JURY IN ANY ACTION, SUIT OR PROCEEDING ARISING OUT OF RELATING TO THIS AGREEMENT.

3.12 Counterparts. This Agreement may be executed in any number of counterparts with the same effect as if all signatory parties had signed the same document. All counterparts shall be construed together and shall constitute one and the same instrument. A signature delivered by facsimile or electronic transmission shall be deemed to be an original signature for all purposes under this Agreement.

3.13 Adjustments. Wherever in this Agreement there is a reference to a specific number or percentage of shares of Common Stock, then upon the occurrence of any

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subdivision, combination, stock split, reverse split, stock dividend or other recapitalization of the Company, the specific number or percentage of shares of Common Stock so referenced in this Agreement shall automatically be proportionally adjusted to reflect the effect on the outstanding Common Stock by such subdivision, combination, stock split, reverse split, stock dividend or other recapitalization.

3.14 Attorneys’ Fees. In the event that any action, suit or proceeding is brought for the purpose of determining or enforcing the right of any party or parties hereunder, the party or parties prevailing in such action, suit or proceeding shall be entitled to recover from the other party or parties all reasonable costs and expenses incurred by the prevailing party or parties in connection with such action, suit or proceeding, including reasonable attorneys’ fees.

[Signature Page Follows]

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IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

COMPANY:

BELLEROPHON THERAPEUTICS, INC.

By:

Name: Jonathan M. Peacock

Title: President and Chief Executive Officer

LINDE:

LINDE NORTH AMERICA, INC.

By:

Name:

Title:

[Signature Page to Linde Stockholders Agreement]

STOCKHOLDERS AGREEMENT

This STOCKHOLDERS AGREEMENT, dated as of [—], 2015, is made and entered into by and among Bellerophon Therapeutics, Inc., a Delaware corporation (formerly Bellerophon Therapeutics LLC, a Delaware limited liability company), New Mountain Partners II (AIV-A), L.P., a Delaware limited partnership (“**NMP-A**”), New Mountain Partners II (AIV-B), L.P., a Delaware limited partnership (“**NMP-B**”), New Mountain Affiliated Investors II, L.P., a Delaware limited partnership (“**NMAI**”), and Allegheny New Mountain Partners, L.P., a Delaware limited partnership (“**ANMP**”). Capitalized terms shall have the meanings assigned to them in Section 1.

WHEREAS, in anticipation of its public offering, Bellerophon Therapeutics LLC has been converted on the date hereof from a limited liability company into a corporation known as Bellerophon Therapeutics, Inc. (the “**Conversion**”); and

WHEREAS, in connection with the Conversion, the parties have agreed to enter into this Agreement to provide the parties with the rights and obligations set forth in this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Defined Terms.

1.1 Definitions. For purposes of this Agreement, the following terms have the following meanings:

“**Affiliate**” means, (a) with respect to any Person, any other Person which, directly or indirectly, controls, is controlled by or is under common control with such Person, where “**control**” means the possession, directly or indirectly, of the power to direct the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise, and (b) with respect to any individual, also means the spouse or child of such individual.

“**Agreement**” means this Stockholders Agreement, as the same may be amended, restated, modified or supplemented from time to time.

“**Beneficially Own**” means beneficially own as determined under Rule 13d-3 promulgated under the Securities Exchange Act of 1934, as amended from time to time.

“**Board**” means the board of directors of the Company as it may be composed from time to time in accordance with the Certificate of Incorporation, the Company’s bylaws (as in effect from time to time), this Agreement and the General Corporation Law of the State of Delaware (as in effect from time to time).

“**Certificate of Incorporation**” means the Certificate of Incorporation of the Company, as in effect from time to time.

“**Common Stock**” means any shares of common stock, par value \$0.01 per share, of the Company, now or hereafter authorized to be issued, and any and all equity interests of any kind whatsoever of the Company which may be issued on or after the date hereof in respect of, in exchange for, or upon conversion of the Common Stock pursuant to a merger, consolidation, stock split, reverse split, stock dividend, recapitalization of the Company or otherwise.

“**Company**” means Bellerophon Therapeutics, Inc., a Delaware corporation, and shall, to the extent this Agreement survives, include any successor thereto by merger, consolidation, acquisition of substantially all the assets thereof, or otherwise, including any parent or subsidiary thereof that undertakes a Public Offering in lieu of the Company.

“**Convertible Securities**” means (a) any options or warrants to purchase or other rights to acquire Common Stock, (b) any securities by their terms convertible into, or exercisable or exchangeable for, Common Stock (directly or indirectly) and (c) any options or warrants to purchase or other rights to acquire any such convertible, exercisable or exchangeable securities.

“**Indebtedness**” means all liabilities, obligations and indebtedness of the Company and the Subsidiaries (a) for borrowed money (other than trade debt, trade accounts payable and any other accrued current liabilities or obligations incurred or arising in the ordinary course of business); (b) evidenced by a note, bond, debenture or similar instrument; (c) created or arising under any capital lease, conditional sale, earn out or other arrangement for the deferral of purchase price of any property; (d) under letters of credit, banker’s acceptances or similar credit transactions; (e) for any other Person’s obligation or indebtedness of the same type as any of the foregoing, whether as obligor, guarantor or otherwise; (f) for interest on any of the foregoing; and (g) for any premiums, prepayment or termination fees, expenses or breakage costs due upon prepayment of any of the foregoing.

“**Initial Public Offering**” means the first Public Offering.

“**NMP Entities**” means NMP-A, NMP-B, NMAI and ANMP and any Affiliate of any of the foregoing.

“**NMP Holder**” means any of the NMP Entities and any Person that acquires shares of Common Stock from any of the NMP Entities or other NMP Holders in a transaction other than a Public Offering or a sale pursuant to Rule 144.

“**Non-Voting Common Stock**” means any Common Stock designated as non-voting Common Stock when issued by the Company.

“**Person**” means any individual, corporation, association, partnership (general or limited), joint venture, trust, estate, limited liability company, organization or other legal entity, or any nation, government, governmental agency or political subdivision thereof, or any person or body exercising executive, legislative, judicial, regulatory, administrative or taxing functions of or pertaining to government, including any court.

“**Public Offering**” means a public offering of equity interests in the Company through a registration statement (other than a Form S-8 or successor forms) filed with, and declared effective by, the United States Securities and Exchange Commission and pursuant to

“**Rule 144**” means Rule 144 promulgated under the Securities Act of 1933, as amended from time to time.

“**Section 2 Termination Date**” means the first date after the consummation of an Initial Public Offering on which no NMP Holder, together with its Affiliates, Beneficially Owns (a) at least fifty percent (50%) of the sum of (i) the aggregate number of shares of Common Stock Beneficially Owned by the NMP Entities as of immediately prior to the consummation of the Initial Public Offering plus (ii) the aggregate number of shares of Common Stock, if any, acquired by any of the NMP Entities from the Company in connection with or subsequent to the consummation of the Initial Public Offering and (b) at least fifteen (15%) of the number of shares of Common Stock that were set forth as outstanding on the cover of the Company’s then most recently filed Annual Report on Form 10-K or Quarterly Report on Form 10-Q, as the case may be; provided that the Section 2 Termination Date shall be deemed to have occurred in the event that: (A) an NMP Holder other than any NMP Entity, or any of their respective Affiliates, Beneficially Owns the percentage of shares described in clause (a) of this definition; (B) the rights described in Section 2.2 hereof have not been assigned to such NMP Holder pursuant to Section 4.10 hereof; and (C) the aggregate number of shares of Common Stock then Beneficially Owned by the NMP Entities constitutes less than fifteen percent (15%) of the sum of (x) the aggregate number of shares of Common Stock Beneficially Owned by the NMP Entities as of immediately prior to the consummation of the Initial Public Offering plus (y) the aggregate number of shares of Common Stock, if any, acquired by any of the NMP Entities from the Company in connection with or subsequent to the consummation of the Initial Public Offering.

“**Section 3.2 Termination Date**” means the first date after the consummation of an Initial Public Offering on which the aggregate number of shares of Common Stock then Beneficially Owned by the NMP Entities constitutes either (a) less than fifty percent (50%) of the sum of (i) the aggregate number of shares of Common Stock Beneficially Owned by the NMP Entities as of immediately prior to the consummation of the Initial Public Offering plus (ii) the aggregate number of shares of Common Stock, if any, acquired by any of the NMP Entities from the Company in connection with or subsequent to the consummation of the Initial Public Offering or (b) less than fifteen (15%) of the number of shares of Common Stock that were set forth as outstanding on the cover of the Company’s then most recently filed Annual Report on Form 10-K or Quarterly Report on Form 10-Q, as the case may be.

“**Subsidiary**” means any direct or indirect subsidiary of the Company.

“**Voting Agreement**” means the Voting Agreement, dated as of February 12, 2014, by and among the Company and the stockholders party thereto from time to time, as the same may be amended, restated, modified or supplemented from time to time.

“**Voting Agreement NMP Director**” means any member of the Board who was designated by the NMP Entities pursuant to the Voting Agreement.

“**Voting Common Stock**” means any Common Stock designated as voting Common Stock when issued by the Company.

1.2 Other Defined Terms. The following is a list of the remaining defined terms used in this Agreement:

Term	Section
ANMP	Preamble
Assignee	4.10
Conversion	Recitals
NMAI	Preamble
NMP-A	Preamble
NMP-B	Preamble
NMP Director	2.2(a)
NMP Nominee	2.2(a)

2. Board of Directors.

2.1 Effectiveness and Termination. This Section 2 shall, without further action of any of the parties, (a) become effective concurrently with the termination of the Voting Agreement and (b) terminate automatically and be of no further force and effect at the close of business on the Section 2 Termination Date.

2.2 Director Nomination Rights.

(a) The NMP Entities shall have the right, at any time and from time to time, exercisable by written notice delivered to the Company referencing this Section 2.2, to designate one (1) individual to be appointed to the Board or nominated for election to the Board in each case pursuant to the procedures set forth in this Section 2.2 (each such individual designated by the NMP Entities pursuant to this Section 2.2, an “**NMP Nominee**”, and any NMP Nominee who is appointed or elected to the Board pursuant to this Section 2.2, an “**NMP Director**”), and the Company shall (as applicable) cause the Board to promptly appoint such NMP Nominee to the Board or include such NMP Nominee in the Board’s slate of nominees to the stockholders of the Company for election at the applicable meeting of stockholders.

(b) In the event that an NMP Director for any reason ceases to serve as a member of the Board, whether due to the death, disability, resignation, removal or disqualification of such NMP Director or for any other reason, the NMP Entities shall have the right, exercisable by written notice delivered to the Company referencing this Section 2.2, to designate a successor to fill such vacancy, and the Company shall cause the Board to promptly fill such vacancy with such successor designee, it being understood that any such designee shall serve the remainder of the term of the NMP Director whom such designee replaces.

(c)

(i) If any NMP Nominee is not appointed to the Board within fifteen (15) days of receipt by the Company of the written notice referred to in Section 2.2(a) or 2.2(b), as applicable (other than in the case of a notice delivered requesting the inclusion of the NMP Nominee in the Board’s slate of nominees to the stockholders of the Company for election of directors at an annual or special meeting of stockholders), for any reason whatsoever, then in addition to all other remedies available to the NMP Entities hereunder, the NMP Entities shall have the right, exercisable by written notice delivered to the Company, to designate another NMP Nominee (and the provisions of this Section 2.2(c)(i) shall likewise apply to each such other NMP Nominee).

(ii) If any NMP Nominee designated by the NMP Entities for nomination to the Board pursuant to this Section 2.2 becomes incapable of serving on the Board as a result of such individual’s death, withdrawal or disqualification prior to the applicable meeting of stockholders, the NMP Entities have the right, exercisable by written notice delivered to the Company, to designate another NMP Nominee to be included in the Board’s slate of nominees to the

stockholders of the Company for election at the applicable meeting of stockholders (and the provisions of this Section 2.2(c)(ii)) shall likewise apply to each such other NMP Nominee).

(iii) In the event that the NMP Nominee included in the Board's slate of nominees to the stockholders of the Company for election of directors at an annual or special meeting of stockholders fails to be elected by the stockholders at such meeting for any reason whatsoever, the Company shall cause the Board to, as promptly as reasonably practicable, increase the size of the Board by one member and appoint the NMP Nominee to the Board in such newly-created vacancy. Any NMP Nominee appointed to the Board pursuant to the immediately preceding sentence shall be a director of the same class as the most recently elected class of directors.

(d) The Company shall:

(i) include the NMP Nominee in the Board's slate of nominees to the stockholders of the Company for each election of directors (or, if the Company then has a classified board of directors, for each election of directors of the class for which such NMP Nominee has been designated) and in the proxy statement prepared by management of the Company in connection with soliciting proxies for the meeting of the stockholders of the Company called with respect to the election of members of the Board (or the members of such class, as applicable), and at each adjournment or postponement thereof, and on each action or approval by written consent of the Board or the stockholders of the Company with respect to the election or appointment of members of the Board (or the members of such class, as applicable);

(ii) recommend that the Company's stockholders vote in favor of the election of the NMP Nominee (along with the other individuals in the Board's slate of nominees) and solicit proxies in favor of such election and otherwise support the NMP Nominee for election in a manner no less favorable than the manner in which the Company supports other individuals in the Board's slate of nominees for election to the Board; and

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(iii) not (x) make or recommend any amendment to the Certificate of Incorporation or the Company's bylaws that could reasonably be expected to have an adverse effect on the rights of the NMP Entities under this Section 2.2 or (y) take any other action for the purpose of adversely affecting the rights of the NMP Entities under this Section 2.2, in each case without the prior written approval of the NMP Entities.

(e) As a condition to the NMP Nominee's nomination for election as a director of the Company at any annual or special meeting of stockholders of the Company, the NMP Entities must provide to the Company, to the same extent as provided with respect to the Company's other nominees to the Board, such information as is required to be disclosed in proxy statements under applicable law or which is otherwise necessary for the inclusion of the NMP Nominee on the Board's slate of nominees for election as directors.

(f) For the avoidance of doubt, the delivery of any notice by any NMP Entity to the Company pursuant to this Section 2.2 shall not be subject to the provisions of Section 1.10 of the Company's bylaws or any other similar provisions that may from time to time be set forth in the Company's bylaws.

2.3 Lead Director. The NMP Entities shall have the right, at any time and from time to time, exercisable by written notice delivered to the Company referencing this Section 2.3, to designate the Lead Director from among the members of the Board and to remove such Lead Director (and designate his or her replacement) from such role at any time, with or without cause, such Lead Director having such rights and obligations as set forth in the Company's Certificate of Incorporation and/or bylaws, as applicable.

2.4 Subsidiary Boards; Committees. Except to the extent prohibited by applicable law or any applicable listing agreement to which the Company shall be a party, at the reasonable request of the NMP Entities exercisable by written notice delivered to the Company referencing this Section 2.4, the NMP Director shall be entitled to serve on the board of directors (or equivalent governing body) of each Subsidiary and on each committee of the Board or of the board of directors (or equivalent governing body) of each Subsidiary. Neither the Board nor any board of directors (or equivalent governing body) of any Subsidiary shall establish any committee without the prior written consent of the NMP Entities except to the extent required by law or any applicable listing agreement to which the Company shall be a party.

2.5 Compliance. The NMP Director shall, during the term of his or her service as a director of the Company, comply with the Company's code of conduct and all other company policies and guidelines applicable generally to directors serving on the Board which have been or are adopted by the Board.

2.6 Expense Reimbursement; Indemnification. The Company shall treat the NMP Director during the term of his or her service as a director of the Company consistent with its treatment of all other non-employee directors on the Board with respect to expense reimbursement and directors and officers liability insurance coverage. Promptly following the election or appointment of any NMP Nominee to the Board, the Company shall enter into an indemnification agreement with such NMP Director in form and substance consistent with the

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indemnification agreements then in effect between the Company and the other members of the Board.

3. Negative Covenants.

3.1 Prior to Initial Public Offering. In addition to any requirements imposed by the General Corporation Law of the State of Delaware and any agreement binding upon the Company, until the earlier of the consummation of an Initial Public Offering and the date on which the aggregate number of shares of Common Stock then Beneficially Owned by the NMP Holders constitutes less than fifteen (15%) of the number of shares of Common Stock Beneficially Owned by the NMP Holders as of the date hereof, the Company shall not, and shall cause each of the Subsidiaries not to, take any of the following actions without the prior written approval of the NMP Entities:

(a) consolidate or merge into or with any other Person, sell, lease or otherwise transfer all or a significant portion of its assets or equity interests or any business division to another Person, enter into any other similar business combination transaction with another Person, transfer the rights (including by way of grant of any license or sub-license) to all or a significant portion of its assets to another Person, or effect a liquidation, dissolution or winding-up (other than any such transaction entered into solely between the Company and one or more of its wholly owned Subsidiaries or between one or more wholly owned Subsidiaries);

(b) authorize, issue, sell, offer for sale or solicit offers to buy (by merger or otherwise) any shares of Common Stock or any Convertible Securities or any other equity or debt securities or rights to acquire any equity or debt securities of the Company or any of the Subsidiaries, other than (i) issuances of Non-Voting Common Stock upon the exercise of any options to purchase shares of Non-Voting Common Stock outstanding as of the date hereof, (ii) the granting of any rights pursuant to any equity incentive plan, the adoption of which plan received the approval of the Board (including the approval of at least one (1) Voting Agreement NMP Director) and the NMP Entities and which grants have received the approval of the Board (including the approval of at least

one (1) Voting Agreement NMP Director) and the NMP Entities, or (iii) the issuance of any equity or debt securities by a wholly owned Subsidiary to the Company or to another wholly owned Subsidiary or the issuance of any debt securities by the Company to a wholly owned Subsidiary;

(c) incur, create, suffer to exist, issue, assume, guarantee or otherwise become directly or indirectly liable, contingently or otherwise, with respect to any Indebtedness, or refinance any Indebtedness, other than Indebtedness incurred by a wholly owned Subsidiary to the Company or to another wholly owned Subsidiary or by the Company to a wholly owned Subsidiary;

(d) effect any stock dividend, stock split or other subdivision or combination of Common Stock or other equity interests of the Company or other recapitalization of the Company;

(e) effect any redemption, retirement, purchase or other acquisition, directly or indirectly, of any Common Stock or other equity interests of the

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Company, other than the repurchase of Common Stock from employees, officers, directors or consultants of or other persons performing services for the Company or any Subsidiary pursuant to agreements under which the Company has the option to repurchase such Common Stock upon the occurrence of certain events, such as the termination of employment, or through the exercise of any right of first refusal, which repurchase does not exceed \$100,000 in any one instance or \$250,000 in the aggregate in any fiscal year;

(f) effect an Initial Public Offering or, subject to the rights of any stockholder of the Company under the Registration Rights Agreement, dated as of [—], 2015, by and among the Company and the stockholders party thereto from time to time, as the same may be amended, restated, modified or supplemented from time to time, a public offering of any securities of the Company;

(g) hire or replace any of the Company's Chief Executive Officer, Chief Financial Officer or next two (2) most senior executives (as determined by the Board), or materially amend the level or form of compensation or benefits payable to, or other compensation arrangements of, any such officer;

(h) acquire any assets other than in the ordinary course of business, including acquiring any ownership interest in any other Person, or acquire assets in the ordinary course of business in excess of \$500,000 for the Company and the Subsidiaries in the aggregate in any fiscal year;

(i) adopt any annual budget or annual business plan or materially amend any such budget or business plan if adopted;

(j) declare or pay any dividend or distribution (other than dividends from a wholly owned Subsidiary to its parent company);

(k) authorize or amend any employee option or incentive plan;

(l) amend, repeal or change (whether by merger or otherwise) any of the provisions of the Certificate of Incorporation or the bylaws of the Company; or

(m) agree or otherwise commit to take any of the actions set forth in any of clauses (a) through (l) of this [Section 3.1](#) (unless such agreement or commitment is expressly conditioned on obtaining the prior approval set forth in this [Section 3.1](#)).

3.2 [Following Initial Public Offering.](#) In addition to any requirements imposed by the General Corporation Law of the State of Delaware and any agreement binding upon the Company, from and after the consummation of an Initial Public Offering and until the close of business on the Section 3.2 Termination Date, the Company shall not, and shall cause each of the Subsidiaries not to, take any of the following actions without the prior written approval of the NMP Entities:

(a) consolidate or merge into or with any other Person, sell, lease or otherwise transfer all or a significant portion of its assets or equity interests or any business division to another Person, enter into any other similar business combination transaction

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with another Person, transfer the rights (including by way of grant of any license or sub-license) to all or a significant portion of its assets to another Person, or effect a liquidation, dissolution or winding-up (other than any such transaction entered into solely between the Company and one or more of its wholly owned Subsidiaries or between one or more wholly owned Subsidiaries);

(b) authorize, issue, sell, offer for sale or solicit offers to buy (by merger or otherwise) any shares of Common Stock or any Convertible Securities or any other equity or debt securities or rights to acquire any equity or debt securities of the Company or any of the Subsidiaries, other than (i) issuances of Common Stock upon the exercise of any options to purchase shares of Common Stock outstanding immediately following the Initial Public Offering, (ii) the granting of any rights pursuant to any equity incentive plan, the adoption of which plan received the approval of the Board and the NMP Entities and which grants have received the approval of the Board and the NMP Entities, or (iii) the issuance of any equity or debt securities by a wholly owned Subsidiary to the Company or to another wholly owned Subsidiary or the issuance of any debt securities by the Company to a wholly owned Subsidiary;

(c) incur, create, suffer to exist, issue, assume, guarantee or otherwise become directly or indirectly liable, contingently or otherwise, with respect to, or refinance, any Indebtedness (other than (i) Indebtedness described in clause (c) of the definition thereof, (ii) Indebtedness described in clauses (f) and (g) of the definition thereof to the extent such obligations are not capitalized to principal, and (iii) trade debt, trade accounts payable and any other accrued current liabilities or obligations incurred or arising in the ordinary course of business) in an aggregate principal amount in excess of \$5,000,000, other than any such Indebtedness incurred by a wholly owned Subsidiary to the Company or to another wholly owned Subsidiary or by the Company to a wholly owned Subsidiary;

(d) hire or replace the Company's Chief Executive Officer; or

(e) agree or otherwise commit to take any of the actions set forth in any of clauses (a) through (d) of this [Section 3.2](#) (unless such agreement or commitment is expressly conditioned on obtaining the prior approval set forth in this [Section 3.2](#)).

3.3 [Termination.](#) The provisions of [Section 3.2](#) shall, without further action of any of the parties, terminate automatically and shall be of no further force and effect at the close of business on the Section 3.2 Termination Date.

4. [Miscellaneous.](#)

4.1 [Rules of Construction.](#)

(a) An accounting term not otherwise defined herein has the meaning assigned to it in accordance with U.S. GAAP;

(b) References in the singular or to “him,” “her,” “it,” “itself,” or other like references, and references in the plural or the feminine or masculine or neutral reference, as the case may be, shall also, when the context so requires, be deemed to include the plural or singular, or the masculine or feminine or neutral reference, as the case may be;

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(c) References to Sections shall refer to sections of this Agreement, unless otherwise specified;

(d) The headings in this Agreement are for convenience and identification only and are not intended to describe, interpret, define or limit the scope, extent or intent of this Agreement or any provision hereof;

(e) This Agreement shall be construed without regard to any presumption or other rule requiring construction against the party that drafted and caused this Agreement to be drafted;

(f) All monetary figures shall be in United States dollars unless otherwise specified, and any monetary figure in United States dollars shall be deemed to refer to the equivalent amount of foreign currency when used in a context which refers to or includes operations conducted principally outside of the United States;

(g) References to “include,” “includes” and “including” in this Agreement shall be deemed to be followed by “, without limitation,” whether or not so specified;

(h) The word “extent” in the phrase “to the extent” shall mean the degree to which a subject or other theory extends, and such phrase shall not mean “if;” and

(i) References to “ordinary course of business” in this Agreement shall mean “ordinary course of business consistent with past practice,” whether or not so specified.

4.2 Further Actions. Each party hereto shall cooperate with each other party, shall do and perform or cause to be done and performed all further acts and things, and shall execute and deliver all other agreements, certificates, instruments and documents as any other party hereto reasonably may request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

4.3 Notices.

(a) Unless otherwise expressly provided herein, all notices, requests, demands, claims and other communications provided for under the provisions of this Agreement shall be in writing. Any notice, request, demand, claim or other communication hereunder shall be sent by (i) personal delivery (including receipted courier service) or overnight delivery service to the intended recipient at the address set forth below, (ii) facsimile or electronic mail, with confirmation of receipt, to the number or email address of the intended recipient set forth below (provided that a copy is also sent by another permitted method; and provided, further, that delivery to the NMP Entities may not be sent by facsimile), (iii) nationally recognized overnight delivery courier service to the intended recipient at the address set forth below, or (iv) registered or certified mail, return receipt requested, postage prepaid, to the intended recipient at the address set forth below:

(i) If to the Company, at the address indicated below, or at such other address as the Company may hereafter designate by written notice to the NMP Entities:

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Bellerophon Therapeutics, Inc.
53 Frontage Road, Suite 301
Hampton, NJ 08827
Attn: Chief Executive Officer
Fax: 844-325-6587
Email: jon.peacock@bellerophon.com

with copies (which shall not constitute notice) to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attn: Lia Der Marderosian, Esq.
Fax: 617-526-5000
Email: lia.dermarderosian@wilmerhale.com

and

Fried, Frank, Harris, Shriver & Jacobson LLP
One New York Plaza
New York, NY 10004
Attn: Aviva F. Diamant, Esq. and Abigail P. Bomba, Esq.
Fax: 212-859-4000
Email: aviva.diamant@friedfrank.com and
abigail.bomba@friedfrank.com

(ii) If to the NMP Entities, at the address set forth below, or at such other address as the NMP Entities may hereafter designate by written notice to the Company:

c/o New Mountain Capital, L.L.C.

with a copy (which shall not constitute notice) to:

Fried, Frank, Harris, Shriver & Jacobson LLP
One New York Plaza
New York, NY 10004
Attn: Aviva F. Diamant, Esq. and Abigail P. Bomba, Esq.
Fax: 212-859-4000
Email: aviva.diamant@friedfrank.com and
abigail.bomba@friedfrank.com

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(b) Notices shall be deemed to have been received:

(i) If given by personal delivery or by facsimile or electronic transmission, on the day given, if given before 5:00 PM local time on a business day in the jurisdiction of the intended recipient; otherwise on the next business day, provided that receipt of any facsimile or electronic transmission is confirmed by written evidence of delivery of facsimile, electronic confirmation of delivery or written acknowledgment of receipt thereof by the recipient;

(ii) If given by nationally recognized overnight delivery courier service, on the date of delivery indicated in the records of such courier service; and

(iii) If given by registered or certified mail, return receipt requested, postage prepaid, on the date of delivery indicated on the return receipt.

4.4 Governing Law. This Agreement shall in all respects be governed by, and construed in accordance with, the laws (excluding conflict of laws rules and principles) of the State of Delaware applicable to agreements made and to be performed entirely within such State, including all matters of construction, validity and performance.

4.5 Specific Performance. The parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with its specific terms or were otherwise breached and that money damages or other remedy at law would not be a sufficient or adequate remedy for any breach or violation of, or a default under, this Agreement. It is accordingly agreed that, notwithstanding anything to the contrary contained in this Agreement, each of the parties shall be entitled, without any requirement for the securing or posting of any bond with respect to such remedy, to an injunction or injunctions to prevent or restrain any breach, violation or default, or threatened breach, violation or default, of this Agreement and to enforce specifically the terms and provisions hereof exclusively in any state or federal court having jurisdiction, such remedy being in addition to any other remedy to which any party may be entitled at law or in equity.

4.6 Entire Agreement. This Agreement, including, to the extent referred to herein, the Certificate of Incorporation, the Registration Rights Agreement and the Voting Agreement, constitutes the entire agreement of the parties relating to the subject matter hereof and supersedes all prior agreements and undertakings, whether oral or written. There are no representations, agreements, arrangements or understandings, oral or written, between or among the parties relating to the subject matter of this Agreement which are not fully expressed in this Agreement.

4.7 Severability. Should any provision of this Agreement or the application thereof to any Person or circumstance be held invalid or unenforceable to any extent, (a) such provision shall be ineffective to the extent, and only to the extent, of such invalidity or unenforceability and shall be enforced to the greatest extent permitted by law; (b) such invalidity or unenforceability with respect to any Person or in any jurisdiction shall not invalidate or render unenforceable such provision as applied (i) to any other Persons or circumstances or (ii) in any

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other jurisdiction; and (c) such invalidity or unenforceability shall not affect or invalidate any other provision of this Agreement.

4.8 Amendments and Waivers. This Agreement and any of the provisions hereof may be amended, modified or supplemented, in whole or in part, only by written agreement of the parties. The observance of any provision of this Agreement may be waived in writing by the party that will lose the benefit of such provision as a result of such waiver. The waiver by any party hereto of a breach by any party hereto of any provision of this Agreement shall not operate or be construed as a waiver of such breach by any other party hereto, except as otherwise explicitly provided for in the writing evidencing such waiver. Except as otherwise expressly provided herein, no failure on the part of any party to exercise, and no delay in exercising, any right, power or remedy hereunder, or otherwise available in respect hereof at law or in equity, shall operate as a waiver thereof, nor shall any single or partial exercise of such right, power or remedy by such party preclude any other or further exercise thereof or the exercise of any other right, power or remedy.

4.9 No Third Party Beneficiaries. Nothing in this Agreement, whether express or implied, shall be construed to give any Person (other than the parties hereto and their respective successors and permitted assigns who comply with the terms hereof and agree in writing to be bound by the provisions hereof) any legal or equitable right, remedy or claim under or in respect of this Agreement or any covenants, conditions or provisions contained herein, as a third party beneficiary or otherwise. Notwithstanding the foregoing, each NMP Director shall be a third party beneficiary of the provisions of Section 2.6 and shall be entitled to enforce such provisions directly.

4.10 Assignments. The provisions of this Agreement shall be binding upon and inure to the benefit of the Company and the NMP Entities and their respective successors and permitted assigns. This Agreement shall not be assignable by any of the parties hereto without the prior written consent of the other parties; provided, that any of the NMP Entities (i) may assign its rights and duties under this Agreement to any other NMP Entity at any time, (ii) at any time prior to the consummation of an Initial Public Offering, may assign its rights and duties under this Agreement to any Person who acquires shares of Common Stock from any of the NMP Entities and (iii) at any time following the consummation of an Initial Public Offering, may assign its rights and duties under this Agreement (other than Section 3.2) to a Person who acquires, in a transaction other than a Public Offering or a sale pursuant to Rule 144, at least fifty percent (50%) of the aggregate number of shares of Common Stock owned, directly or indirectly, by the NMP Entities as of immediately prior to the consummation of such transaction (any Person described in the foregoing clauses (i) through (iii), an “Assignee”); provided, further, that no such assignment shall be binding upon or obligate the Company to any such Assignee unless and until such Assignee delivers to the Company (a) a written notice stating the name and address of such Assignee and identifying the shares of Common Stock owned by such

Assignee and (b) a written instrument by which such Assignee agrees to be bound by the provisions of this Agreement applicable to the NMP Entities to the same extent as if such Assignee were a party hereto. Upon any assignment in accordance with this Section 4.10, the Assignee shall succeed to, and be substituted for, and may exercise every right and power of, the assigning NMP Entity under this Agreement; provided, that no rights or duties of the NMP Entities under Section 3.2 of this Agreement shall be assignable or delegable to any Person other than to an NMP Entity.

4.11 Jurisdiction; Waiver of Jury Trial.

(a) Jurisdiction. Subject to Section 4.5, any action, suit or proceeding against any party to this Agreement arising out of or relating to this Agreement shall be brought in any federal or state court sitting in the Borough of Manhattan in the City of New York in the State of New York, and each of the parties hereby submits to the exclusive jurisdiction of such courts for the purpose of any such action, suit or proceeding. A final judgment in any such action, suit or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. To the extent that service of process by mail or by nationally recognized overnight delivery courier service is permitted by applicable law, each party irrevocably consents to the service of process in any such action, suit or proceeding in such courts by the mailing of such process by registered or certified mail, postage prepaid, return receipt request or by nationally recognized overnight delivery courier service to such party at its address for notices provided for in Section 4.3. Each party irrevocably waives and agrees not to assert (i) any objection which it may ever have to the laying of venue of any such action, suit or proceeding in any federal or state court located in New York County in the State of New York, and (ii) any claim that any such action, suit or proceeding brought in any such court has been brought in an inconvenient forum.

(b) Waiver of Jury Trial. EACH PARTY IRREVOCABLY WAIVES, TO THE EXTENT LAWFUL, AND AGREES NOT TO ASSERT ANY RIGHT TO TRIAL BY JURY IN ANY ACTION, SUIT OR PROCEEDING ARISING OUT OF RELATING TO THIS AGREEMENT AND AGREES THAT ANY OF THEM MAY FILE A COPY OF THIS PARAGRAPH WITH ANY COURT AS WRITTEN EVIDENCE OF THE KNOWING, VOLUNTARY AND BARGAINED-FOR AGREEMENT AMONG THE PARTIES IRREVOCABLY TO WAIVE ITS RIGHT TO TRIAL BY JURY IN ANY ACTION, SUIT OR PROCEEDING ARISING OUT OF RELATING TO THIS AGREEMENT.

4.12 Counterparts. This Agreement may be executed in any number of counterparts with the same effect as if all signatory parties had signed the same document. All counterparts shall be construed together and shall constitute one and the same instrument. A signature delivered by facsimile or electronic transmission shall be deemed to be an original signature for all purposes under this Agreement.

4.13 Adjustments. Wherever in this Agreement there is a reference to a specific number or percentage of shares of Common Stock, then upon the occurrence of any subdivision, combination, stock split, reverse split, stock dividend or other recapitalization of the Company, the specific number or percentage of shares of Common Stock so referenced in this Agreement shall automatically be proportionally adjusted to reflect the effect on the outstanding Common Stock by such subdivision, combination, stock split, reverse split, stock dividend or other recapitalization.

4.14 Attorneys' Fees. In the event that any action, suit or proceeding is brought for the purpose of determining or enforcing the right of any party or parties hereunder, the party or parties prevailing in such action, suit or proceeding shall be entitled to recover from the other party or parties all reasonable costs and expenses incurred by the prevailing party or parties in connection with such action, suit or proceeding, including reasonable attorneys' fees.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

COMPANY:

BELLEROPHON THERAPEUTICS, INC.

By:

Name: Jonathan M. Peacock
Title: President and Chief Executive Officer

[Signature Page to Stockholders Agreement (New Mountain)]

NMP ENTITIES:

NEW MOUNTAIN PARTNERS II (AIV-A), L.P.

By: New Mountain Investments II, L.L.C.
Its general partner

By:

Name: Steven B. Klinsky
Title: Managing Member

NEW MOUNTAIN PARTNERS II (AIV-B), L.P.

By: New Mountain Investments II, L.L.C.

Its general partner

By:

Name: Steven B. Klinsky
Title: Managing Member

NEW MOUNTAIN AFFILIATED INVESTORS II, L.P.

By: New Mountain Investments II, L.L.C.,
 Its general partner

By:

Name: Steven B. Klinsky
Title: Managing Member

ALLEGHENY NEW MOUNTAIN PARTNERS, L.P.

By: New Mountain Investments II, L.L.C.,
 Its general partner

By:

Name: Steven B. Klinsky
Title: Managing Member

[Signature Page to Stockholders Agreement (New Mountain)]

February 3, 2015

Bellerophon Therapeutics, Inc.
53 Frontage Road, Suite 301
Hampton, New Jersey 08827Re: Registration Statement on Form S-1

Ladies and Gentlemen:

This opinion is furnished to you in connection with a Registration Statement on Form S-1 (File No. 333- 201474) (the "Registration Statement") filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of shares of Common Stock, par value \$0.01 per share, of Bellerophon Therapeutics, Inc. (the "Company"), a Delaware corporation to be formed upon the statutory conversion of Bellerophon Therapeutics LLC from a Delaware limited liability company into a Delaware corporation (the "Conversion"), with a proposed maximum aggregate offering price of \$73,600,000 (the "Shares"), inclusive of Shares issuable upon exercise of an over-allotment option granted by the Company.

The Shares are to be sold by the Company following the Conversion and pursuant to an underwriting agreement (the "Underwriting Agreement") to be entered into by and among the Company and Leerink Partners LLC and Cowen and Company, LLC, as representatives of the several underwriters named in the Underwriting Agreement, the form of which has been filed as Exhibit 1.1 to the Registration Statement.

We are acting as counsel for the Company in connection with the issue and sale by the Company of the Shares. We have examined signed copies of the Registration Statement as filed with the Commission. We have also examined and relied upon the (i) Underwriting Agreement, (ii) minutes of meetings of the stockholders and the Board of Directors of the Company as provided to us by the Company, (iii) stock record books of the Company as provided to us by the Company, (iv) the Certificate of Incorporation of the Company in the form filed as Exhibit 3.1 to the Registration Statement, (v) the By-Laws of the Company in the form filed as Exhibit 3.2 to the Registration Statement and (vi) such other documents as we have deemed necessary for purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents and the legal competence of all signatories to such documents.

We express no opinion herein as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware and the federal laws of the United States of America.

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Oxford Palo Alto Washington

Based upon and subject to the foregoing, we are of the opinion that, upon the effectiveness of the Conversion, the Shares will be duly authorized for issuance and, when the Shares are issued and paid for in accordance with the terms and conditions of the Underwriting Agreement, the Shares will be validly issued, fully paid and nonassessable.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act and to the use of our name therein and in the related Prospectus under the caption "Legal Matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Sincerely,

WILMER CUTLER PICKERING
HALE AND DORR LLPBy: /s/ Lia Der Marderosian
Lia Der Marderosian, Partner

BELLEROPHON THERAPEUTICS LLC

2015 EQUITY INCENTIVE PLAN1. Purpose

The purpose of this 2015 Equity Incentive Plan (the “**Plan**”) of Bellerophon Therapeutics LLC, a Delaware limited liability company (the “**Company**”), is to advance the interests of the Company’s shareholders by enhancing the Company’s ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company’s shareholders. Except where the context otherwise requires, the term “**Company**” shall include any of the Company’s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations thereunder (the “**Code**”) and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the board of directors of the Company (the “**Board**”). Upon the conversion of the Company from a limited liability company to a C corporation (as such term is defined in Section 1361 of the Code) (the “**Conversion**”), references to the Company shall refer to Bellerophon Therapeutics, Inc.

2. Eligibility

All of the Company’s employees, officers and directors, as well as consultants and advisors to the Company (as such terms are defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended (the “**Securities Act**”), or any successor form) are eligible to be granted Awards under the Plan. Each person who is granted an Award under the Plan is deemed a “**Participant**.” “**Award**” means Options (as defined in Section 5), SARs (as defined in Section 6), Restricted Shares (as defined in Section 7), Restricted Share Units (as defined in Section 7) and Other Share-Based Awards (as defined in Section 8).

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board’s sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award.

(b) Appointment of Committees. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a “**Committee**”). All references in the Plan to the “**Board**” shall mean the Board or a Committee of the Board or the officers referred to in Section 3(c) to the extent that the Board’s powers or authority under the Plan have been delegated to such Committee or officers.

(c) Delegation to Officers. To the extent permitted by applicable law, the Board may delegate to one or more officers of the Company the power to grant Options and other Awards that constitute rights under Delaware law (subject to any limitations under the Plan) to officers of the Company and to exercise such other powers under the Plan as the Board may determine, *provided* that the Board shall fix the terms of such Awards to be granted by such officers (including the exercise price of such Awards, which may include a formula by which the exercise price will be determined) and the maximum number of Shares subject to such Awards that the officers may grant; *provided further*, however, that no officer shall be authorized to grant such Awards to any “executive officer” of the Company (as defined by Rule 3b-7 under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”)) or to any “officer” of the Company (as defined by Rule 16a-1 under the Exchange Act). The Board may not delegate authority under this Section 3(c) to grant Restricted Shares, unless Delaware law then permits such delegation.

4. Shares Available for Awards(a) Number of Shares; Share Counting.

(1) Authorized Number of Shares. Subject to adjustment under Section 9, Awards may be made under the Plan (any or all of which Awards may be in the form of Incentive Stock Options, as defined in Section 5(b)) for up to such number of Shares (as defined below) as is equal to the sum of:

(A) 449,591 Shares; plus

(B) such additional number of Shares (up to 558,851 Shares) as is equal to the sum of (x) the number of Shares reserved for issuance under the Company’s 2014 Equity Incentive Plan, as amended (the “**Existing Plan**”) that remain available for grant under the Existing Plan immediately prior to the effectiveness of the Company’s initial public offering and (y) the number of Shares subject to awards granted under the Existing Plan which awards expire, terminate or are otherwise surrendered, cancelled, forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right (subject, however, in the case of Incentive Stock Options to any limitations of the Code); plus

(C) an annual increase to be added on the first day of each fiscal year, beginning with the fiscal year ending December 31, 2016 and continuing for each fiscal year until, and including, the fiscal year ending December 31, 2025, equal to the least of (i) 798,358 Shares, (ii) a number equal to the difference between (X) 5% of the number of the Company’s outstanding Shares on such date (treating for this purpose as outstanding all Shares issuable upon the exercise of outstanding options and upon the conversion of outstanding shares of preferred

stock, warrants or other securities convertible into Shares) and (Y) the number of Shares available for grant under the Plan on such date and (iii) an amount determined by the Board.

“**Shares**” shall refer to (i) until immediately prior to the Conversion, the Company’s Non-Voting Units (as defined in the Amended and Restated Limited Liability Company Agreement of the Company, dated as of February 9, 2014 (as amended or otherwise modified from time to time)), (ii) from and after the Conversion until the closing of the Company’s initial public offering, shares of the Company’s non-voting common stock, par value \$0.01 per Share (“**Non-Voting Common Stock**”), and (iii) upon the closing of the Company’s initial public offering, the Company’s voting common stock, par value \$0.01 per Share (“**Voting Common Stock**”). Awards granted between the effectiveness of the Plan and the Conversion shall automatically and without any action on the part of a Participant become Awards covering shares of Non-Voting Common Stock upon the Conversion. Awards granted prior to the closing of the Company’s initial public offering shall automatically and without any action

on the part of a Participant become Awards covering shares of Voting Common Stock upon the closing of the Company's initial public offering. Shares issued under the Plan may consist in whole or in part of authorized but unissued Shares or treasury Shares.

(2) Share Counting. For purposes of counting the number of Shares available for the grant of Awards under the Plan:

(A) all Shares covered by SARs shall be counted against the number of Shares available for the grant of Awards under the Plan; *provided*, however, if the Company grants an SAR in tandem with an Option for the same number of Shares and provides that only one such Award may be exercised (a "**Tandem SAR**"), only the Shares covered by the Option, and not the Shares covered by the Tandem SAR, shall be so counted, and the expiration of one in connection with the other's exercise will not restore Shares to the Plan;

(B) if any Award (i) expires or is terminated, surrendered or cancelled without having been fully exercised or is forfeited in whole or in part (including as the result of Shares subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or (ii) results in any Shares not being issued (including as a result of an SAR that was settleable either in cash or in Shares actually being settled in cash), the unused Shares covered by such Award shall again be available for the grant of Awards; *provided, however*, that (1) in the case of Incentive Stock Options, the foregoing shall be subject to any limitations under the Code, (2) in the case of the exercise of an SAR, the number of Shares counted against the Shares available under the Plan shall be the full number of Shares subject to the SAR multiplied by the percentage of the SAR actually exercised, regardless of the number of Shares actually used to settle such SAR upon exercise and (3) the Shares covered by a Tandem SAR shall not again become available for grant upon the expiration or termination of such Tandem SAR; and

(C) Shares delivered (either by actual delivery, attestation, or net exercise) to the Company by a Participant to (i) purchase Shares upon the exercise of an Award or (ii) satisfy minimum statutory tax withholding obligations (including Shares retained from the Award creating the tax obligation) shall be added back to the number of Shares available for the future grant of Awards; *provided* that in no event shall the maximum number of shares issued in

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respect of Incentive Stock Options granted under the Plan exceed the number determined under Section 4(a)(1) hereof.

(b) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall Share limit set forth in Section 4(a)(1), except as may be required by reason of Section 422 and related provisions of the Code.

5. Options

(a) General. The Board may grant options to purchase Shares (each, an "**Option**") and determine the number of Shares to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable.

(b) Incentive Stock Options. An Option that the Board intends to be an "incentive stock option" as defined in Section 422 of the Code (an "**Incentive Stock Option**") shall only be granted, following the Conversion, to employees of Bellerophon Therapeutics, Inc., any of Bellerophon Therapeutics, Inc.'s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. An Option that is not intended to be an Incentive Stock Option shall be designated a "**Nonstatutory Stock Option.**" The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or if the Company converts an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option and specify the exercise price in the applicable Option agreement. The exercise price shall be not less than 100% of the fair market value per Share as determined by (or in a manner approved by) the Board ("**Fair Market Value**") on the date the Option is granted; *provided* that if the Board approves the grant of an Option with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable Option agreement; *provided, however*, that no Option will be granted with a term in excess of 10 years.

(e) Exercise of Options. Options may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with payment in full (in the manner specified in Section 5(f)) of the exercise price for the number of Shares for which the Option is exercised. Shares subject to the Option will be delivered by the Company as soon as practicable following exercise.

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(f) Payment Upon Exercise. Shares purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(1) in cash or by check, payable to the order of the Company;

(2) except as may otherwise be provided in the applicable Option agreement or approved by the Board, in its sole discretion, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding;

(3) to the extent provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by delivery (either by actual delivery or attestation) of Shares owned by the Participant valued at their Fair Market Value, *provided* (i) such method of payment is then permitted under applicable law, (ii) such Shares, if acquired directly from the Company, were owned by the Participant for such minimum period of time, if any, as may be established by the Board in its discretion and (iii) such Shares are not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(4) to the extent provided for in the applicable Nonstatutory Stock Option agreement or approved by the Board in its sole discretion, by delivery of a notice of "net exercise" to the Company, as a result of which the Participant would receive (i) the number of Shares underlying the portion of the Option being exercised, less (ii) such number of Shares as is equal to (A) the aggregate exercise price for the portion of the Option being exercised divided by (B) the Fair Market Value on the date of exercise;

(5) to the extent permitted by applicable law and provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by payment of such other lawful consideration as the Board may determine; or

(6) by any combination of the above permitted forms of payment.

(g) Limitation on Repricing. Unless such action is approved by the Company's shareholders, the Company may not (except as provided for under Section 9): (1) amend any outstanding Option granted under the Plan to provide an exercise price per Share that is lower than the then-current exercise price per Share of such outstanding Option, (2) cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(b)) covering the same or a different number of Shares and having an exercise price per Share lower than the then-current exercise price per Share of the cancelled option, (3) cancel in exchange for a cash payment any outstanding Option with an exercise price per Share above the then-current Fair Market Value, or (4) take any other action under the Plan that constitutes a "repricing" within the meaning of the rules of the NASDAQ Stock Market ("**NASDAQ**").

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6. Share Appreciation Rights

(a) General. The Board may grant Awards consisting of share appreciation rights ("**SARs**") entitling the holder, upon exercise, to receive a number of Shares or an amount of cash or a combination thereof (such form to be determined by the Board) determined by reference to appreciation, from and after the date of grant, in the Fair Market Value of a Share over the measurement price established pursuant to Section 6(b). The date as of which such appreciation is determined shall be the exercise date.

(b) Measurement Price. The Board shall establish the measurement price of each SAR and specify it in the applicable SAR agreement. The measurement price shall not be less than 100% of the Fair Market Value on the date the SAR is granted; *provided* that if the Board approves the grant of an SAR effective as of a future date, the measurement price shall be not less than 100% of the Fair Market Value on such future date.

(c) Duration of SARs. Each SAR shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable SAR agreement; *provided, however*, that no SAR will be granted with a term in excess of 10 years.

(d) Exercise of SARs. SARs may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with any other documents required by the Board.

(e) Limitation on Repricing. Unless such action is approved by the Company's shareholders, the Company may not (except as provided for under Section 9): (1) amend any outstanding SAR granted under the Plan to provide a measurement price per Share that is lower than the then-current measurement price per Share of such outstanding SAR, (2) cancel any outstanding SAR (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(b)) covering the same or a different number of Shares and having an exercise or measurement price per Share lower than the then-current measurement price per Share of the cancelled SAR, (3) cancel in exchange for a cash payment any outstanding SAR with a measurement price per Share above the then-current Fair Market Value, or (4) take any other action under the Plan that constitutes a "repricing" within the meaning of the rules of NASDAQ.

7. Restricted Shares; Restricted Share Units

(a) General. The Board may grant Awards entitling recipients to acquire Shares ("**Restricted Shares**"), subject to the right of the Company to repurchase all or part of such Shares at their issue price or other stated or formula price (or to require forfeiture of such Shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. The Board may also grant Awards entitling the recipient to receive Shares or cash to be delivered at the time such Award vests ("**Restricted Share Units**") (Restricted Shares and Restricted Share Units are each referred to herein as a "**Restricted Share Award**").

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(b) Terms and Conditions for All Restricted Share Awards. The Board shall determine the terms and conditions of a Restricted Share Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price, if any.

(c) Additional Provisions Relating to Restricted Shares.

(1) Dividends. Unless otherwise provided in the applicable Award agreement, any dividends (whether paid in cash, Shares or property) declared and paid by the Company with respect to Restricted Shares ("**Accrued Dividends**") shall be paid to the Participant only if and when such Shares become free from the restrictions on transferability and forfeitability that apply to such Shares. Each payment of Accrued Dividends will be made no later than the end of the calendar year in which the dividends are paid to shareholders of that class of shares or, if later, the 15th day of the third month following the lapsing of the restrictions on transferability and the forfeitability provisions applicable to the Restricted Shares.

(2) Share Certificates. The Company may require that any share certificates issued in respect of Restricted Shares, as well as dividends or distributions paid on such Restricted Shares, shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates no longer subject to such restrictions to the Participant or if the Participant has died, to his or her Designated Beneficiary. "**Designated Beneficiary**" means (i) the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant's death or (ii) in the absence of an effective designation by a Participant, the Participant's estate.

(d) Additional Provisions Relating to Restricted Share Units.

(1) Settlement. Upon the vesting of and/or lapsing of any other restrictions (i.e., settlement) with respect to each Restricted Share Unit, the Participant shall be entitled to receive from the Company such number of Shares or (if so provided in the applicable Award agreement) an amount of cash equal to the Fair Market Value of such number of Shares as are set forth in the applicable Restricted Share Unit agreement. The Board may, in its discretion, provide that settlement of Restricted Share Units shall be deferred, on a mandatory basis or at the election of the Participant in a manner that complies with Section 409A of the Code.

(2) Voting Rights. A Participant shall have no voting rights with respect to any Restricted Share Units.

(3) Dividend Equivalents. The Award agreement for Restricted Share Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding Shares ("**Dividend Equivalents**"). Dividend Equivalents may be settled in cash

and/or Shares and shall be subject to the same restrictions on transfer and forfeitability as the Restricted Share Units with respect to which the Dividend Equivalents were paid, in each case to the extent provided in the Award agreement.

8. Other Share-Based Awards

(a) General. Other Awards of Shares, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, Shares or other property, may be granted hereunder to Participants ("**Other Share-Based Awards**"). Such Other Share-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Share-Based Awards may be paid in Shares or cash, as the Board shall determine.

(b) Terms and Conditions. Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Share-Based Award, including any purchase price applicable thereto.

9. Adjustments for Changes in Shares and Certain Other Events

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of Shares, reclassification of Shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Shares other than an ordinary cash dividend, (i) the number and class of securities available under the Plan, (ii) the Share counting rules set forth in Section 4(a), (iii) the number and class of securities and exercise price per Share of each outstanding Option, (iv) the Share and per-Share provisions and the measurement price of each outstanding SAR, (v) the number of Shares subject to and the repurchase price per Share subject to each outstanding Restricted Share Award and (vi) the Share and per-Share-related provisions and the purchase price, if any, of each outstanding Other Share-Based Award, shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of Shares by means of a stock dividend and the exercise price of and the number of Shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the Shares acquired upon such Option exercise, notwithstanding the fact that such Shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization Events.

(1) Definition. A "**Reorganization Event**" shall mean: (a) any merger or consolidation of the Company with or into another entity as a result of which all of the Shares of the Company are converted into or exchanged for the right to receive cash, securities or other property or are cancelled, (b) any transfer or disposition of all of the Shares of the Company for cash, securities or other property pursuant to a share exchange or other transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Awards Other than Restricted Shares.

(A) In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Restricted Shares on such terms as the Board determines (except to the extent specifically provided otherwise in an applicable Award agreement or another agreement between the Company and the Participant): (i) provide that such Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that all of the Participant's unvested and/or unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant (to the extent then exercisable) within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part, prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Shares will receive upon consummation thereof a cash payment for each Share surrendered in the Reorganization Event (the "**Acquisition Price**"), make or provide for a cash payment to Participants with respect to each Award held by a Participant equal to (A) the number of Shares subject to the vested portion of the Award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to such Reorganization Event) multiplied by (B) the excess, if any, of (I) the Acquisition Price over (II) the exercise, measurement or purchase price of such Award and any applicable tax withholdings, in exchange for the termination of such Award, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise, measurement or purchase price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 9(b)(2), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

(B) Notwithstanding the terms of Section 9(b)(2)(A), in the case of outstanding Restricted Share Units that are subject to Section 409A of the Code: (i) if the applicable Restricted Share Unit agreement provides that the Restricted Share Units shall be settled upon a "change in control event" within the meaning of Treasury Regulation Section 1.409A-3(i)(5)(i), and the Reorganization Event constitutes such a "change in control event," then no assumption or substitution shall be permitted pursuant to Section 9(b)(2)(A)(i) and the Restricted Share Units shall instead be settled in accordance with the terms of the applicable Restricted Share Unit agreement; and (ii) the Board may only undertake the actions set forth in clauses (iii), (iv) or (v) of Section 9(b)(2)(A) if the Reorganization Event constitutes a "change in control event" as defined under Treasury Regulation Section 1.409A-3(i)(5)(i) and such action is permitted or required by Section 409A of the Code; if the Reorganization Event is not a "change in control event" as so defined or such action is not permitted or required by Section 409A of the Code, and the acquiring or succeeding corporation does not assume or substitute the Restricted Share Units pursuant to clause (i) of Section 9(b)(2)(A), then the unvested Restricted Share Units shall terminate immediately prior to the consummation of the Reorganization Event without any payment in exchange therefor.

(C) For purposes of Section 9(b)(2)(A)(i), an Award (other than Restricted Shares) shall be considered assumed if, following consummation of the Reorganization Event, such Award confers the right to purchase or receive pursuant to the terms

of such Award, for each Share subject to the Award immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Shares for each Share held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); *provided, however*, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise or settlement of the Award to

consist solely of such number of shares of common stock of the acquiring or succeeding corporation (or an affiliate thereof) that the Board determined to be equivalent in value (as of the date of such determination or another date specified by the Board) to the per Share consideration received by holders of outstanding Shares as a result of the Reorganization Event.

(3) Consequences of a Reorganization Event on Restricted Shares. Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company with respect to outstanding Restricted Shares shall inure to the benefit of the Company's successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Shares were converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to such Restricted Shares; *provided, however*, that the Board may provide for termination or deemed satisfaction of such repurchase or other rights under the instrument evidencing any Restricted Shares or any other agreement between a Participant and the Company, either initially or by amendment. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Shares or any other agreement between a Participant and the Company, all restrictions and conditions on all Restricted Shares then outstanding shall automatically be deemed terminated or satisfied.

10. General Provisions Applicable to Awards

(a) Transferability of Awards. Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant; *provided, however*, that the Board may permit or provide in an Award for the gratuitous transfer of the Award by the Participant to or for the benefit of any immediate family member, family trust or other entity established for the benefit of the Participant and/or an immediate family member thereof if the Company would be eligible to use a Form S-8 under the Securities Act for the registration of the sale of the Shares subject to such Award to such proposed transferee; *provided further*, that the Company shall not be required to recognize any such permitted transfer until such time as such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of the Award. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees. For the

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avoidance of doubt, nothing contained in this Section 10(a) shall be deemed to restrict a transfer to the Company.

(b) Documentation. Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) Board Discretion. Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) Termination of Status. The Board shall determine the effect on an Award of the disability, death, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant's legal representative, conservator, guardian or Designated Beneficiary, may exercise rights under the Award.

(e) Withholding. Notwithstanding any other provision herein to the contrary, the Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise recognize ownership of Shares under an Award. The Company may decide to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any Shares on exercise, vesting or release from forfeiture of an Award, and, unless the Company determines otherwise, shall be paid before or at the same time as payment of the exercise or purchase price. If provided for in an Award or approved by the Board in its sole discretion, a Participant may satisfy such tax obligations in whole or in part by delivery (either by actual delivery or attestation) of Shares, including Shares retained from the Award creating the tax obligation, valued at their Fair Market Value; *provided, however*, except as otherwise provided by the Board, that the total tax withholding where Shares are being used to satisfy such tax obligations cannot exceed the Company's minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). Shares used to satisfy minimum statutory tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) Amendment of Award. Except as otherwise provided in Sections 5(g) and 6(e) with respect to repricings and Section 11(d) with respect to actions requiring shareholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant's consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, does not materially and adversely affect the Participant's rights under the Plan or (ii) the change is permitted under Section 9.

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(g) Conditions on Delivery of Shares. The Company will not be obligated to deliver any Shares pursuant to the Plan or to remove restrictions from Shares previously issued or delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company's counsel, all other legal matters in connection with the issuance and delivery of such Shares have been satisfied, including any applicable securities laws and regulations and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) Acceleration. The Board may at any time provide that any Award shall become immediately exercisable in whole or in part, free of some or all restrictions or conditions, or otherwise realizable in whole or in part, as the case may be.

11. Miscellaneous

(a) No Right To Employment or Other Status. No person shall have any claim or right to be granted an Award by virtue of the adoption of the Plan, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) No Rights As Shareholder. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a shareholder with respect to any Shares to be distributed with respect to an Award until becoming the record holder of such Shares.

(c) Effective Date and Term of Plan. The Plan shall become effective immediately prior to the effectiveness of the Company's initial public offering (the date on which the Company's initial public offering becomes effective, the Plan's "**Effective Date**"). No Awards shall be granted under the Plan after the expiration of 10 years from the Effective Date, but Awards previously granted may extend beyond that date.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time provided that no amendment that would require shareholder approval under the rules of NASDAQ may be made effective unless and until the Company's shareholders approve such amendment. In addition, if at any time the approval of the Company's shareholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 11(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is adopted, provided the Board determines that such amendment, taking into account any related action, does not materially and adversely affect the rights of Participants under the Plan. No Award shall be made that is conditioned upon shareholder approval of any amendment to the Plan unless the Award provides that (1) it will terminate or be forfeited if

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shareholder approval of such amendment is not obtained within no more than 12 months from the date of grant and (2) it may not be exercised or settled (or otherwise result in the issuance of Shares) prior to such shareholder approval.

(e) Authorization of Sub-Plans (including for Grants to non-U.S. Employees). The Board may from time to time establish one or more sub-plans under the Plan for purposes of satisfying applicable securities, tax or other laws of various jurisdictions. The Board shall establish such sub-plans by adopting supplements to the Plan containing (i) such limitations on the Board's discretion under the Plan as the Board deems necessary or desirable or (ii) such additional terms and conditions not otherwise inconsistent with the Plan as the Board shall deem necessary or desirable. All supplements adopted by the Board shall be deemed to be part of the Plan, but each supplement shall apply only to Participants within the affected jurisdiction and the Company shall not be required to provide copies of any supplement to Participants in any jurisdiction which is not the subject of such supplement.

(f) Compliance with Section 409A of the Code. Except as provided in individual Award agreements initially or by amendment, if and to the extent (i) any portion of any payment, compensation or other benefit provided to a Participant pursuant to the Plan in connection with his or her employment termination constitutes "nonqualified deferred compensation" within the meaning of Section 409A of the Code and (ii) the Participant is a specified employee as defined in Section 409A(a)(2)(B) (i) of the Code, in each case as determined by the Company in accordance with its procedures, by which determinations the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of "separation from service" (as determined under Section 409A of the Code) (the "**New Payment Date**"), except as Section 409A of the Code may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

The Company makes no representations or warranty and shall have no liability to the Participant or any other person if any provisions of or payments, compensation or other benefits under the Plan are determined to constitute nonqualified deferred compensation subject to Section 409A of the Code but do not to satisfy the conditions of that section.

(g) Limitations on Liability. Notwithstanding any other provisions of the Plan, no individual acting as a director, officer, employee or agent of the Company will be liable to any Participant, former Participant, spouse, beneficiary, or any other person for any claim, loss, liability, or expense incurred in connection with the Plan, nor will such individual be personally liable with respect to the Plan because of any contract or other instrument he or she executes in his or her capacity as a director, officer, employee or agent of the Company. The Company will indemnify and hold harmless each director, officer, employee or agent of the Company to whom any duty or power relating to the administration or interpretation of the Plan has been or will be delegated, against any cost or expense (including attorneys' fees) or liability (including any sum paid in settlement of a claim with the Board's approval) arising out of any act or omission to act concerning the Plan unless arising out of such person's own fraud or bad faith.

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(h) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than the State of Delaware.

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BELLEROPHON THERAPEUTICS, INC.
INCENTIVE STOCK OPTION AGREEMENT

Bellerophon Therapeutics, Inc. (the “Company”) hereby grants the following stock option pursuant to its 2015 Equity Incentive Plan. The terms and conditions attached hereto are also a part hereof.

Notice of Grant

Name of optionee (the “Participant”):
 Date of this option grant:
 Number of shares of the Company’s [Non-Voting] Common Stock subject to this option (“Shares”):
 Option exercise price per Share:
 Number, if any, of Shares that vest immediately on the grant date:
 Shares that are subject to vesting schedule:
 Vesting Start Date:
 Final Exercise Date:

 Vesting Schedule:

All vesting is dependent on the Participant remaining an Eligible Participant, as provided herein.

This option satisfies in full all commitments that the Company has to the Participant with respect to the issuance of stock, stock options or other equity securities.

BELLEROPHON THERAPEUTICS, INC.

 Signature of Participant

 Street Address

 City/State/Zip Code

By: _____

 Name of Officer:
 Title:

BELLEROPHON THERAPEUTICS, INC.

Incentive Stock Option Agreement
Incorporated Terms and Conditions

1. Grant of Option.

This agreement evidences the grant by the Company, on the grant date (the “Grant Date”) set forth in the Notice of Grant that forms part of this agreement (the “Notice of Grant”), to the Participant of an option to purchase, in whole or in part, on the terms provided herein and in the Company’s 2015 Equity Incentive Plan (the “Plan”), the number of Shares set forth in the Notice of Grant of [non-voting] common stock, \$0.01 par value per share, of the Company (“[Non-Voting.] Common Stock”), at the exercise price per Share set forth in the Notice of Grant. [Upon the closing of an initial public offering of the Company, the Shares of Non-Voting Common Stock shall automatically become Shares of voting common stock, \$0.01 par value per share, of the Company (“Voting Common Stock” and, together with Non-Voting Common Stock, the “Common Stock”).] Unless earlier terminated, this option shall expire at 5:00 p.m., Eastern time, on the Final Exercise Date set forth in the Notice of Grant (the “Final Exercise Date”).

It is intended that the option evidenced by this agreement shall be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the “Code”) to the maximum extent permitted by law. Except as otherwise indicated by the context, the term “Participant”, as used in this option, shall be deemed to include any person who acquires the right to exercise this option validly under its terms.

2. Vesting Schedule.

This option will become exercisable (“vest”) in accordance with the vesting schedule set forth in the Notice of Grant.

The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this option under Section 3 hereof or the Plan.

3. Exercise of Option.

(a) Form of Exercise. Each election to exercise this option shall be in writing, in the form of the Stock Option Exercise Notice attached as Annex A, signed by the Participant, and received by the Company at its principal office, accompanied by this agreement, or in such other form (which may be electronic) as is approved by the Company, together with payment in full in the manner provided in the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this option may be for any fractional share.

(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this option may not be exercised unless the Participant, at the time he or she exercises this option, is, and has been at all times since the Grant Date, an employee, director or officer of, or consultant or advisor to, the Company or any other entity the employees, officers, directors, consultants, or advisors of which are eligible to receive option grants under the Plan (an “Eligible Participant”).

(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in paragraphs (d) and (e) below, the right to exercise this option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this option shall be exercisable only to the extent that the Participant was entitled to exercise this option on the date of such cessation. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, violates the non-competition or confidentiality provisions of any employment contract, confidentiality and nondisclosure agreement or other agreement between the Participant and the Company, the right to exercise this option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death or Disability. If the Participant dies or becomes disabled (within the meaning of Section 22(e)(3) of the Code) prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for “cause” as specified in paragraph (e) below, this option shall be exercisable, within the period of twelve months following the date of death or disability of the Participant, by the Participant (or in the case of death by an authorized transferee), provided that this option shall be exercisable only to the extent that this option was exercisable by the Participant on the date of his or her death or disability, and further provided that this option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant’s employment is terminated by the Company for Cause (as defined below), the right to exercise this option shall terminate immediately upon the effective date of such termination of employment. If the Participant is party to an employment or severance agreement with the Company that contains a definition of “cause” for termination of employment, “Cause” shall have the meaning ascribed to such term in such agreement. Otherwise, “Cause” shall mean: (A) disloyalty or dishonesty which results or is intended to result in material personal enrichment to the Participant at the material expense of the Company or any of its subsidiaries (including, without limitation, fraud, embezzlement or dishonesty or breach of business ethics); (B) fraudulent conduct in connection with the material business or affairs of the Company or any of its subsidiaries that materially and adversely affects the Company or any of its subsidiaries; (C) conviction of a felony or any crime involving moral turpitude (or entering into a plea of nolo contendere with respect to such crime); (D) gross misconduct that materially and adversely affects the Company; (E) any breach or intended breach of any Company policies or procedures as in effect from time to time, in each case constituting a material violation of such policies or procedures, and in each case causing material harm to the Company; or (F) failure by the Participant to provide thirty (30) days advance written notice of resignation; provided that in the case of subsection (E) of this Section 3(e), the Company shall give written notice to the Participant at least ten (10) days prior to such termination (“Notice of Termination for Cause”) of the Company’s intent to terminate, which notice shall set out in detail the ways in which the

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Participant has materially breached or expressed an intent to breach materially a Company policy or procedure in such a way as to cause the Company material harm, and the Participant shall have failed to cure such breach prior to the expiration of ten (10) days following the date on which such notice is provided to him; and provided further that with respect to the Participant’s violation of Subsection (E) of this Section 3(e), the Participant shall have only one opportunity to cure such failure and thereafter may be terminated immediately in connection with subsequent violations of Subsection (E) of this Section 3(e). The Participant’s employment shall be considered to have been terminated for “Cause” if the Company determines, within thirty (30) days after the Participant’s resignation, that termination for Cause was warranted.

4. Tax Matters.

(a) Withholding. No Shares will be issued pursuant to the exercise of this option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this option.

(b) Disqualifying Disposition. If the Participant disposes of Shares acquired upon exercise of this option within two years from the Grant Date or one year after such Shares were acquired pursuant to exercise of this option, the Participant shall notify the Company in writing of such disposition.

5. Transfer Restrictions.

This option may not be sold, assigned, transferred, pledged or otherwise encumbered by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this option shall be exercisable only by the Participant.

6. Confidential Information; Noncompetition; Work Product.

By accepting this option, Participant is hereby acknowledging and agreeing to the provisions set forth in the Confidentiality and Noncompetition Agreement attached hereto as Exhibit A related to confidential information, noncompetition and work product. Without limitation to any other remedies available under law or those set forth in Exhibit A, the Participant agrees that if Participant breaches any of the provisions of Exhibit A, then (i) the Participant shall not be entitled to any further vesting of this option, (ii) any portion of the option that remains outstanding, whether vested or unvested, will be immediately and automatically forfeited exchange for no consideration, (iii) any Shares acquired by the Participant upon the exercise of the option that continue to be held by the Participant shall be required to be surrendered immediately and automatically to the Company in exchange for no consideration and (iv) if the Participant acquired any Shares upon the exercise of the option that the Participant has sold, transferred or otherwise disposed of such Shares, then the Participant shall be required to pay to the Company, in cash, within thirty (30) days of a written request by the Company for such payment, the amount for which the Participant sold the Shares.

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7. Provisions of the Plan.

This option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this option.

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ANNEX A

BELLEROPHON THERAPEUTICS, INC.

Stock Option Exercise Notice

Dear Sir or Madam:

I, _____ (the "Participant"), hereby irrevocably exercise the right to purchase _____ shares of the Common Stock, \$0.01 par value per share (the "Shares"), of Bellerophon Therapeutics, Inc. (the "Company") at \$ _____ per share pursuant to the Company's 2015 Equity Incentive Plan and a stock option agreement with the Company dated _____ (the "Option Agreement"). Enclosed herewith is a payment of \$ _____, the aggregate purchase price for the Shares. The certificate for the Shares should be registered in my name as it appears below or, if so indicated below, jointly in my name and the name of the person designated below, with right of survivorship.

Dated: _____

Signature _____

Print Name: _____

Address: _____

Name and address of persons in whose name the Shares are to be jointly registered (if applicable):

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EXHIBIT A

CONFIDENTIALITY AND NONCOMPETITION AGREEMENT

I. The Participant acknowledges that the Participant's employment by or other service to the Company will, throughout such employment or service period, bring the Participant into close contact with the confidential affairs of the Company and its subsidiaries, including access to information about their client and customer lists and information concerning proprietary manufacturing formulations and processes, costs, profits, real estate, markets, sales, products, key personnel, pricing policies, operational methods, patents, research and development, technical processes, and other business affairs and methods, plans for future product development and other information not readily available to the public. The Participant further acknowledges that the services to be performed by the Participant are of a special, unique, unusual, extraordinary and intellectual character. The Participant further acknowledges that the business of the Company and its subsidiaries is international in scope, that the Company and its subsidiaries competes in nearly all of their business activities with other entities that are or could be located in nearly any part of the world and that the nature of the Participant's services, position and expertise are such that the Participant is capable of competing with the Company and its subsidiaries from nearly any location in the world. In recognition of the foregoing, the Participant covenants and agrees:

1. For Participants Resident in States Other Than California, Wisconsin, Texas, and Louisiana:

(a) The Participant, at all times while the Participant is an employee of or service provider to the Company and thereafter, shall hold in a fiduciary capacity for the benefit of the Company all secret, trade, proprietary or confidential information, knowledge or data relating to the Company or any of its affiliated companies and shareholders, and their respective businesses, that the Participant obtains during the Participant's employment by the Company or any of its affiliated companies and that is not public knowledge (other than as a result of the Participant's violation of this Section (a)) ("Confidential Information"). The Participant shall not communicate, divulge or disseminate Confidential Information at any time during or after the Participant's employment with or service to the Company, except with the prior written consent of the Company or as otherwise required by law or legal process. Nothing in this paragraph diminishes or limits any protection granted by law to trade secrets or relieves the Participant of any duty not to disclose, use, or misappropriate any information that is a trade secret, for as long as such information remains a trade secret.

(b) During the "Noncompetition Period," the Participant shall not, without the prior written consent of the Board, engage in or become associated with a "Competitive Activity." For purposes of these provisions: (i) the "Noncompetition Period" means the period commencing on the Grant Date (set forth in the option agreement) and ending on the twelve-month anniversary of the date upon which Participant's employment with or service to the Company is terminated for any reason (the "Date of Termination"); (ii) a "Competitive Activity" means any business or other endeavor that engages in clinical or pre-clinical research or development, manufacturing, marketing, sales, or commercialization of products or services that directly or indirectly compete with, or are a therapeutic alternative to, either (x) the products of, or services engaged in by, the

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Company or any of its subsidiaries at the Date of Termination in any geographic location in the United States or, if different, the country in which the Participant primarily performs services for the Company or (y) the products proposed to be developed or commercialized, or services proposed to be engaged in, by the Company or any of its subsidiaries at the Date of Termination in any geographic location in the United States or, if different, the country in which the Participant primarily performs services for the Company (provided that clause (y) shall apply only to any proposed business activity as to which the Company or any of its subsidiaries has devoted significant and documented efforts at the Date of Termination, whether internally or through acquisition, licensing or other business development activities); provided, however, that the Participant shall not be engaged in a Competitive Activity if the Participant is providing services to a division or subsidiary of a multi-division entity or holding company, so long as no division or subsidiary to which the Participant provides services is in competition with the Company or its subsidiaries, and the Participant does not otherwise engage in a Competitive Activity on behalf of the multi-division entity or any competing division or subsidiary; and (iii) the Participant shall be considered to have become "associated with a Competitive Activity" if the Participant becomes directly or indirectly involved as an owner, investor (other than a passive stockholder of less than five percent (5%) of a corporation the securities of which are traded on a national securities exchange), employee, officer, director, consultant, independent contractor, agent, partner, advisor, or in any other capacity in a role where Participant may draw upon the goodwill of the Company or where Participant's knowledge of the Confidential Information of the Company is likely to affect Participant's decisions or actions with regard to the Competitive Activity, to the detriment of Company.

(c) During the Noncompetition Period, the Participant shall not, on the Participant's own behalf or on behalf of any other person, firm or entity (x) directly or indirectly hire, solicit, induce or attempt to solicit or induce any employee of the Company or any of its subsidiaries to terminate his employment with the Company or any of its subsidiaries, or to provide any assistance whatsoever to any person, firm or entity engaged in a Competitive Activity, or (y) directly or indirectly induce any business, entity or person with which the Company or any of their subsidiaries has a business relationship to terminate or alter such business relationship.

(d) In addition to such other rights and remedies as the Company may have at equity or in law with respect to any breach of these provisions, if the Participant commits a material breach of any of these provisions, the Company shall have the right to seek to have such provisions specifically enforced by any court having equity jurisdiction (without any obligation to post a bond or other security); it being acknowledged and agreed that any such breach or threatened breach will cause irreparable injury to the Company and that money damages alone will not provide an adequate remedy to the Company.

(e) The Participant acknowledges that while the Participant is an employee of or service provider to the Company, the Participant may conceive of, discover, invent or create inventions, improvements, new contributions, literary property, computer programs and software material, ideas and discoveries, whether patentable or copyrightable or not (all of the foregoing being collectively referred to herein as “Work Product”), and that various business opportunities shall be presented to the Participant by reason of the Participant’s employment by the Company. The Participant acknowledges that all of the foregoing shall be owned by and belong exclusively to

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the Company and that the Participant shall have no personal interest therein and the Participant does hereby assign all rights, title and interest therein to the Company; provided that they are either related in any manner to the business (commercial or experimental) of the Company or any of its subsidiaries, or are, in the case of Work Product, conceived or made on the Company’s time or with the use of the Company’s facilities or materials, or, in the case of business opportunities, are presented to the Participant for the possible interest or participation of the Company or any of its subsidiaries. The Participant agrees that the Participant will not assert any rights to any Work Product or business opportunity as having been made or acquired by the Participant prior to the date hereof.

(f) The Participant acknowledges and agrees that these provisions are necessary to protect the business operations and affairs of the Company and its subsidiaries. The Participant understands that the restrictions set forth in these provisions may limit the Participant’s ability to earn a livelihood in a business similar that of the Company, but the Participant nevertheless believes that the Participant has received and will receive sufficient consideration and other benefits as an employee of or service provider to the Company, including without limitation, the option granted by the Company and memorialized in the Agreement to which these provisions are attached, to justify clearly such restrictions which, in any event (given the Participant’s education, skills and ability), the Participant does not believe would prevent the Participant from earning a livelihood.

2. For Participants Resident in California:

(a) The Participant, at all times while the Participant is an employee of or service provider to the Company and thereafter, shall hold in a fiduciary capacity for the benefit of the Company all secret, trade, proprietary or confidential information, knowledge or data relating to the Company or any of its subsidiaries companies and shareholders, and their respective businesses, that the Participant obtains during the Participant’s employment by the Company or any of its subsidiaries and that is not public knowledge (other than as a result of the Participant’s violation of this Section (a)) (“Confidential Information”). The Participant shall not communicate, divulge or disseminate Confidential Information at any time during or after the Participant’s employment with or service to the Company, except with the prior written consent of the Company or as otherwise required by law or legal process.

(b) During the “Noncompetition Period,” the Participant shall not, without the prior written consent of the Board, engage in or become associated with a “Competitive Activity.” For purposes of these provisions: (i) the “Noncompetition Period” means the period commencing on the Grant Date (set forth in the option agreement) and ending on the date upon which Participant’s employment with or service to the Company is terminated for any reason (the “Date of Termination”); (ii) a “Competitive Activity” means any business or other endeavor that engages in clinical or pre-clinical research or development, manufacturing, marketing, sales, or commercialization of products or services that directly or indirectly compete with, or are a therapeutic alternative to, either (x) the products of, or services engaged in by, the Company or any of its subsidiaries during the Noncompetition Period in any geographic location in the United States or, if different, the country in which the Participant primarily performs services for the Company or (y) the products proposed to be developed or commercialized, or services proposed

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to be engaged in, by the Company or any of its subsidiaries during the Noncompetition Period in any geographic location in the United States or, if different, the country in which the Participant primarily performs services for the Company (provided that clause (y) shall apply only to any proposed business activity as to which the Company or any of its subsidiaries has devoted significant and documented efforts during the Noncompetition Period, whether internally or through acquisition, licensing or other business development activities); provided, however, that the Participant shall not be engaged in a Competitive Activity if the Participant is providing services to a division or subsidiary of a multi-division entity or holding company, so long as no division or subsidiary to which the Participant provides services is in competition with the Company or its subsidiaries, and the Participant does not otherwise engage in a Competitive Activity on behalf of the multi-division entity or any competing division or subsidiary; and (iii) the Participant shall be considered to have become “associated with a Competitive Activity” if the Participant becomes directly or indirectly involved as an owner, investor (other than a passive stockholder of less than five percent (5%) of a corporation the securities of which are traded on a national securities exchange), employee, officer, director, consultant, independent contractor, agent, partner, advisor, or in any other capacity calling for the rendition of the Participant’s personal services, with any individual, partnership, corporation or other organization that is engaged directly or indirectly in a Competitive Activity.

(c) During both the Noncompetition Period and the twelve-month period following the Date of Termination, the Participant shall not, on the Participant’s own behalf or on behalf of any other person, firm or entity, directly or indirectly, solicit, induce or attempt to solicit or induce any employee of the Company or any of its subsidiaries to terminate his employment with the Company or any of its subsidiaries, or to provide any assistance whatsoever to any person, firm or entity engaged in a Competitive Activity. During the Noncompetition Period, the Participant shall not directly or indirectly induce any business, entity or person with which the Company or any of its subsidiaries has a business relationship to terminate or alter such business relationship.

(d) In addition to such other rights and remedies as the Company may have at equity or in law with respect to any breach of these provisions, if the Participant commits a material breach of any of these provisions, the Company shall have the right to seek to have such provisions specifically enforced by any court having equity jurisdiction (without any obligation to post a bond or other security); it being acknowledged and agreed that any such breach or threatened breach will cause irreparable injury to the Company and that money damages alone will not provide an adequate remedy to the Company.

(e) The Participant agrees to assign and does hereby assign to the Company (or any person or entity designated by the Company) all his/her right, title and interest in and to all inventions, improvements, new contributions, literary property, computer programs and software material, ideas and discoveries, whether patentable or copyrightable or not (all of the foregoing being collectively referred to herein as “Work Product”) and all related patents, patent applications, copyrights and copyright applications to the maximum extent permitted by Section 2870 of the California Labor Code or any like statute of any other state. The Participant hereby also waives all claims to moral rights in any Work Product. The Participant understands that the provisions of this Agreement requiring assignment of Work Product to the Company do not apply to any invention which qualifies fully under the provisions of California Labor Code Section 2870

(attached hereto as Appendix A). The Participant agrees to advise the Company promptly in writing of any invention that he/she believes meets the criteria in Section 2870 and is not otherwise disclosed on Appendix B.

(f) The Participant acknowledges and agrees that these provisions are necessary to protect the business operations and affairs of the Company and its subsidiaries. The Participant understands that the restrictions set forth in these provisions may limit the Participant's ability to earn a livelihood in a business similar that of the Company, but the Participant nevertheless believes that the Participant has received and will receive sufficient consideration and other benefits as an employee of or service provider to the Company, including without limitation, the option granted by the Company and memorialized in the Agreement to which these provisions are attached, to justify clearly such restrictions which, in any event (given the Participant's education, skills and ability), the Participant does not believe would prevent the Participant from earning a livelihood.

3. For Participants Resident in Wisconsin and Texas

(a) Company will provide Participant with access to secret, trade, proprietary or confidential information relating to Company and its subsidiaries and shareholders that is not readily available outside Company or its subsidiaries and that Company and its subsidiaries take steps to protect ("Confidential Information"). ("Confidential Information" shall not include information that Participant can prove (i) was in the public domain, being publicly and openly known through lawful and proper means, (ii) was independently developed or acquired by Participant without reliance in any way on other Confidential Information of Company or any subsidiary or (iii) was approved by Company for use and disclosure by Participant without restriction.) The Participant shall not communicate, divulge, or disseminate Confidential Information where such disclosure would be detrimental to the interests of Company (except as required by law), but only for so long as such Confidential Information continues to be not generally known to, and not readily ascertainable through proper means by, Company's competitors. The promises contained in this paragraph are not intended to preclude Participant from being gainfully employed by another or on his or her own, but are intended to prohibit him or her from using the confidential or proprietary information described herein in a manner that is not for the financial benefit of Company. Nothing in this paragraph diminishes or limits any protection granted by law to trade secrets or relieves the Participant of any duty not to disclose, use, or misappropriate any information that is a trade secret, for as long as such information remains a trade secret.

(b) Independent of any other restriction, the Participant during the "Noncompetition Period" shall not, for him(her)self, or on behalf of any other person or entity, directly or indirectly provide services to a "Direct Competitor" in a role where Participant will be expected to draw upon the customer goodwill he gained while with Company or where Participant's knowledge of "Confidential Information" is likely to affect Participant's decisions or actions for the Direct Competitor to the detriment of Company. For purposes of this provision: (i) the "Noncompetition Period" means the period commencing on the Grant Date (set forth in the option agreement) and ending on the twelve-month anniversary of the date upon which Participant's employment with or service to the Company is terminated for any reason (the "Date of Termination"); (ii) a "Direct Competitor" means any business or other endeavor that engages

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in clinical or pre-clinical research or development, manufacturing, marketing, sales, or commercialization of "Competitive Products or Services" in any geographic location in the United States (except that "Direct Competitor" does *not* include any business which the parties have agreed in writing to exclude from the definition, and Company will not unreasonably or arbitrarily withhold such agreement); and (iii) "Competitive Products or Services" means products or services that serve the same function as or are a therapeutic alternative to products or services that Company or its subsidiaries offered at the Date of Termination, or to products or services under development or commercialization by Company or its subsidiaries at the Date of Termination (with development or commercialization demonstrated by significant and documented efforts, whether internally or through acquisition, licensing or other business development activities).

(c) Independent of any other restriction, for a period of one year after Participant's employment with or service to the Company is terminated for any reason, the Participant shall not, on the Participant's own behalf or on behalf of any other person, firm or entity, directly or indirectly induce any business, entity or person with which the Company or its subsidiaries has a business relationship (collectively, "Business Associates") to terminate or alter such business relationship (provided that clause (y) shall apply only to those Business Associates who did business with the Company within the last six months of Participant's employment or service and (1) about whom Participant, as a result of his or her employment or service, had access to confidential information or goodwill that would assist in solicitation of such Person, or (2) with whom Participant personally dealt on behalf of Company in the twelve months immediately preceding the last day of Participant's employment or service and that Participant was introduced to or otherwise had business contact with such Business Associate as a result of his or her employment or service with the Company).

(d) Independent of any other restriction, Participant shall not, either personally or in conjunction with others, either (a) solicit, interfere with, or endeavor to cause any employee of Company or its subsidiaries to leave such employment or (b) otherwise induce or attempt to induce any such employee to terminate employment with Company or its subsidiaries. Nothing in this paragraph is meant to prohibit an employee of Company or its subsidiaries who is not a party to this Agreement from becoming employed by another organization or person.

(e) In addition to such other rights and remedies as the Company may have at equity or in law with respect to any breach of these provisions, if the Participant commits a material breach of any of these provisions, the Company shall have the right to seek to have such provisions specifically enforced by any court having equity jurisdiction (without any obligation to post a bond or other security); it being acknowledged and agreed that any such breach or threatened breach will cause irreparable injury to the Company and that money damages alone will not provide an adequate remedy to the Company.

(f) The Participant acknowledges that while the Participant is an employee of or service provider to the Company, the Participant may conceive of, discover, invent or create inventions, improvements, new contributions, literary property, computer programs and software material, ideas and discoveries, whether patentable or copyrightable or not (all of the foregoing being collectively referred to herein as "Work Product"), and that various business opportunities shall

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be presented to the Participant by reason of the Participant's employment by the Company. The Participant acknowledges that all of the foregoing shall be owned by and belong exclusively to the Company and that the Participant shall have no personal interest therein and the Participant does hereby assign all rights, title and interest therein to the Company; provided that they are either related in any manner to the business (commercial or experimental) of the Company or any of its subsidiaries, or are, in the case of Work Product, conceived or made on the Company's time or with the use of the Company's facilities or materials, or, in the case of business opportunities, are presented to the Participant for the possible interest or participation of the Company or any of its subsidiaries. The Participant agrees that the Participant will not assert any rights to any Work Product or business opportunity as having been made or acquired by the Participant prior to the date hereof.

(g) The Participant acknowledges and agrees that these provisions are necessary to protect the business operations and affairs of the Company and its subsidiaries. The Participant understands that the restrictions set forth in these provisions may limit the Participant's ability to earn a livelihood in a business similar that of the Company, but the Participant nevertheless believes that the Participant has received and will receive sufficient consideration and other benefits as an employee of or service provider to the Company, including without limitation, the option granted by the Company and memorialized in the Agreement to which these provisions are

attached, to justify clearly such restrictions which, in any event (given the Participant's education, skills and ability), the Participant does not believe would prevent the Participant from earning a livelihood.

4. For Participants Resident in Louisiana

(a) Company will provide Participant with access to secret, trade, proprietary or confidential information relating to Company and its subsidiaries and shareholders that is not readily available outside Company or its subsidiaries and that Company and its subsidiaries take steps to protect ("Confidential Information"). ("Confidential Information" shall not include information that Participant can prove (i) was in the public domain, being publicly and openly known through lawful and proper means, (ii) was independently developed or acquired by Participant without reliance in any way on other Confidential Information of Company or any subsidiary or (iii) was approved by Company for use and disclosure by Participant without restriction.) The Participant shall not communicate, divulge or disseminate Confidential Information at any time during or after the Participant's employment with or service to the Company, except with the prior written consent of the Company or as otherwise required by law or legal process. Nothing in this paragraph diminishes or limits any protection granted by law to trade secrets or relieves the Participant of any duty not to disclose, use, or misappropriate any information that is a trade secret, for as long as such information remains a trade secret.

(b) During the "Noncompetition Period," the Participant shall not, without the prior written consent of the Board, engage in or become associated with a "Competitive Activity" in West Baton Rouge Parish or any parish or county in the United States where Company does business. For purposes of these provisions: (i) the "Noncompetition Period" means the period commencing on the Grant Date (set forth in the option agreement) and ending on the twelve-month anniversary of the date upon which Participant's employment with or service to the

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Company is terminated for any reason (the "Date of Termination"); (ii) a "Competitive Activity," means any business or other endeavor that engages in clinical or pre-clinical research or development, manufacturing, marketing, sales, or commercialization of products or services that directly or indirectly compete with, or are a therapeutic alternative to, either (x) the products of, or services engaged in by, the Company or any of its subsidiaries at the Date of Termination or (y) the products proposed to be developed or commercialized, or services proposed to be engaged in, by the Company or any of its subsidiaries at the Date of Termination (provided that clause (y) shall apply only to any proposed business activity as to which the Company or any of its subsidiaries has devoted significant and documented efforts at the Date of Termination, whether internally or through acquisition, licensing or other business development activities); provided, however, that the Participant shall not be engaged in a Competitive Activity if the Participant is providing services to a division or subsidiary of a multi-division entity or holding company, so long as no division or subsidiary to which the Participant provides services is in competition with the Company or its subsidiaries, and the Participant does not otherwise engage in a Competitive Activity on behalf of the multi-division entity or any competing division or subsidiary; and (iii) the Participant shall be considered to have become "associated with a Competitive Activity" if the Participant becomes directly or indirectly involved as an owner, investor (other than a passive stockholder of less than five percent (5%) of a corporation the securities of which are traded on a national securities exchange), employee, officer, director, consultant, independent contractor, agent, partner, advisor, or in any other capacity in a role where Participant's ability to draw upon the goodwill or Confidential Information of the Company is likely to affect Participant's decisions or actions with regard to the Competitive Activity, to the detriment of Company.

(c) During the Noncompetition Period, the Participant shall not, on the Participant's own behalf or on behalf of any other person, firm or entity (x) directly or indirectly hire, solicit, induce or attempt to solicit or induce any employee of the Company or any of its subsidiaries to terminate his employment with the Company or any of its subsidiaries, or to provide any assistance whatsoever to any person, firm or entity engaged in a Competitive Activity, or (y) directly or indirectly induce any business, entity or person with which the Company or any of their subsidiaries has a business relationship to terminate or alter such business relationship.

(d) In addition to such other rights and remedies as the Company may have at equity or in law with respect to any breach of these provisions, if the Participant commits a material breach of any of these provisions, the Company shall have the right to seek to have such provisions specifically enforced by any court having equity jurisdiction (without any obligation to post a bond or other security); it being acknowledged and agreed that any such breach or threatened breach will cause irreparable injury to the Company and that money damages alone will not provide an adequate remedy to the Company.

(e) The Participant acknowledges that while the Participant is an employee of or service provider to the Company, the Participant may conceive of, discover, invent or create inventions, improvements, new contributions, literary property, computer programs and software material, ideas and discoveries, whether patentable or copyrightable or not (all of the foregoing being collectively referred to herein as "Work Product"), and that various business opportunities shall be presented to the Participant by reason of the Participant's employment by the Company. The

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Participant acknowledges that all of the foregoing shall be owned by and belong exclusively to the Company and that the Participant shall have no personal interest therein and the Participant does hereby assign all rights, title and interest therein to the Company; provided that they are either related in any manner to the business (commercial or experimental) of the Company or any of its subsidiaries, or are, in the case of Work Product, conceived or made on the Company's time or with the use of the Company's facilities or materials, or, in the case of business opportunities, are presented to the Participant for the possible interest or participation of the Company or any of its subsidiaries. The Participant agrees that the Participant will not assert any rights to any Work Product or business opportunity as having been made or acquired by the Participant prior to the date hereof.

(f) The Participant acknowledges and agrees that these provisions are necessary to protect the business operations and affairs of the Company and its subsidiaries. The Participant understands that the restrictions set forth in these provisions may limit the Participant's ability to earn a livelihood in a business similar that of the Company, but the Participant nevertheless believes that the Participant has received and will receive sufficient consideration and other benefits as an employee of or service provider to the Company, including without limitation, the option granted by the Company and memorialized in the Agreement to which these provisions are attached, to justify clearly such restrictions which, in any event (given the Participant's education, skills and ability), the Participant does not believe would prevent the Participant from earning a livelihood.

II. To the extent permitted by law, any restriction set forth in this Agreement that is found by any court of competent jurisdiction to be unreasonable because it extends for too long a period of time or over too great a range of activities or in too broad a geographic area, may be interpreted to extend only over the maximum period of time, range of activities or geographic area deemed to be reasonable.

III. To the extent permitted by law, the invalidity of any provision of this Agreement will not and shall not be deemed to affect the validity of any other provision. In the event that any provision of this Agreement is held to be invalid, it shall be considered expunged, and the parties agree that the remaining provisions shall be deemed to be in full force and effect as if they had been executed by both parties subsequent to the expungement of the invalid provision.

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APPENDIX A
TO CONFIDENTIALITY AND NONCOMPETITION AGREEMENT

CALIFORNIA LABOR CODE SECTION 2870

(a) Any provision in an employment agreement which provides that an employee shall assign, or offer to assign, any of his or her rights in an invention to his or her employer shall not apply to an invention that the employee developed entirely on his or her own time without using the employer's equipment, supplies, facilities, or trade secret information except for those inventions that either:

(1) Relate at the time of conception or reduction to practice of the invention to the employer's business, or actual or demonstrably anticipated research or development of the employer; or

(2) Result from any work performed by the employee for the employer.

(b) To the extent a provision in an employment agreement purports to require an employee to assign an invention otherwise excluded from being required to be assigned under subdivision (a), the provision is against the public policy of this state and is unenforceable.

APPENDIX B
TO CONFIDENTIALITY AND NONCOMPETITION AGREEMENT

LIST OF PRIOR INVENTIONS AND ORIGINAL WORKS OF AUTHORSHIP:

Title	Date	Identifying Number or Brief Description

BELLEROPHON THERAPEUTICS, INC.
NONSTATUTORY STOCK OPTION AGREEMENT

Bellerophon Therapeutics, Inc. (the “Company”) hereby grants the following option pursuant to its 2015 Equity Incentive Plan. The terms and conditions attached hereto are also a part hereof.

Notice of Grant

Name of optionee (the “Participant”):
 Date of this option grant:
 Number of Company Shares (“Shares”):
 Option exercise price per Share:
 Number, if any, of Shares that vest immediately on the grant date:
 Shares that are subject to vesting schedule:
 Vesting Start Date:
 Final Exercise Date:

 Vesting Schedule:

All vesting is dependent on the Participant remaining an Eligible Participant, as provided herein.

This option satisfies in full all commitments that the Company has to the Participant with respect to the issuance of stock, options or other equity securities.

BELLEROPHON THERAPEUTICS, INC.

 Signature of Participant

 Street Address

 City/State/Zip Code

By: _____

 Name of Officer:
 Title:

BELLEROPHON THERAPEUTICS, INC.

Nonstatutory Stock Option Agreement
Incorporated Terms and Conditions

1. Grant of Option.

This agreement evidences the grant by the Company, on the grant date (the “Grant Date”) set forth in the Notice of Grant that forms part of this agreement (the “Notice of Grant”), to the Participant of an option to purchase, in whole or in part, on the terms provided herein and in the Company’s 2015 Equity Incentive Plan (the “Plan”), the number of Shares (as such term is defined in the Plan) set forth in the Notice of Grant, at the exercise price per Share set forth in the Notice of Grant. Unless earlier terminated, this option shall expire at 5:00 p.m., Eastern time, on the Final Exercise Date set forth in the Notice of Grant (the “Final Exercise Date”).

It is intended that the option evidenced by this agreement shall not be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the “Code”). Except as otherwise indicated by the context, the term “Participant”, as used in this option, shall be deemed to include any person who acquires the right to exercise this option validly under its terms.

2. Vesting Schedule.

This option will become exercisable (“vest”) in accordance with the vesting schedule set forth in the Notice of Grant.

The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this option under Section 3 hereof or the Plan.

3. Exercise of Option.

(a) Form of Exercise. Each election to exercise this option shall be in writing, in the form of the Option Exercise Notice attached as Annex A, signed by the Participant, and received by the Company at its principal office, accompanied by this agreement, or in such other form (which may be electronic) as is approved by the Company, together with payment in full in the manner provided in the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this option may be for any fractional share.

(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this option may not be exercised unless the Participant, at the time he or she exercises this option, is, and has been at all times since the Grant Date, an employee, director or officer of, or consultant or advisor to, the Company or any other entity the employees, officers, directors, consultants, or advisors of which are eligible to receive option grants under the Plan (an “Eligible Participant”).

(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in paragraphs (d) and (e) below, the right to exercise this option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this option shall be exercisable only to the extent that the Participant was entitled to exercise this option on the date of such cessation. Notwithstanding the foregoing, if the

Participant, prior to the Final Exercise Date, violates the non-competition or confidentiality provisions of any employment contract, confidentiality and nondisclosure agreement or other agreement between the Participant and the Company, the right to exercise this option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death or Disability. If the Participant dies or becomes disabled (within the meaning of Section 22(e)(3) of the Code) prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for “cause” as specified in paragraph (e) below, this option shall be exercisable, within the period of twelve months following the date of death or disability of the Participant, by the Participant (or in the case of death by an authorized transferee), provided that this option shall be exercisable only to the extent that this option was exercisable by the Participant on the date of his or her death or disability, and further provided that this option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant’s employment or other relationship with the Company is terminated by the Company for Cause (as defined below), the right to exercise this option shall terminate immediately upon the effective date of such termination of employment or other relationship. If the Participant is party to an employment, consulting or severance agreement with the Company that contains a definition of “cause” for termination of employment or other relationship, “Cause” shall have the meaning ascribed to such term in such agreement. Otherwise, “Cause” shall mean: (A) disloyalty or dishonesty which results or is intended to result in material personal enrichment to the Participant at the material expense of the Company or any of its subsidiaries (including, without limitation, fraud, embezzlement or dishonesty or breach of business ethics); (B) fraudulent conduct in connection with the material business or affairs of the Company or any of its subsidiaries that materially and adversely affects the Company or any of its subsidiaries; (C) conviction of a felony or any crime involving moral turpitude (or entering into a plea of nolo contendere with respect to such crime); (D) gross misconduct that materially and adversely affects the Company; (E) any breach or intended breach of any Company policies or procedures as in effect from time to time, in each case constituting a material violation of such policies or procedures, and in each case causing material harm to the Company; or (F) failure by the Participant to provide thirty (30) days advance written notice of resignation; provided that in the case of subsection (E) of this Section 3(e), the Company shall give written notice to the Participant at least ten (10) days prior to such termination (“Notice of Termination for Cause”) of the Company’s intent to terminate, which notice shall set out in detail the ways in which the Participant has materially breached or expressed an intent to breach materially a Company policy or procedure in such a way as to cause the Company material harm, and the Participant shall have failed to cure such breach prior to the expiration of ten (10) days following the date on which such notice is provided to him; and provided further that with respect to the Participant’s violation of Subsection (E) of this Section 3(e), the Participant shall have only one opportunity to cure such failure and thereafter may be terminated immediately in connection with subsequent

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violations of Subsection (E) of this Section 3(e). The Participant’s employment or other relationship shall be considered to have been terminated for “Cause” if the Company determines, within thirty (30) days after the Participant’s resignation, that termination for Cause was warranted.

4. Withholding.

No Shares will be issued pursuant to the exercise of this option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this option.

5. Transfer Restrictions.

This option may not be sold, assigned, transferred, pledged or otherwise encumbered by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this option shall be exercisable only by the Participant.

6. Confidential Information; Noncompetition; Work Product.

By accepting this option, Participant is hereby acknowledging and agreeing to the provisions set forth in the Confidentiality and Noncompetition Agreement attached hereto as Exhibit A related to confidential information, noncompetition and work product. Without limitation to any other remedies available under law or those set forth in Exhibit A, the Participant agrees that if Participant breaches any of the provisions of Exhibit A, then (i) the Participant shall not be entitled to any further vesting of this option, (ii) any portion of the option that remains outstanding, whether vested or unvested, will be immediately and automatically forfeited exchange for no consideration, (iii) any Shares acquired by the Participant upon the exercise of the option that continue to be held by the Participant shall be required to be surrendered immediately and automatically to the Company in exchange for no consideration and (iv) if the Participant acquired any Shares upon the exercise of the option that the Participant has sold, transferred or otherwise disposed of such Shares, then the Participant shall be required to pay to the Company, in cash, within thirty (30) days of a written request by the Company for such payment, the amount for which the Participant sold the Shares.

7. Provisions of the Plan.

This option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this option.

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ANNEX A

BELLEROPHON THERAPEUTICS, INC.

Option Exercise Notice

Bellerophon Therapeutics, Inc.
53 Frontage Road, Suite 301
Hampton, NJ 08827

Dear Sir or Madam:

I, _____ (the “Participant”), hereby irrevocably exercise the right to purchase _____ Shares, of Bellerophon Therapeutics, Inc. (the “Company”) at \$ _____ per Share pursuant to the Company’s 2015 Equity Incentive Plan and an option agreement with the Company dated _____ (the “Option Agreement”). Enclosed herewith is a payment of \$ _____, the aggregate purchase price for the Shares. The certificate for the Shares should be registered in my name as it appears below or, if so indicated below, jointly in my name and the name of the person designated below, with right of survivorship.

Dated: _____

Signature _____
Print Name: _____

Address: _____

Name and address of persons in whose name the Shares are to be jointly registered (if applicable):

EXHIBIT A

CONFIDENTIALITY AND NONCOMPETITION AGREEMENT

I. The Participant acknowledges that the Participant's employment by or other service to the Company will, throughout such employment or service period, bring the Participant into close contact with the confidential affairs of the Company and its subsidiaries, including access to information about their client and customer lists and information concerning proprietary manufacturing formulations and processes, costs, profits, real estate, markets, sales, products, key personnel, pricing policies, operational methods, patents, research and development, technical processes, and other business affairs and methods, plans for future product development and other information not readily available to the public. The Participant further acknowledges that the services to be performed by the Participant are of a special, unique, unusual, extraordinary and intellectual character. The Participant further acknowledges that the business of the Company and its subsidiaries is international in scope, that the Company and its subsidiaries competes in nearly all of their business activities with other entities that are or could be located in nearly any part of the world and that the nature of the Participant's services, position and expertise are such that the Participant is capable of competing with the Company and its subsidiaries from nearly any location in the world. In recognition of the foregoing, the Participant covenants and agrees:

1. For Participants Resident in States Other Than California, Wisconsin, Texas, and Louisiana:

(a) The Participant, at all times while the Participant is an employee of or service provider to the Company and thereafter, shall hold in a fiduciary capacity for the benefit of the Company all secret, trade, proprietary or confidential information, knowledge or data relating to the Company or any of its affiliated companies and shareholders, and their respective businesses, that the Participant obtains during the Participant's employment by the Company or any of its affiliated companies and that is not public knowledge (other than as a result of the Participant's violation of this Section (a)) ("Confidential Information"). The Participant shall not communicate, divulge or disseminate Confidential Information at any time during or after the Participant's employment with or service to the Company, except with the prior written consent of the Company or as otherwise required by law or legal process. Nothing in this paragraph diminishes or limits any protection granted by law to trade secrets or relieves the Participant of any duty not to disclose, use, or misappropriate any information that is a trade secret, for as long as such information remains a trade secret.

(b) During the "Noncompetition Period," the Participant shall not, without the prior written consent of the Board, engage in or become associated with a "Competitive Activity." For purposes of these provisions: (i) the "Noncompetition Period" means the period commencing on the Grant Date (set forth in the option agreement) and ending on the twelve-month anniversary of the date upon which Participant's employment with or service to the Company is terminated for any reason (the "Date of Termination"); (ii) a "Competitive Activity" means any business or other endeavor that engages in clinical or pre-clinical research or development, manufacturing, marketing, sales, or commercialization of products or services that directly or indirectly compete with, or are a therapeutic alternative to, either (x) the products of, or services engaged in by, the

Company or any of its subsidiaries at the Date of Termination in any geographic location in the United States or, if different, the country in which the Participant primarily performs services for the Company or (y) the products proposed to be developed or commercialized, or services proposed to be engaged in, by the Company or any of its subsidiaries at the Date of Termination in any geographic location in the United States or, if different, the country in which the Participant primarily performs services for the Company (provided that clause (y) shall apply only to any proposed business activity as to which the Company or any of its subsidiaries has devoted significant and documented efforts at the Date of Termination, whether internally or through acquisition, licensing or other business development activities); provided, however, that the Participant shall not be engaged in a Competitive Activity if the Participant is providing services to a division or subsidiary of a multi-division entity or holding company, so long as no division or subsidiary to which the Participant provides services is in competition with the Company or its subsidiaries, and the Participant does not otherwise engage in a Competitive Activity on behalf of the multi-division entity or any competing division or subsidiary; and (iii) the Participant shall be considered to have become "associated with a Competitive Activity" if the Participant becomes directly or indirectly involved as an owner, investor (other than a passive stockholder of less than five percent (5%) of a corporation the securities of which are traded on a national securities exchange), employee, officer, director, consultant, independent contractor, agent, partner, advisor, or in any other capacity in a role where Participant may draw upon the goodwill of the Company or where Participant's knowledge of the Confidential Information of the Company is likely to affect Participant's decisions or actions with regard to the Competitive Activity, to the detriment of Company.

(c) During the Noncompetition Period, the Participant shall not, on the Participant's own behalf or on behalf of any other person, firm or entity (x) directly or indirectly hire, solicit, induce or attempt to solicit or induce any employee of the Company or any of its subsidiaries to terminate his employment with the Company or any of its subsidiaries, or to provide any assistance whatsoever to any person, firm or entity engaged in a Competitive Activity, or (y) directly or indirectly induce any business, entity or person with which the Company or any of their subsidiaries has a business relationship to terminate or alter such business relationship.

(d) In addition to such other rights and remedies as the Company may have at equity or in law with respect to any breach of these provisions, if the Participant commits a material breach of any of these provisions, the Company shall have the right to seek to have such provisions specifically enforced by any court having equity jurisdiction (without any obligation to post a bond or other security); it being acknowledged and agreed that any such breach or threatened breach will cause irreparable injury to the Company and that money damages alone will not provide an adequate remedy to the Company.

(e) The Participant acknowledges that while the Participant is an employee of or service provider to the Company, the Participant may conceive of, discover, invent or create inventions, improvements, new contributions, literary property, computer programs and software material, ideas and discoveries, whether patentable or copyrightable or not (all of the foregoing being collectively referred to herein as "Work Product"), and that various business opportunities shall be presented to the Participant by reason of the Participant's employment by the Company. The Participant acknowledges that all of the foregoing shall be owned by and belong exclusively to

the Company and that the Participant shall have no personal interest therein and the Participant does hereby assign all rights, title and interest therein to the Company; provided that they are either related in any manner to the business (commercial or experimental) of the Company or any of its subsidiaries, or are, in the case of Work Product, conceived or made on the Company's time or with the use of the Company's facilities or materials, or, in the case of business opportunities, are presented to the Participant for the possible interest or participation of the Company or any of its subsidiaries. The Participant agrees that the Participant will not assert any rights to any Work Product or business opportunity as having been made or acquired by the Participant prior to the date hereof.

(f) The Participant acknowledges and agrees that these provisions are necessary to protect the business operations and affairs of the Company and its subsidiaries. The Participant understands that the restrictions set forth in these provisions may limit the Participant's ability to earn a livelihood in a business similar that of the Company, but the Participant nevertheless believes that the Participant has received and will receive sufficient consideration and other benefits as an employee of or service provider to the Company, including without limitation, the option granted by the Company and memorialized in the Agreement to which these provisions are attached, to justify clearly such restrictions which, in any event (given the Participant's education, skills and ability), the Participant does not believe would prevent the Participant from earning a livelihood.

2. For Participants Resident in California:

(a) The Participant, at all times while the Participant is an employee of or service provider to the Company and thereafter, shall hold in a fiduciary capacity for the benefit of the Company all secret, trade, proprietary or confidential information, knowledge or data relating to the Company or any of its subsidiaries companies and shareholders, and their respective businesses, that the Participant obtains during the Participant's employment by the Company or any of its subsidiaries and that is not public knowledge (other than as a result of the Participant's violation of this Section (a)) ("Confidential Information"). The Participant shall not communicate, divulge or disseminate Confidential Information at any time during or after the Participant's employment with or service to the Company, except with the prior written consent of the Company or as otherwise required by law or legal process.

(b) During the "Noncompetition Period," the Participant shall not, without the prior written consent of the Board, engage in or become associated with a "Competitive Activity." For purposes of these provisions: (i) the "Noncompetition Period" means the period commencing on the Grant Date (set forth in the option agreement) and ending on the date upon which Participant's employment with or service to the Company is terminated for any reason (the "Date of Termination"); (ii) a "Competitive Activity," means any business or other endeavor that engages in clinical or pre-clinical research or development, manufacturing, marketing, sales, or commercialization of products or services that directly or indirectly compete with, or are a therapeutic alternative to, either (x) the products of, or services engaged in by, the Company or any of its subsidiaries during the Noncompetition Period in any geographic location in the United States or, if different, the country in which the Participant primarily performs services for the Company or (y) the products proposed to be developed or commercialized, or services proposed

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to be engaged in, by the Company or any of its subsidiaries during the Noncompetition Period in any geographic location in the United States or, if different, the country in which the Participant primarily performs services for the Company (provided that clause (y) shall apply only to any proposed business activity as to which the Company or any of its subsidiaries has devoted significant and documented efforts during the Noncompetition Period, whether internally or through acquisition, licensing or other business development activities); provided, however, that the Participant shall not be engaged in a Competitive Activity if the Participant is providing services to a division or subsidiary of a multi-division entity or holding company, so long as no division or subsidiary to which the Participant provides services is in competition with the Company or its subsidiaries, and the Participant does not otherwise engage in a Competitive Activity on behalf of the multi-division entity or any competing division or subsidiary; and (iii) the Participant shall be considered to have become "associated with a Competitive Activity" if the Participant becomes directly or indirectly involved as an owner, investor (other than a passive stockholder of less than five percent (5%) of a corporation the securities of which are traded on a national securities exchange), employee, officer, director, consultant, independent contractor, agent, partner, advisor, or in any other capacity calling for the rendition of the Participant's personal services, with any individual, partnership, corporation or other organization that is engaged directly or indirectly in a Competitive Activity.

(c) During both the Noncompetition Period and the twelve-month period following the Date of Termination, the Participant shall not, on the Participant's own behalf or on behalf of any other person, firm or entity, directly or indirectly, solicit, induce or attempt to solicit or induce any employee of the Company or any of its subsidiaries to terminate his employment with the Company or any of its subsidiaries, or to provide any assistance whatsoever to any person, firm or entity engaged in a Competitive Activity. During the Noncompetition Period, the Participant shall not directly or indirectly induce any business, entity or person with which the Company or any of its subsidiaries has a business relationship to terminate or alter such business relationship.

(d) In addition to such other rights and remedies as the Company may have at equity or in law with respect to any breach of these provisions, if the Participant commits a material breach of any of these provisions, the Company shall have the right to seek to have such provisions specifically enforced by any court having equity jurisdiction (without any obligation to post a bond or other security); it being acknowledged and agreed that any such breach or threatened breach will cause irreparable injury to the Company and that money damages alone will not provide an adequate remedy to the Company.

(e) The Participant agrees to assign and does hereby assign to the Company (or any person or entity designated by the Company) all his/her right, title and interest in and to all inventions, improvements, new contributions, literary property, computer programs and software material, ideas and discoveries, whether patentable or copyrightable or not (all of the foregoing being collectively referred to herein as "Work Product") and all related patents, patent applications, copyrights and copyright applications to the maximum extent permitted by Section 2870 of the California Labor Code or any like statute of any other state. The Participant hereby also waives all claims to moral rights in any Work Product. The Participant understands that the provisions of this Agreement requiring assignment of Work Product to the Company do not apply to any invention which qualifies fully under the provisions of California Labor Code Section 2870

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(attached hereto as Appendix A). The Participant agrees to advise the Company promptly in writing of any invention that he/she believes meets the criteria in Section 2870 and is not otherwise disclosed on Appendix B.

(f) The Participant acknowledges and agrees that these provisions are necessary to protect the business operations and affairs of the Company and its subsidiaries. The Participant understands that the restrictions set forth in these provisions may limit the Participant's ability to earn a livelihood in a business similar that of the Company, but the Participant nevertheless believes that the Participant has received and will receive sufficient consideration and other benefits as an employee of or service provider to the Company, including without limitation, the option granted by the Company and memorialized in the Agreement to which these provisions are attached, to justify clearly such restrictions which, in any event (given the Participant's education, skills and ability), the Participant does not believe would prevent the Participant from earning a livelihood.

3. For Participants Resident in Wisconsin and Texas

(a) Company will provide Participant with access to secret, trade, proprietary or confidential information relating to Company and its subsidiaries and shareholders that is not readily available outside Company or its subsidiaries and that Company and its subsidiaries take steps to protect (“Confidential Information”). (“Confidential Information” shall not include information that Participant can prove (i) was in the public domain, being publicly and openly known through lawful and proper means, (ii) was independently developed or acquired by Participant without reliance in any way on other Confidential Information of Company or any subsidiary or (iii) was approved by Company for use and disclosure by Participant without restriction.) The Participant shall not communicate, divulge, or disseminate Confidential Information where such disclosure would be detrimental to the interests of Company (except as required by law), but only for so long as such Confidential Information continues to be not generally known to, and not readily ascertainable through proper means by, Company’s competitors. The promises contained in this paragraph are not intended to preclude Participant from being gainfully employed by another or on his or her own, but are intended to prohibit him or her from using the confidential or proprietary information described herein in a manner that is not for the financial benefit of Company. Nothing in this paragraph diminishes or limits any protection granted by law to trade secrets or relieves the Participant of any duty not to disclose, use, or misappropriate any information that is a trade secret, for as long as such information remains a trade secret.

(b) Independent of any other restriction, the Participant during the “Noncompetition Period” shall not, for him(her)self, or on behalf of any other person or entity, directly or indirectly provide services to a “Direct Competitor” in a role where Participant will be expected to draw upon the customer goodwill he gained while with Company or where Participant’s knowledge of “Confidential Information” is likely to affect Participant’s decisions or actions for the Direct Competitor to the detriment of Company. For purposes of this provision: (i) the “Noncompetition Period” means the period commencing on the Grant Date (set forth in the option agreement) and ending on the twelve-month anniversary of the date upon which Participant’s employment with or service to the Company is terminated for any reason (the “Date of Termination”); (ii) a “Direct Competitor” means any business or other endeavor that engages

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in clinical or pre-clinical research or development, manufacturing, marketing, sales, or commercialization of “Competitive Products or Services” in any geographic location in the United States (except that “Direct Competitor” does *not* include any business which the parties have agreed in writing to exclude from the definition, and Company will not unreasonably or arbitrarily withhold such agreement); and (iii) “Competitive Products or Services” means products or services that serve the same function as or are a therapeutic alternative to products or services that Company or its subsidiaries offered at the Date of Termination, or to products or services under development or commercialization by Company or its subsidiaries at the Date of Termination (with development or commercialization demonstrated by significant and documented efforts, whether internally or through acquisition, licensing or other business development activities).

(c) Independent of any other restriction, for a period of one year after Participant’s employment with or service to the Company is terminated for any reason, the Participant shall not, on the Participant’s own behalf or on behalf of any other person, firm or entity, directly or indirectly induce any business, entity or person with which the Company or its subsidiaries has a business relationship (collectively, “Business Associates”) to terminate or alter such business relationship (provided that clause (y) shall apply only to those Business Associates who did business with the Company within the last six months of Participant’s employment or service and (1) about whom Participant, as a result of his or her employment or service, had access to confidential information or goodwill that would assist in solicitation of such Person, or (2) with whom Participant personally dealt on behalf of Company in the twelve months immediately preceding the last day of Participant’s employment or service and that Participant was introduced to or otherwise had business contact with such Business Associate as a result of his or her employment or service with the Company).

(d) Independent of any other restriction, Participant shall not, either personally or in conjunction with others, either (a) solicit, interfere with, or endeavor to cause any employee of Company or its subsidiaries to leave such employment or (b) otherwise induce or attempt to induce any such employee to terminate employment with Company or its subsidiaries. Nothing in this paragraph is meant to prohibit an employee of Company or its subsidiaries who is not a party to this Agreement from becoming employed by another organization or person.

(e) In addition to such other rights and remedies as the Company may have at equity or in law with respect to any breach of these provisions, if the Participant commits a material breach of any of these provisions, the Company shall have the right to seek to have such provisions specifically enforced by any court having equity jurisdiction (without any obligation to post a bond or other security); it being acknowledged and agreed that any such breach or threatened breach will cause irreparable injury to the Company and that money damages alone will not provide an adequate remedy to the Company.

(f) The Participant acknowledges that while the Participant is an employee of or service provider to the Company, the Participant may conceive of, discover, invent or create inventions, improvements, new contributions, literary property, computer programs and software material, ideas and discoveries, whether patentable or copyrightable or not (all of the foregoing being collectively referred to herein as “Work Product”), and that various business opportunities shall

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be presented to the Participant by reason of the Participant’s employment by the Company. The Participant acknowledges that all of the foregoing shall be owned by and belong exclusively to the Company and that the Participant shall have no personal interest therein and the Participant does hereby assign all rights, title and interest therein to the Company; provided that they are either related in any manner to the business (commercial or experimental) of the Company or any of its subsidiaries, or are, in the case of Work Product, conceived or made on the Company’s time or with the use of the Company’s facilities or materials, or, in the case of business opportunities, are presented to the Participant for the possible interest or participation of the Company or any of its subsidiaries. The Participant agrees that the Participant will not assert any rights to any Work Product or business opportunity as having been made or acquired by the Participant prior to the date hereof.

(g) The Participant acknowledges and agrees that these provisions are necessary to protect the business operations and affairs of the Company and its subsidiaries. The Participant understands that the restrictions set forth in these provisions may limit the Participant’s ability to earn a livelihood in a business similar that of the Company, but the Participant nevertheless believes that the Participant has received and will receive sufficient consideration and other benefits as an employee of or service provider to the Company, including without limitation, the option granted by the Company and memorialized in the Agreement to which these provisions are attached, to justify clearly such restrictions which, in any event (given the Participant’s education, skills and ability), the Participant does not believe would prevent the Participant from earning a livelihood.

4. For Participants Resident in Louisiana

(a) Company will provide Participant with access to secret, trade, proprietary or confidential information relating to Company and its subsidiaries and shareholders that is not readily available outside Company or its subsidiaries and that Company and its subsidiaries take steps to protect (“Confidential Information”). (“Confidential Information” shall not include information that Participant can prove (i) was in the public domain, being publicly and openly known through lawful and proper means, (ii) was independently developed or acquired by Participant without reliance in any way on other Confidential Information of Company or any subsidiary or (iii) was approved by Company for use and disclosure by Participant without restriction.) The Participant shall not communicate, divulge or disseminate Confidential Information at any time during or after the Participant’s employment with or service to the Company, except with the prior written consent of the Company or as otherwise required by law or legal process. Nothing in this paragraph diminishes or limits any protection granted by law to trade secrets or relieves the Participant of any duty not to disclose, use, or misappropriate any information that is a trade secret, for as long as such information remains a trade secret.

(b) During the “Noncompetition Period,” the Participant shall not, without the prior written consent of the Board, engage in or become associated with a “Competitive Activity” in West Baton Rouge Parish or any parish or county in the United States where Company does business. For purposes of these provisions: (i) the “Noncompetition Period” means the period commencing on the Grant Date (set forth in the option agreement) and ending on the twelve-month anniversary of the date upon which Participant’s employment with or service to the

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Company is terminated for any reason (the “Date of Termination”); (ii) a “Competitive Activity,” means any business or other endeavor that engages in clinical or pre-clinical research or development, manufacturing, marketing, sales, or commercialization of products or services that directly or indirectly compete with, or are a therapeutic alternative to, either (x) the products of, or services engaged in by, the Company or any of its subsidiaries at the Date of Termination or (y) the products proposed to be developed or commercialized, or services proposed to be engaged in, by the Company or any of its subsidiaries at the Date of Termination (provided that clause (y) shall apply only to any proposed business activity as to which the Company or any of its subsidiaries has devoted significant and documented efforts at the Date of Termination, whether internally or through acquisition, licensing or other business development activities); provided, however, that the Participant shall not be engaged in a Competitive Activity if the Participant is providing services to a division or subsidiary of a multi-division entity or holding company, so long as no division or subsidiary to which the Participant provides services is in competition with the Company or its subsidiaries, and the Participant does not otherwise engage in a Competitive Activity on behalf of the multi-division entity or any competing division or subsidiary; and (iii) the Participant shall be considered to have become “associated with a Competitive Activity” if the Participant becomes directly or indirectly involved as an owner, investor (other than a passive stockholder of less than five percent (5%) of a corporation the securities of which are traded on a national securities exchange), employee, officer, director, consultant, independent contractor, agent, partner, advisor, or in any other capacity in a role where Participant’s ability to draw upon the goodwill or Confidential Information of the Company is likely to affect Participant’s decisions or actions with regard to the Competitive Activity, to the detriment of Company.

(c) During the Noncompetition Period, the Participant shall not, on the Participant’s own behalf or on behalf of any other person, firm or entity (x) directly or indirectly hire, solicit, induce or attempt to solicit or induce any employee of the Company or any of its subsidiaries to terminate his employment with the Company or any of its subsidiaries, or to provide any assistance whatsoever to any person, firm or entity engaged in a Competitive Activity, or (y) directly or indirectly induce any business, entity or person with which the Company or any of their subsidiaries has a business relationship to terminate or alter such business relationship.

(d) In addition to such other rights and remedies as the Company may have at equity or in law with respect to any breach of these provisions, if the Participant commits a material breach of any of these provisions, the Company shall have the right to seek to have such provisions specifically enforced by any court having equity jurisdiction (without any obligation to post a bond or other security); it being acknowledged and agreed that any such breach or threatened breach will cause irreparable injury to the Company and that money damages alone will not provide an adequate remedy to the Company.

(e) The Participant acknowledges that while the Participant is an employee of or service provider to the Company, the Participant may conceive of, discover, invent or create inventions, improvements, new contributions, literary property, computer programs and software material, ideas and discoveries, whether patentable or copyrightable or not (all of the foregoing being collectively referred to herein as “Work Product”), and that various business opportunities shall be presented to the Participant by reason of the Participant’s employment by the Company. The

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Participant acknowledges that all of the foregoing shall be owned by and belong exclusively to the Company and that the Participant shall have no personal interest therein and the Participant does hereby assign all rights, title and interest therein to the Company; provided that they are either related in any manner to the business (commercial or experimental) of the Company or any of its subsidiaries, or are, in the case of Work Product, conceived or made on the Company’s time or with the use of the Company’s facilities or materials, or, in the case of business opportunities, are presented to the Participant for the possible interest or participation of the Company or any of its subsidiaries. The Participant agrees that the Participant will not assert any rights to any Work Product or business opportunity as having been made or acquired by the Participant prior to the date hereof.

(f) The Participant acknowledges and agrees that these provisions are necessary to protect the business operations and affairs of the Company and its subsidiaries. The Participant understands that the restrictions set forth in these provisions may limit the Participant’s ability to earn a livelihood in a business similar that of the Company, but the Participant nevertheless believes that the Participant has received and will receive sufficient consideration and other benefits as an employee of or service provider to the Company, including without limitation, the option granted by the Company and memorialized in the Agreement to which these provisions are attached, to justify clearly such restrictions which, in any event (given the Participant’s education, skills and ability), the Participant does not believe would prevent the Participant from earning a livelihood.

II. To the extent permitted by law, any restriction set forth in this Agreement that is found by any court of competent jurisdiction to be unreasonable because it extends for too long a period of time or over too great a range of activities or in too broad a geographic area, may be interpreted to extend only over the maximum period of time, range of activities or geographic area deemed to be reasonable.

III. To the extent permitted by law, the invalidity of any provision of this Agreement will not and shall not be deemed to affect the validity of any other provision. In the event that any provision of this Agreement is held to be invalid, it shall be considered expunged, and the parties agree that the remaining provisions shall be deemed to be in full force and effect as if they had been executed by both parties subsequent to the expungement of the invalid provision.

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APPENDIX A **TO CONFIDENTIALITY AND NONCOMPETITION AGREEMENT**

CALIFORNIA LABOR CODE SECTION 2870

(a) Any provision in an employment agreement which provides that an employee shall assign, or offer to assign, any of his or her rights in an invention to his or her employer shall not apply to an invention that the employee developed entirely on his or her own time without using the employer’s equipment, supplies, facilities, or trade secret information except for those inventions that either:

(1) Relate at the time of conception or reduction to practice of the invention to the employer’s business, or actual or demonstrably anticipated research or development of the employer; or

(2) Result from any work performed by the employee for the employer.

(b) To the extent a provision in an employment agreement purports to require an employee to assign an invention otherwise excluded from being required to be assigned under subdivision (a), the provision is against the public policy of this state and is unenforceable.

APPENDIX B
TO CONFIDENTIALITY AND NONCOMPETITION AGREEMENT

LIST OF PRIOR INVENTIONS AND ORIGINAL WORKS OF AUTHORSHIP:

Title	Date	Identifying Number or Brief Description

Confidential Materials omitted and filed separately with the Securities and Exchange Commission. Double asterisks denote omissions.

EXECUTION VERSION

SERVICES AGREEMENT

THIS SERVICES AGREEMENT (together with Exhibit A hereto, the “Agreement”) is effective as of January 1, 2015 (the “Effective Date”), by and between Bellerophon Therapeutics LLC, a Delaware limited liability company (“Bellerophon”), and Ikaria, Inc., a Delaware corporation (“Ikaria”). In this Agreement, each of Bellerophon and Ikaria are sometimes referred to individually as a “Party” and, collectively, as the “Parties.”

WHEREAS, Bellerophon and Ikaria are parties to a Separation and Distribution Agreement dated February 9, 2014 (the “Separation Agreement”), which sets forth the terms upon which Ikaria was separated into two independent companies, one for each of (a) the Ikaria Business (such term and each other capitalized term used but not defined herein to have the meanings given to such terms in the Separation Agreement), which continues to be owned and conducted, directly or indirectly, by Ikaria, and (b) the Bellerophon Business, which is now owned and conducted, directly or indirectly, by Bellerophon;

WHEREAS, as part of the separation of the Ikaria Business and the Bellerophon Business, Ikaria transferred to Bellerophon a number of employees that had previously provided services to Ikaria in their respective areas of expertise;

WHEREAS, following the effective date of the Separation Agreement, those former employees of Ikaria continued to provide various services to Ikaria at Ikaria’s request and with the knowledge and consent of Bellerophon;

WHEREAS, Ikaria and other Ikaria Group Members have requested that those former employees of Ikaria continue to provide such services to Ikaria, and Bellerophon is willing to permit the ongoing provision of such services on a limited time basis on an as requested, as available basis, all subject to the terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and agreements set forth below, and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the Parties hereby agree as follows:

1. SERVICES

1.1 General. During the term of this Agreement, Bellerophon (or another Bellerophon Group Member) shall use commercially reasonable efforts to provide, or cause such Bellerophon Group Member to use commercially reasonable efforts to provide, the professional services in each of the following areas (individually, a “Service” and collectively, the “Services”) to Ikaria (or another Ikaria Group Member): (a) regulatory matters, (b) drug and device safety, (c) clinical operations, (d) biometrics, and (e) scientific affairs. The term “Services” shall also be deemed to include services within the scope of the “Services” provided by Bellerophon to Ikaria between the effective date of the Separation Agreement and the effective date of this Agreement.

1.2 Acknowledgment. Ikaria acknowledges and agrees that nothing in this Agreement shall require Bellerophon or any Bellerophon Group Member to hire, obtain, or retain additional resources of any type

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(whether personnel, infrastructure, or otherwise) to provide the Services, nor shall anything in this Agreement require Bellerophon (or any Bellerophon Group Member) to prioritize providing Services to Ikaria (or another Ikaria Group Member) over performing similar services for its own benefit in support of the Bellerophon Business.

1.3 Level of Services. Subject to Section 1.1, the Services shall be provided to Ikaria (or another Ikaria Group Member) in a manner substantially similar in scope, quality, and nature to those provided to, or provided on behalf of, the Ikaria Business prior to the date hereof.

1.4 Cooperation. Each Party shall cause its employees and the employees of its respective Group Members to reasonably cooperate with employees of the other Party and such other Party’s Group Members to the extent required for effective delivery of the Services. In addition, each Party shall name a point of contact who shall be responsible for the day-to-day implementation of this Agreement (each such person, a “Service Coordinator”), including attempted resolution of any issues that may arise during the performance of any of Party’s obligations hereunder pursuant to the dispute resolution provisions referenced in Section 6.1.

1.5 Access.

- (a) Ikaria shall, and shall cause the other Ikaria Group Members to, permit the Representatives of Bellerophon to have access (during normal business hours upon reasonable advance notice and in a manner so as not to interfere with the conduct of the Ikaria Business) to the information, personnel, equipment, office and storage space and Systems (as defined in Section 1.5(b) below) required for Bellerophon to provide the Services. Notwithstanding the foregoing, neither Ikaria nor any other Ikaria Group Member shall be obligated to provide any information, documents, or access to any Person other than Bellerophon or another Bellerophon Group Member unless Bellerophon is responsible for the use and disclosure of any information obtained by such Person from Ikaria or such other Ikaria Group Member, and such Person is subject to confidentiality obligations with Bellerophon. Further, neither Ikaria nor any other Ikaria Group Member shall be obligated to provide (i) any Restricted Information or (ii) any information or access that would result in the disclosure of any information of Ikaria or any of its Affiliates unrelated to the Services (and Ikaria and the Ikaria Group Members shall be permitted to redact any such information from any materials provided to Bellerophon or its Representatives). Notwithstanding the foregoing, in the event that Ikaria or another Ikaria Group Member elects not to provide information, documents or access to Bellerophon or its Representatives in accordance with this Section 1.5(a), Bellerophon shall not be obligated to provide any Service to Ikaria or such other Ikaria Group Member that cannot reasonably be provided without such information, documents, or access. Bellerophon shall cause all of its Representatives, when on the premises of Ikaria or another Ikaria Group Member or when given access to any information, personnel, equipment, office and storage space and Systems, to conform to the policies and procedures of Ikaria or such other Ikaria Group Member concerning health, safety and security which are made known to Bellerophon in advance in writing.

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- (b) System Security. If either Party is given access to the other Party’s (or the other Party’s Group Members’) computer system(s), facilities, networks (including voice or data networks), software, or other information technology assets (collectively, “Systems”) in connection with performance or

transition of the Services (or Additional Ikaria Services), such Party shall comply with all security regulations and other policies and procedures reasonably required by the other Party (or such other Party's Group Members) from time to time which are made known to such Party in advance in writing ("Regulations"), and will not intentionally tamper with, compromise or circumvent any security, privacy or audit measures that are employed by the other Party (or such other Party's Group Members) and which are made known to such Party in advance in writing. The Representatives of the Party being granted access to the other Party's (or such other Party's Group Members') Systems may be required to execute a reasonable, separate system access agreement for individuals who are to have access to such Systems. The Party being granted such access shall ensure that only those users who are specifically authorized by the other Party (or such other Party's Group Members) to gain access to the other Party's (or such other Party's Group Members') Systems as necessary to utilize or provide the Services, as applicable, gain such access. Each Party shall be responsible for all acts and omissions of its Representatives. If at any time a Party determines that any Representative of either Party (or a Party's Group Members) has sought to circumvent or has circumvented the other Party's (or the other Party's Group Members') Regulations or other security, privacy or audit measures or that an unauthorized person has accessed or may access the other Party's (or such other Party's Group Members') Systems or a person has engaged in activities that may lead to the unauthorized access, destruction or alteration or loss of data, information or software, the determining Party shall promptly notify the other and the other Party shall have the right to immediately terminate any such person's access to such Party's (or such Party's Group Members') Systems.

1.6 Independent Contractor. For all purposes hereof, each Party shall at all times act as an independent contractor and shall have no authority to represent the other Party or any of the other Party's Group Members in any way or otherwise be deemed an agent, lawyer, employee, representative, joint venturer or fiduciary of such other Party or such other Party's Group Members, nor shall this Agreement or the transactions contemplated hereby be deemed to create any joint venture between the Parties or any of their respective Group Members. Each Party shall not declare or represent to any third party that such Party shall have any power or authority to negotiate or conclude any agreement, or to make any representation or to give any undertaking on behalf of the other Party or any of the other Party's Group Members in any way whatsoever.

1.7 Changes in Law. If either Party becomes aware of a change in applicable Law affecting compliance of the Services with such Law, such Party shall provide notice to the other Party and the Parties shall discuss in good faith (including, if necessary, discussion between each Party's legal counsel) any necessary modifications to the Services to achieve compliance. The Parties agree to use commercially reasonable efforts to identify a work-around solution that enables Ikaria to perform the Services in compliance with such modified Law. If the Parties cannot agree on any such work-around, then the Parties agree to use commercially reasonable efforts to (i) modify the applicable Services to comply with such changes in applicable Law and (ii) agree on the extent (if any) to which all or a portion

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of the fees and expenses of Ikaria arising from such modifications shall be borne by Ikaria; provided that Bellerophon shall not be required to continue to provide the applicable Service that violates applicable Law as a result of such a change in such law or regulation, nor to modify such Service, except to the extent a modification would not result in Bellerophon being required to incur any material out-of-pocket expenses. If compliance with applicable Law would result in Bellerophon being required to incur any material out-of-pocket expenses, Bellerophon shall not be required to continue to provide the applicable Service unless and until Ikaria and Bellerophon agree on whether all or any portion of such fees and expenses shall be borne by Ikaria and, if Ikaria and Bellerophon agree on the amount (if any) to be borne by Ikaria, Bellerophon shall promptly implement the modifications necessary to comply with such changes in applicable Law.

1.8 Limited Additional Services by Ikaria. During the term of this Agreement, Ikaria (or another Ikaria Group Member) shall use commercially reasonable efforts to provide, or cause such Ikaria Group Member to use commercially reasonable efforts to provide to Bellerophon (or another Bellerophon Group Member), the services set forth in Exhibit A to this Agreement (collectively, the "Additional Ikaria Services"). In consideration of the Additional Ikaria Services, Bellerophon shall pay to Ikaria the fees set forth in Exhibit A.

2. PAYMENTS

2.1 Services Pricing. In consideration of the performance of the Services, Ikaria shall pay to Bellerophon a total of \$2,000,000 (the "Service Cost"). The Service Cost shall be paid as set forth below:

- (a) For Services provided between the effective date of the Separation Agreement and the Effective Date of this Agreement, \$916,666.71, to be paid within 45 days after Effective Date; and
- (b) For Services provided in each subsequent calendar month during the term of this Agreement, \$83,333.33, to be paid within 30 days after the end of the applicable calendar month; provided, however, that Services provided during the period of February 1, 2016 through the expiration of this Agreement shall be deemed to be covered by the payment made in respect of Services provided in January 2016.

2.2 Acknowledgement. Bellerophon and Ikaria each acknowledge and agree that the Service Cost represents a negotiated amount between them that is intended to cover not only the Services to be provided by Bellerophon to Ikaria under this Agreement, but also various additional services that Ikaria has provided to Bellerophon but for which Ikaria has not previously been compensated, specifically (a) various preventative maintenance activities relating to Bellerophon's INOpulse device and (b) various upgrades to INOpulse devices (the "Device Activities"). In addition, Bellerophon and Ikaria each acknowledge and agree that the Device Activities (other than the "Certain Additional Device Services" described in Section II of Exhibit A) have been completed in full, and, accordingly, Ikaria is not obligated to provide any additional Device Activities under this Agreement or otherwise.

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3. CONFIDENTIALITY

Confidential Information. For purposes of this Agreement, "Confidential Information" shall mean all information disclosed by either Party or its respective Group Members to the other in connection with this Agreement, whether orally, visually, in writing or in any other tangible form, and includes, but is not limited to, economic, scientific, technical, product and business data, business plans, and the like. Confidential Information shall be treated as "Information" and shall be subject to the provisions of Article 4 of the Separation Agreement (regardless of the date on which such information was created); provided that the obligation to keep such information confidential pursuant to Section 4.1 of the Separation Agreement shall continue for five (5) years after the termination of this Agreement in accordance with its terms.

4. INDEMNIFICATION

4.1 Indemnification by Ikaria Group. Ikaria shall, and shall cause each other Ikaria Group Member receiving Services hereunder to, indemnify and hold harmless each Bellerophon Indemnified Party from and against all Damages incurred by such Bellerophon Indemnified Party arising from the provision of Services by Bellerophon or any other Bellerophon Group Member hereunder, except as set forth in Section 4.2.

4.2 Indemnification by Bellerophon Group. Bellerophon shall, and shall cause each other Bellerophon Group Member providing Services hereunder to, indemnify and hold harmless each Ikaria Indemnified Party from and against all Damages incurred by such Ikaria Indemnified Party arising from gross negligence or willful misconduct by Bellerophon or any other Bellerophon Group Member or any of Bellerophon's or such Bellerophon Group Member's employees in providing Services hereunder, except to the extent that such employees were acting in accordance with specific written instructions from Ikaria or any other Ikaria Group Member.

4.3 Procedures for Third Party Claims. The Parties shall follow the applicable procedures set forth in Section 6.3(d) of the Separation Agreement with respect to any indemnified claims.

4.4 Limitations of Liability.

- (a) THE LIABILITY OF THE BELLEROPHON GROUP MEMBERS IN CONNECTION WITH THE PERFORMANCE, DELIVERY OR PROVISION OF ANY SERVICE OR OTHERWISE UNDER THIS AGREEMENT SHALL BE LIMITED TO A SUM EQUAL TO THE TOTAL SERVICE COST PAID HEREUNDER TO THE BELLEROPHON GROUP MEMBERS.
- (b) NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT TO THE CONTRARY, IN NO EVENT SHALL EITHER PARTY OR ANY OF ITS GROUP MEMBERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, COLLATERAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OR LOST PROFITS SUFFERED BY AN INDEMNIFIED PARTY, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, IN CONNECTION WITH ANY DAMAGES ARISING

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HEREUNDER OR THEREUNDER; PROVIDED, HOWEVER, THAT TO THE EXTENT AN INDEMNIFIED PARTY IS REQUIRED TO PAY ANY SPECIAL, INCIDENTAL, INDIRECT, COLLATERAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OR LOST PROFITS TO A PERSON WHO IS NOT A MEMBER OF EITHER GROUP IN CONNECTION WITH A THIRD-PARTY CLAIM, SUCH DAMAGES SHALL CONSTITUTE DIRECT DAMAGES AND NOT SUBJECT TO THE LIMITATION SET FORTH IN THIS SECTION 4.4(b).

- (c) THE SERVICES ARE PROVIDED "AS IS" AND, TO THE FULLEST EXTENT OF THE LAW, PROVIDED WITHOUT WARRANTIES, CLAIMS OR REPRESENTATIONS MADE BY BELLEROPHON, EITHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF QUALITY, PERFORMANCE, NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, NOR ARE THERE ANY WARRANTIES CREATED BY COURSE OF DEALING, COURSE OF PERFORMANCE, OR TRADE USAGE.
- (d) Nothing contained in this Agreement shall limit or alter (i) the obligation of either Party to indemnify the other Party pursuant to the Separation Agreement or any other Ancillary Document or (ii) the right of either Party to make a claim pursuant to the Separation Agreement or any other Ancillary Document; provided, that no Party shall obtain duplicative recoveries.

5. TERM AND TERMINATION

5.1 Term. Unless earlier terminated in accordance with Section 5.2 below, this Agreement shall be in effect until February 8, 2016.

5.2 Termination. This Agreement may be terminated by either Party if the other Party (the "Defaulting Party") has materially breached its obligations under this Agreement and if the Defaulting Party has not cured such default within thirty (30) days following the date on which the other Party (the "Notifying Party") has given written notice specifying the facts constituting the default. Notwithstanding the foregoing sentence, this Agreement shall not be terminated due to a default by the Defaulting Party if such default is directly attributable to a breach of this Agreement by the Notifying Party.

5.3 Effect of Termination. Upon termination of this Agreement for any reason, all rights and obligations of the Parties under this Agreement shall cease and be of no further force or effect, except that the provisions of Section 1.5, Section 3 and Section 4 of this Agreement shall survive any such termination or expiration.

6. GENERAL

6.1 Dispute Resolution. The dispute resolution procedures set forth in Article 7 of the Separation Agreement shall apply to all disputes, controversies or claims that may arise out of or relate to, or arise under or in connection with this Agreement or the transactions contemplated hereby.

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6.2 Miscellaneous. The provisions of Sections 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13 and 8.14 of the Separation Agreement shall apply *mutatis mutandis* to this Agreement, as if set forth in this Agreement in full.

6.3 Force Majeure. Bellerophon shall not bear any responsibility or liability for any Damages arising out of any delay, inability to perform, or interruption of its performance of its obligations under this Agreement due to any acts or omissions of the other party hereto or for events beyond its reasonable control including, without limitation, acts of God, acts of governmental authorities, acts of the public enemy or due to war, riot, flood, civil commotion, insurrection, labor difficulty, severe or adverse weather conditions, lack of or shortage of electrical power, malfunctions of equipment, or software programs, or any other cause beyond the reasonable control of such party (each, a "Force Majeure Event"); provided, that Bellerophon (a) as soon as reasonably practical following the occurrence of a Force Majeure Event, gives written notice to Ikaria of such event, including a description of the circumstances preventing its performance and of its plans and efforts to implement a work-around, and (b) uses reasonable best efforts to resume or restore performance as expeditiously as possible. The obligations of Bellerophon seeking to be excused shall then be tolled for the duration of the Force Majeure Event to the extent that the Force Majeure Event prevents it from performing its obligations hereunder. Ikaria shall have no obligation to pay any fees or other amounts to Bellerophon with respect to any Services that Bellerophon is unable to provide hereunder for so long as Bellerophon is unable to provide such Services in compliance with this Agreement.

6.4 Entire Agreement. This Agreement constitutes the entire agreement and understanding of the parties with respect to the provision of the Services by Bellerophon to Ikaria, and shall supersede all oral negotiations and prior writings with respect thereto. This Agreement may be amended, modified or supplemented only by a written instrument duly executed by each of the parties.

IN WITNESS WHEREOF, each of the Parties has caused this Services Agreement to be executed on its behalf by a duly authorized officer on the date first set forth above.

By:	<u>/s/ Daniel Tassé</u>	By:	<u>/s/ Jon Peacock</u>
Name:	Daniel Tassé	Name:	<u>Jon Peacock</u>
Title:	Chief Executive Officer	Title:	<u>Chief Executive Officer</u>

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Exhibit A
Additional Ikaria Services

- I. Certain Additional IT Services. As part of the Additional Ikaria Services, Ikaria shall provide IT Help Desk Services comprised of the capture, triage, management, and resolution* of IT issues:

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* *Bellerophon acknowledges and agrees that it is solely responsible for the cost and expense of any amounts required to be paid to a third party as part of such resolution (including, by way of example only and without limitation, the cost of replacement hardware, like replacement monitors, cables, or memory chips, the cost additional software licenses or charges for software updates or upgrades, or the cost of support services associated with any hardware, software, or application service provider support).*

Bellerophon shall require its personnel, and the personnel of applicable Bellerophon Group Members, to adhere to Ikaria's then-current SOPs in interacting with Ikaria's helpdesk.

Pricing for Additional IT Services. In consideration of the performance of the IT-related Additional Ikaria Services described above, Bellerophon shall pay to Ikaria a total of \$90,000 as set forth below:

- (a) For IT-related Additional Ikaria Services provided between the effective date of the Separation Agreement and December 31, 2014, \$40,000, to be paid within 60 days after Effective Date;
- (b) For IT-related Additional Ikaria Services provided between January 1, 2015 and December 31, 2015, \$11,538 per calendar quarter, to be paid within 30 days after the end of each calendar quarter; and
- (c) For IT-related Additional Ikaria Services provided between January 1, 2016 and the expiration of this Agreement, \$3848, to be paid within 30 days after the expiration of this Agreement.

Bellerophon will have the right to terminate the IT-related Additional Ikaria Services at any time after the Effective Date provided that Bellerophon gives Ikaria at least 60 days prior written notice of such early termination. Fees for the billing quarter during which such termination occurs shall be pro-rated for the portion of such quarter prior to termination.

- II. Certain Additional Device Services. As part of the Additional Ikaria Services, Ikaria shall provide the following services for Bellerophon's INOpulse devices:

[**]

Pricing for Additional Device Services. In consideration of the performance of the device-related

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Additional Ikaria Services described above, Bellerophon shall pay to Ikaria a total of \$124,995 as set forth below:

- (a) For device-related Additional Ikaria Services provided between January 1, 2015 and December 31, 2015, \$28,845 per calendar quarter, which Bellerophon shall pay to Ikaria within 30 days after the end of each calendar quarter; and
- (b) For device-related Additional Ikaria Services provided between January 1, 2016 and the expiration of this Agreement, \$9,615, to be paid 30 days after the expiration of this Agreement).

[Remainder of Page Left Intentionally Blank]

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REGISTRATION RIGHTS AGREEMENT

This REGISTRATION RIGHTS AGREEMENT, dated as of _____, 2015, is made and entered into by and among (i) Bellerophon Therapeutics, Inc., a Delaware corporation (formerly Bellerophon Therapeutics LLC, a Delaware limited liability company), (ii) New Mountain Partners II (AIV-A), L.P., a Delaware limited partnership (“**NMP II-A**”), New Mountain Partners II (AIV-B), L.P., a Delaware limited partnership (“**NMP II-B**”), New Mountain Affiliated Investors II, L.P., a Delaware limited partnership (“**NMAI**”), and Allegheny New Mountain Partners, L.P., a Delaware limited partnership (“**ANMP**” and, collectively with NMP II-A, NMP II-B and NMAI, the “**NMP Entities**”), (iii) ARCH Venture Fund VI, L.P., a Delaware limited partnership (“**ARCH**”), (iv) Venrock Partners, L.P., a Delaware limited partnership, Venrock Associates IV, L.P., a Delaware limited partnership, and Venrock Entrepreneurs Fund IV, L.P., a Delaware limited partnership (collectively, the “**Venrock Entities**”), (v) Linde North America, Inc., a Delaware corporation (“**Linde**”), (vi) 5AM Ventures LLC, a Delaware limited liability company, and 5AM Co-Investors LLC, a Delaware limited liability company (together, the “**5AM Entities**”), (vii) Aravis Venture I L.P., a Cayman Islands limited partnership (“**Aravis**” and, together with the NMP Entities, ARCH, the Venrock Entities, Linde and the 5AM Entities, the “**Investors**”), and (viii) such other Holders who are signatories hereto or who become signatories hereto from time to time as provided for herein. Capitalized terms shall have the meanings assigned to them in Section 1.

WHEREAS, the Company is party to a Registration Rights Agreement, dated as of February 12, 2014, with (i) New Mountain Partners II (AIV-A), L.P., a Delaware limited partnership (and an Affiliate of NMP), NMAI and ANMP, (ii) IRDO Holding Corp., a Delaware corporation (and an Affiliate of ARCH) (“**ARCH Blocker**”), (iii) Venrock IK Holdings BT, Inc., a Delaware corporation (and an Affiliate of the Venrock Entities) (“**Venrock Blocker**”), (iv) Linde, (v) 5AM-BT, Inc., a Delaware corporation (and an Affiliate of the 5AM Entities) (“**5AM Blocker**”), and (vi) Aravis (the “**Original Registration Rights Agreement**”);

WHEREAS, Section 14.01 of the Amended and Restated Limited Liability Company Agreement of Bellerophon Therapeutics LLC, dated as of February 9, 2014, provides that, concurrently with a conversion of Bellerophon Therapeutics LLC from a limited liability company into a corporation, the successor corporation shall enter into a registration rights agreement in a form substantially similar to, and which shall replace, the Original Registration Rights Agreement;

WHEREAS, in anticipation of its initial public offering, Bellerophon Therapeutics LLC has been converted on the date hereof from a limited liability company into a corporation known as Bellerophon Therapeutics, Inc. and, in connection therewith, each of New Mountain Partners II Special (AIV-A), L.P., a Delaware limited partnership (and an Affiliate of NMP), ARCH Blocker, Venrock Blocker and 5AM Blocker have been merged with and into Bellerophon Therapeutics, Inc.; and

WHEREAS, in light of the foregoing, the parties have agreed to enter into this Agreement to provide the parties with the rights and obligations set forth in this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

SECTION. 1. Defined Terms.

1.1. Definitions. For purposes of this Agreement, the following terms have the following meanings:

“**Affiliate**” means (a) with respect to any Person, any other Person which, directly or indirectly, controls, is controlled by or is under common control with such Person, where “**control**” means the possession, directly or indirectly, of the power to direct the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise, and (b) with respect to any individual, also means the spouse or child of such individual.

“**Agreement**” means this Registration Rights Agreement, as the same may be amended, restated, modified or supplemented from time to time.

“**Beneficially Own**” means beneficially own as determined under Rule 13d-3 promulgated under the Exchange Act.

“**Board**” means the board of directors of the Company as it may be composed from time to time in accordance with the Certificate of Incorporation, the Company’s bylaws (as in effect from time to time), the Voting Agreement, dated as of February 12, 2014, by and among the Company and the Investors, as the same may be amended, restated, modified or supplemented from time to time, the Stockholders Agreement and the General Corporation Law of the State of Delaware (as in effect from time to time).

“**Business Day**” means any day excluding Saturday, Sunday and any day which is a legal holiday under the laws of the State of New York, or is a day on which banking institutions located in New York, New York are authorized or required by law or other governmental action to close.

“**Certificate of Incorporation**” means the Certificate of Incorporation of the Company, as in effect from time to time.

“**Common Stock**” means any shares of common stock, par value \$0.01 per share, of the Company, now or hereafter authorized to be issued, and any and all Equity Interests of any kind whatsoever of the Company which may be issued on or after the date hereof in respect of, in exchange for, or upon conversion of Common Stock pursuant to a merger, consolidation, stock split, reverse split, stock dividend, recapitalization of the Company or otherwise.

“**Company**” means Bellerophon Therapeutics, Inc., a Delaware corporation, and shall, to the extent this Agreement survives, include any successor thereto by merger, consolidation, acquisition of substantially all the assets thereof, or otherwise, including any parent or subsidiary thereof that undertakes a Public Offering in lieu of the Company.

“**Convertible Securities**” means (a) any options or warrants to purchase or other rights to acquire Common Stock, (b) any securities by their terms convertible into, or exercisable or exchangeable for, Common Stock (directly or indirectly) and (c) any options or warrants to purchase or other rights to acquire any such convertible, exercisable or exchangeable securities.

“**Counsel to the Participating Holders**” means one (1) law firm selected by the Majority Participating Holders.

“**Equity Interests**” of any Person means any and all units, shares, participations or other equivalents of or interests in (however designated) the equity (including common stock, preferred stock and limited liability company, partnership and joint venture interests) of such Person.

“Exchange Act” means the Securities Exchange Act of 1934, as amended from time to time, or any similar federal statute, and the rules and regulations of the SEC thereunder, all as the same shall be in effect at the time. Reference to a particular section of the Exchange Act shall include a reference to the comparable section, if any, of any such similar federal statute.

“FINRA” means the Financial Industry Regulatory Authority, Inc. or any successor Person.

“Holder” means, at any time of determination, (a) any Investor, (b) any Permitted Assignee of any Investor or other Holder, or (c) any other Person (i) that has acquired Common Stock, (ii) that the Company and Holders holding in the aggregate at least 50% of the outstanding Registrable Securities then held by the Holders consent in writing to becoming a party to this Agreement and (iii) that has executed and delivered a written agreement (which may be in the form of a counterpart signature page or joinder to this Agreement) satisfactory to the Company agreeing to be bound by this Agreement as a Holder, in each case of clauses (a), (b) and (c) only if such Person holds Common Stock at such time.

“indemnified party” means any Person seeking indemnification pursuant to [Section 2.6](#).

“indemnifying party” means any Person from whom indemnification is sought pursuant to [Section 2.6](#).

“Initial Public Offering” means the first Public Offering.

“Initiating Holder” means the Holder or Holders delivering a Holder Demand as provided for under [Section 2.1\(a\)](#).

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“Majority Participating Holders” means, at any time, Participating Holders holding more than fifty percent (50%) of the Registrable Securities proposed to be included in any offering of Registrable Securities by such Participating Holders pursuant to [Section 2.1](#) or [2.2](#).

“NMP Holders” means, at any time of determination, any of the NMP Entities that hold Common Stock at such time.

“Participating Holders” means any Holder or Holders participating in any offering of Registrable Securities pursuant to [Section 2.1](#) or [2.2](#).

“Person” means any individual, corporation, association, partnership (general or limited), joint venture, trust, estate, limited liability company, organization or other legal entity.

“Pre-IPO Certificate of Incorporation” means the Certificate of Incorporation of the Company, as in effect immediately prior to an Initial Public Offering.

“Public Offering” means a public offering of Equity Interests of the Company through a registration statement (except registrations (i) solely for registration of Equity Interests of the Company in connection with an employee benefit plan or dividend reinvestment plan on Form S-8 or any successor form thereto or (ii) in connection with any acquisition, merger or other business combination transaction on Form S-4 or any successor form thereto) filed with, and declared effective by, the SEC and pursuant to which such Equity Interests are authorized and approved for listing on a national securities exchange.

“Quarterly Outstanding Common Stock” means, at any time of determination, (a) if such time is prior to the consummation of an Initial Public Offering, the number of shares of Common Stock that were outstanding on the last day of the immediately preceding fiscal quarter (including any shares of Common Stock issuable upon conversion or exercise of or in exchange for any Convertible Securities to the extent any such Convertible Securities are (i) convertible, exercisable or exchangeable at such time and (ii) convertible, exercisable or exchangeable at a price that is less than the fair market value (as determined by the Board in good faith) of a share of Common Stock issuable upon such conversion, exercise or exchange at such time) and (b) if such time is after the consummation of an Initial Public Offering, the number of shares of Common Stock that were set forth as outstanding on the cover of the Company’s then most recently filed Annual Report on Form 10-K or Quarterly Report on Form 10-Q, as the case may be.

“Registrable Securities” means any Common Stock held by a Holder. For purposes of this Agreement, a Person will be deemed to be a Holder of Registrable Securities whenever such Person has the right to acquire, directly or indirectly, such Registrable Securities (including upon conversion, exercise or exchange of any Convertible Securities but disregarding any restrictions or limitations upon the exercise of such right), whether or not such acquisition has actually been effected, and such Person shall not be required to convert, exercise or exchange such Convertible Securities (or otherwise acquire such Registrable Securities) to participate in any registered offering hereunder until the closing of such offering. As to any particular

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Registrable Securities, such securities shall cease to be Registrable Securities when (a) a registration statement with respect to the sale of such securities shall have become effective under the Securities Act and such securities shall have been disposed of in accordance with such registration statement, (b) such securities shall have been sold to the public pursuant to Rule 144, or (c) such securities shall have ceased to be outstanding.

“Registration Expenses” means all fees and expenses incurred in connection with the Company’s performance of or compliance with [Section 2](#), including (a) all registration, filing and applicable SEC fees, FINRA fees, national securities exchange or inter-dealer quotation system fees, foreign stock exchange fees, and fees and expenses of complying with state, federal or foreign securities or “blue sky” laws (including fees and disbursements of counsel to the underwriters and Counsel to the Participating Holders in connection with “blue sky” or foreign qualification of the Registrable Securities and determination of their eligibility for investment under the laws of the various jurisdictions), (b) all printing (including printing certificates for the Registrable Securities (if they are to be certificated) in a form eligible for deposit with The Depository Trust Company and printing preliminary and final prospectuses or other offering documents), word processing, duplicating, telephone and facsimile expenses, and messenger and delivery expenses, (c) all fees and disbursements of counsel to the Company and of its independent public accountants, including the expenses of “cold comfort” letters or any special audits required by, or incidental to, such registration, (d) all fees and expenses of Counsel to the Participating Holders, (e) all fees and expenses of one (1) firm of accountants selected by the Majority Participating Holders, (f) all fees and expenses of any special experts or other Persons retained by the Company in connection with any registration, (g) Securities Act liability insurance or similar insurance if the Company so desires or the underwriters so require in accordance with then-customary underwriting practices, (h) all applicable rating agency fees with respect to the Registrable Securities, (i) all fees and expenses of a “Qualified Independent Underwriter” (as such term is defined by FINRA) and its counsel or similar fees and expenses, (j) all fees and disbursements of the underwriters (other than underwriting discounts and commissions), (k) all transfer taxes and (l) all expenses incurred in connection with promotional efforts or “roadshows”; provided that Registration Expenses shall exclude, and the Participating Holders shall pay, underwriting discounts and commissions in respect of the Registrable Securities being registered for such Participating Holders.

“Requisite Approval” means the approval of the Board and the NMP Entities in accordance with the terms of the Stockholders Agreement.

“**Rule 144**” means Rule 144 promulgated under the Securities Act.

“**SEC**” means the United States Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

“**Securities Act**” means the Securities Act of 1933, as amended from time to time, or any similar federal statute, and the rules and regulations of the SEC thereunder, all as the same shall be in effect at the time. References to a particular section of the Securities Act shall include a reference to the comparable section, if any, of any such similar federal statute.

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“**Stockholders Agreement**” means the Stockholders Agreement, dated as of _____, 2015, by and among the Company and the NMP Entities, as the same may be amended, restated, modified or supplemented from time to time.

“**Tag-Along Holder**” means (i) a holder of Tag-Along Securities on the date of this Agreement that has the right to participate in an Initial Public Offering with respect to such Tag-Along Securities pursuant to the Pre-IPO Certificate of Incorporation or (ii) any Permitted Transferee (as defined in the Pre-IPO Certificate of Incorporation) of any Tag-Along Holder that holds Tag-Along Securities.

“**Tag-Along Securities**” means any Common Stock subject to restrictions on transfer under the Pre-IPO Certificate of Incorporation (but not any Common Stock held by a Holder). For purposes of this Agreement, a Person will be deemed to be a holder of Tag-Along Securities whenever such Person has the right to acquire, directly or indirectly, such Tag-Along Securities (including upon conversion, exercise or exchange of any Convertible Securities), whether or not such acquisition has actually been effected, and such Person shall not be required to convert, exercise or exchange such Convertible Securities (or otherwise acquire such Tag-Along Securities) to participate in any registered offering hereunder until the closing of such offering. As to any particular Tag-Along Securities, such securities shall cease to be Tag-Along Securities upon the earliest of (a) the closing of an Initial Public Offering, (b) such time as Rule 144 or another similar exemption under the Securities Act is available for the sale of all of the Tag-Along Securities held by such Tag-Along Holder without limitation during a three-month period without registration or (c) the time at which such securities shall have ceased to be outstanding.

“**Ten Percent Holder**” means, at any time of determination, any Holder or Holders that hold at least ten percent (10%) in the aggregate of the Quarterly Outstanding Common Stock.

1.2. **Other Defined Terms.** The following is a list of the remaining defined terms used in this Agreement:

Term	Section
5AM Blocker	Recitals
5AM Entities	Preamble
ANMP	Preamble
Aravis	Preamble
ARCH	Preamble
ARCH Blocker	Recitals
automatic shelf registration statement	2.1(l)
Demand Exercise Notice	2.1(a)
Demand Registration	2.1(i)
Holder Demand	2.1(a)
Indemnitees	2.6(a)
Investors	Preamble

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Linde	Preamble
Losses	2.6(a)
NASDAQ	2.3(a)(x)
NMAI	Preamble
NMP Entities	Preamble
NMP II-A	Preamble
NMP II-B	Preamble
Original Registration Rights Agreement	Recitals
Partner Distribution	2.1(a)
Permitted Assignee	4.10
Postponement Period	2.1(k)
Section 2.2 Sale Amount	2.2(d)
Venrock Blocker	Recitals
Venrock Entities	Preamble
WКСI	2.1(l)

SECTION. 2. **Registration Under Securities Act.**

2.1. **Registration on Demand.**

(a) **Demand.** At any time (subject to the provisions of Section 3 of the Stockholders Agreement) or from time to time, an NMP Holder (or a Permitted Assignee of an NMP Holder to the extent permitted by [Section 4.10](#) hereof) holding Registrable Securities or, at any time from and after an Initial Public Offering, a Ten Percent Holder holding Registrable Securities, may require the Company to effect the registration under the Securities Act of all or part of their Registrable Securities, by delivering a written request (a “**Holder Demand**”) therefor to the Company specifying the number of Registrable Securities to be registered and the intended method of distribution thereof. As promptly as practicable, but no later than ten (10) Business Days after receipt of a Holder Demand, the Company shall give written notice (the “**Demand Exercise Notice**”) of the Holder Demand to all other Holders. Each such other Holder shall have the option, within ten (10) Business Days after the receipt of the Demand Exercise Notice (or five (5) Business Days if, at the request of the Initiating Holder, the Company states in such written notice or gives telephonic notice to each Holder, with written confirmation to follow promptly thereafter, that (i) such registration will be on Form S-3 and (ii) such shorter period of time is required because of a planned filing date) to request, in writing, that the Company include in such registration any Registrable Securities held by such Holder (which request shall specify the maximum number of Registrable Securities desired to be disposed of by such Holder). The Company shall as expeditiously as possible (but in

any event within eighty (80) Business Days after receipt of a Holder Demand with respect to an Initial Public Offering and within sixty (60) Business Days otherwise) use its reasonable best efforts to effect the registration under the Securities Act of the Registrable Securities which the Company has been so requested to register by the Initiating Holder and by any other Holders which have made such written request. The Company shall (i) use its reasonable best efforts to effect the registration of Registrable Securities for distribution in accordance with the intended method of distribution set forth in a written request delivered by the Majority Participating Holders, which may include, at the option of such Majority Participating Holders, a distribution of Registrable

Securities to, and resale of such Registrable Securities by, the equity holders of any Holder or its equity holders (a “**Partner Distribution**”), and (ii) if requested by the Majority Participating Holders, obtain acceleration of the effective date of the registration statement relating to such registration.

(b) **Partner Distributions.** Notwithstanding anything contained herein to the contrary, the Company shall, at the request of any Participating Holder seeking to effect a Partner Distribution, file any prospectus supplement or post-effective amendments and shall otherwise take any action necessary to include such language, if such language was not included in the initial registration statement, or revise such language if deemed necessary by such Participating Holder, to effect such Partner Distribution (including adding one or more selling equity holders to the registration statement through a prospectus supplement or post-effective amendment, as necessary or required).

(c) **Registration Statement Form.** Registrations under this Section 2.1 shall be on such appropriate form of the SEC (i) as shall be selected by the Majority Participating Holders and as shall be reasonably acceptable to the Company and (ii) as shall permit the disposition of such Registrable Securities in accordance with the intended method or methods of disposition specified in such Participating Holders’ requests for such registration, including a Partner Distribution or a continuous or delayed basis offering pursuant to Rule 415 under the Securities Act. The Company agrees to include in any such registration statement all information which, in the opinion of Counsel to the Participating Holders and counsel to the Company, is necessary or desirable to be included therein.

(d) **Expenses.** The Company shall pay, and shall be responsible for, all Registration Expenses in connection with any registration requested pursuant to this Section 2.1, regardless of whether the registration is effected, except as set forth in clause (v) of Section 2.1(e) with respect to a registration statement that was withdrawn at the request of the Participating Holders. Notwithstanding the foregoing, the provisions of this Section 2.1(d) shall be deemed amended to the extent necessary to cause these expense provisions to comply with “blue sky” laws of each state or the securities laws of any other jurisdiction in the United States and its territories or any foreign jurisdiction in which the offering is made.

(e) **Effective Registration Statement.** A registration requested pursuant to this Section 2.1 shall not be deemed a Demand Registration (including for purposes of Section 2.1(i)) unless a registration statement with respect thereto has become effective and has been kept continuously effective for a period of at least one hundred eighty (180) days (or such shorter period which shall terminate when all the Registrable Securities covered by such registration statement have been sold pursuant thereto) or, if such registration statement relates to an underwritten offering, such longer period as in the opinion of Counsel to the Participating Holders or counsel to the underwriter or underwriters a prospectus is required by law to be delivered in connection with sales of Registrable Securities by an underwriter or dealer. Should a Demand Registration not become effective due to the failure of a Participating Holder to perform its obligations under this Agreement, or in the event the Majority Participating Holders withdraw the request for the Demand Registration as provided for in Section 2.1(h) (in each of the foregoing cases, provided that at such time the Company is in compliance in all material

respects with its obligations under this Agreement), then such Demand Registration shall be deemed to have been effected (including for purposes of Section 2.1(i)); provided that, if (i) the Demand Registration is withdrawn or does not become effective because a material adverse change has occurred, or is reasonably likely to occur, in the condition (financial or otherwise), prospects, business, assets or results of operations of the Company and its subsidiaries taken as a whole subsequent to the date of the delivery of the Demand Exercise Notice, (ii) after the Demand Registration has become effective, such registration is interfered with by any stop order, injunction, or other order or requirement of the SEC or other governmental agency or court, (iii) the Demand Registration is withdrawn at the request of the Majority Participating Holders due to the advice of the managing underwriter(s) that the Registrable Securities covered by the registration statement could not be sold in such offering within a price range acceptable to the Majority Participating Holders, (iv) the Demand Registration is withdrawn for any reason at any time during a Postponement Period or within ten (10) days thereafter, or (v) the Participating Holders reimburse the Company for any and all Registration Expenses incurred by the Company in connection with such request for a Demand Registration that was withdrawn for reasons other than any of those enumerated in clauses (i) through (iv) of this Section 2.1(e), then the Demand Registration shall not be deemed to have been effected and will not count as a Demand Registration.

(f) **Selection of Underwriters.** The underwriters of each underwritten offering of the Registrable Securities pursuant to this Section 2.1 shall be selected by the Majority Participating Holders.

(g) **Tag-Along Securities.** Following receipt of a Holder Demand with respect to any proposed Initial Public Offering, the Company shall give any Tag-Along Holders notice thereof, and shall include in such offering any Tag-Along Securities as to which the Tag-Along Holders are entitled to, and have elected to, participate (as though they were Registrable Securities), pursuant to and in accordance with the Pre-IPO Certificate of Incorporation and this Section 2.1.

(h) **Right to Withdraw.** Any Participating Holder shall have the right to withdraw its request for inclusion of Registrable Securities in any registration statement pursuant to this Section 2.1 by giving written notice to the Company of its request to withdraw at any time prior to the effective date of such registration statement or otherwise in accordance with the process established in connection with the offering. Upon receipt of notices from the Majority Participating Holders to such effect, the Company shall cease all efforts to obtain effectiveness of the applicable registration statement, and whether the Initiating Holder’s request for registration pursuant to this Section 2.1 shall be counted as a Demand Registration for purposes of Section 2.1(i) shall be determined in accordance with Section 2.1(e).

(i) **Limitations on Registration on Demand.** The Company shall be required to effect eight (8) registrations in the aggregate pursuant to this Section 2.1, other than registrations on Form S-3, which shall not be subject to this limitation, of which (i) the NMP Holders (or the Permitted Assignees of the NMP Holders to the extent permitted by Section 4.10 hereof) shall be entitled to require the Company to effect six (6) registrations in the aggregate, including for an Initial Public Offering, and (ii) after an Initial Public Offering, the Ten Percent

Holders shall be entitled to require the Company to effect two (2) registrations in the aggregate (each, a “**Demand Registration**”); provided that the Company shall not be required to effect a Demand Registration until at least ninety (90) days after the effective date of any other registration statement filed by the Company pursuant to a previous Demand Registration. The aggregate offering value of the Registrable Securities to be registered pursuant to any Demand Registration shall be at least \$10 million (determined as of the date the demand is made), unless the registration is of the balance of the Registrable Securities held by all the Holders.

(j) Priority in Registrations on Demand. Whenever the Company effects a registration pursuant to this Section 2.1 in connection with an underwritten offering by Holders, no securities other than Registrable Securities and Tag-Along Securities shall be included among the securities covered by such registration unless the Majority Participating Holders consent in writing to the inclusion therein of such other Equity Interests of the Company, which consent may be subject to terms and conditions determined by the Majority Participating Holders in their sole discretion. If any registration pursuant to a Holder Demand involves an underwritten offering and the managing underwriter(s) of such offering shall inform the Company of its belief that the number of Registrable Securities requested to be included in such registration pursuant to this Section 2.1, when added to the number of any other Equity Interests of the Company to be offered in such registration (including any Tag-Along Securities), exceeds the largest number that can be sold in an orderly manner in such underwritten offering within a price range acceptable to the Majority Participating Holders, then the Participating Holders and Tag-Along Holders shall be entitled to participate on a pro rata basis based on the aggregate number of Registrable Securities and Tag-Along Securities (treating them as a single class of securities) requested to be included in the offering by each such Participating Holder and Tag-Along Holder (but in the case of any Tag-Along Holder, not in excess of the number of Tag-Along Securities with respect to which such Tag-Along Holder is entitled to participate pursuant to the terms of the Pre-IPO Certificate of Incorporation).

(k) Postponement. The Company shall be entitled once in any twelve (12) month period to postpone for a reasonable period of time (but not exceeding ninety (90) days) (the “Postponement Period”) the filing of any registration statement required to be prepared and filed by it pursuant to this Section 2.1 if the Company determines, in its reasonable judgment upon advice of counsel, as authorized by a resolution of its Board, that such registration and offering would require premature disclosure of any material financing, acquisition, corporate reorganization, business combination or other material transaction involving the Company or any of its subsidiaries, and promptly gives the Participating Holders written notice of such determination, containing a statement of the reasons for such postponement and an approximation of the anticipated delay; provided, however, that the Company shall be entitled to postpone the filing of any registration statement required to be prepared and filed by it pursuant to this Section 2.1 if such postponement is required by applicable law arising from events outside of the control of the Company.

(l) WKSI.

(i) To the extent the Company is a well-known seasoned issuer (as defined in Rule 405 under the Securities Act) (a “WKSI”) at the time any Holder Demand is

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submitted to the Company, and such Holder Demand requests that the Company file an automatic shelf registration statement (as defined in Rule 405 under the Securities Act) (an “automatic shelf registration statement”) on Form S-3, the Company shall file an automatic shelf registration statement which covers those Registrable Securities which are requested to be registered. The Company shall use commercially reasonable efforts to remain a WKSI (and not become an ineligible issuer (as defined in Rule 405 under the Securities Act)) during the period during which such automatic shelf registration statement is required to remain effective. If the Company does not pay the filing fee covering the Registrable Securities at the time the automatic shelf registration statement is filed, the Company shall pay such fee at such time or times as the Registrable Securities are to be sold. If the automatic shelf registration statement has been outstanding for at least three (3) years, at the end of the third year the Company shall refile a new automatic shelf registration statement covering the Registrable Securities. If at any time when the Company is required to re-evaluate its WKSI status the Company determines that it is not a WKSI, the Company shall use commercially reasonable efforts to refile the shelf registration statement on Form S-3 and, if such form is not available, Form S-1 and keep such registration statement effective during the period during which such registration statement is required to be kept effective.

(ii) If the Company files any shelf registration statement for the benefit of the holders of any of its securities other than the Holders, the Company agrees that it shall include in such registration statement such disclosures as may be required by Rule 430B under the Securities Act (referring to the unnamed selling security holders in a generic manner by identifying the initial offering of the securities to the Holders) in order to ensure that the Holders may be added to such shelf registration statement at a later time through the filing of a prospectus supplement rather than a post-effective amendment.

2.2. Incidental Registration.

(a) Right to Include Registrable Securities. If the Company at any time proposes to register any of its Equity Interests under the Securities Act by registration on Form S-1 or S-3, or any successor or similar form(s) (except registrations (i) pursuant to Section 2.1, (ii) in connection with an Initial Public Offering that is approved by the NMP Entities and in which no NMP Entity is selling Registrable Securities, (iii) solely for registration of Equity Interests of the Company in connection with an employee benefit plan or dividend reinvestment plan on Form S-8 or any successor form thereto or (iv) in connection with any acquisition, merger or other business combination transaction on Form S-4 or any successor form thereto), whether or not for sale for the Company’s own account, the Company will each such time give prompt written notice (but in no event less than thirty (30) days prior to the effectiveness of a registration statement with respect thereto) to each of the Holders of its intention to do so and such notice shall offer the Holders of such Registrable Securities the opportunity to register under such registration statement up to such number of Registrable Securities as each such Holder may request in writing. Upon the written request of any of the Holders (which request shall specify the maximum number of Registrable Securities intended to be disposed of by such Holder), within ten (10) Business Days after the receipt of any such notice (or within five (5) Business Days if the Company states in such written notice or gives telephonic notice to each Holder, with written confirmation to follow promptly thereafter, stating that (i) such registration will be on

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Form S-3 and (ii) such shorter period of time is required because of a planned offering date), the Company shall include in such registration under the Securities Act all Registrable Securities which the Company has been so requested to register by each Holder; provided that if, at any time after giving written notice of its intention to register any Equity Interests of the Company and prior to the effective date of the registration statement filed in connection with such registration, the Company shall determine for any reason not to register or to delay registration of such Equity Interests, the Company shall give written notice of such determination and its reasons therefor to the Holders and (i) in the case of a determination not to register, shall be relieved of its obligation to register any Registrable Securities in connection with such registration (but not from any obligation of the Company to pay the Registration Expenses in connection therewith as provided for in Section 2.2(e)), without prejudice, however, to the rights of the Holders to request that such registration be effected as a registration under Section 2.1 and (ii) in the case of a determination to delay registering, shall be permitted to delay registering any Registrable Securities for the same period as the delay in registering such other Equity Interests of the Company. No registration effected under this Section 2.2 shall relieve the Company of its obligation to effect any registration upon request under Section 2.1.

(b) Tag-Along Securities. In the case of an Initial Public Offering with respect to which the Company receives a written request from an NMP Holder (or a Permitted Assignee of an NMP Holder) to include Registrable Securities in such registration in connection with the exercise of such NMP Holder’s (or such Permitted Assignee’s) registration rights under Section 2.2(a) hereof, the Company shall give any Tag-Along Holders notice thereof, and shall include in such offering any Tag-Along Securities as to which the Tag-Along Holders are entitled to, and have elected to, participate (as though they were Registrable Securities), pursuant to and in accordance with the Pre-IPO Certificate of Incorporation.

(c) Right to Withdraw; Option to Participate in Shelf Takedowns. Any Holder shall have the right to withdraw its request for inclusion of Registrable Securities in any registration statement pursuant to this Section 2.2 by giving written notice to the Company of its request to withdraw at any time prior to the effective date of such registration statement or otherwise in accordance with the process established in connection with the offering. In the event that the Holder has

requested inclusion of Registrable Securities in a shelf registration, the Holder shall have the right, but not the obligation, to participate in any offering of the Company's Equity Interests under such shelf registration.

(d) Priority in Incidental Registrations. If any registration pursuant to this Section 2.2 involves an underwritten offering and the managing underwriter(s) of such offering shall inform the Company of its belief that the number of Registrable Securities requested to be included in such registration or offering, when added to the number of other Equity Interests of the Company to be offered in such registration or offering (including any Tag-Along Securities) exceeds the largest number that can be sold in an orderly manner in such underwritten offering within a price range acceptable to the Majority Participating Holders (the "Section 2.2 Sale Amount"), then the Company shall include in such registration or offering (i) all of the Equity Interests of the Company proposed by the Company to be sold for its own account; (ii) thereafter, to the extent the Section 2.2 Sale Amount is not exceeded, the Registrable Securities and Tag-Along Securities requested by the Participating Holders and Tag-Along Holders (provided that if

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all of the Registrable Securities and Tag-Along Securities requested by the Participating Holders and Tag-Along Holders may not be included, the Participating Holders and Tag-Along Holders shall be entitled to participate on a pro rata basis based on the aggregate number of Registrable Securities and Tag-Along Securities (treating them as a single class of securities) requested to be included in the offering by the Participating Holders and Tag-Along Holders (but, in the case of any Tag-Along Holder, not in excess of the number of Tag-Along Securities with respect to which such Tag-Along Holder is entitled to participate pursuant to the terms of the Pre-IPO Certificate of Incorporation); and (iii) thereafter, to the extent the Section 2.2 Sale Amount is not exceeded, any other Equity Interests of the Company requested to be included by holders of Equity Interests of the Company holding other such registration rights.

(e) Expenses. The Company shall pay, and shall be responsible for, all Registration Expenses in connection with any registration requested pursuant to this Section 2.2. Notwithstanding the foregoing, the provisions of this Section 2.2(e) shall be deemed amended to the extent necessary to cause these expense provisions to comply with "blue sky" laws of each state or the securities laws of any other jurisdiction in the United States and its territories or any foreign jurisdiction in which the offering is made.

(f) Selection of Underwriters. The underwriters of each underwritten offering which may include Registrable Securities pursuant to this Section 2.2 shall be selected by the Majority Participating Holders; provided that such underwriters shall be reasonably acceptable to the Company.

(g) Plan of Distribution; Partner Distributions. Any participation by Holders in a registration by the Company shall be in accordance with the Company's plan of distribution, which shall include, upon the written request of such Holder or Holders, a Partner Distribution. Notwithstanding anything contained herein to the contrary, the Company shall, at the request of any Holder seeking to effect a Partner Distribution, file any prospectus supplement or post-effective amendments and otherwise take any action necessary to include such language, if such language was not included in the initial registration statement, or revise such language if deemed reasonably necessary by such Holder to effect such Partner Distribution.

2.3. Registration Procedures.

(a) If and whenever the Company is required to effect the registration of any Registrable Securities under the Securities Act pursuant to either Section 2.1 or 2.2, the Company shall as expeditiously as possible:

(i) prepare and file, or confidentially submit, if permissible, with the SEC as promptly as practicable (and in the case of a demand pursuant to Section 2.1, within forty-five (45) days after receipt by the Company of a Demand Exercise Notice) a registration statement on an appropriate registration form of the SEC for the disposition of such Registrable Securities in accordance with the intended method of disposition thereof (including a Partner Distribution) which registration statement shall comply as to form in all material respects with the requirements of the applicable form and include all financial statements required by the SEC to be filed therewith, and thereafter use its reasonable best efforts to cause such registration

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statement to become and remain effective (A) with respect to an underwritten offering, for a period of at least one hundred eighty (180) days or until all Registrable Securities subject to such registration statement have been sold, and (B) with respect to a shelf registration, until the later of (1) the sale of all Registrable Securities thereunder and (2) the third anniversary of the effective date of such shelf registration;

(ii) prepare and file with the SEC any amendments and supplements to such registration statement and the prospectus used in connection therewith, or any free writing prospectus related thereto, as may be necessary to keep such registration statement effective and to comply with the provisions of the Securities Act with respect to the disposition of all Registrable Securities covered by such registration statement in accordance with the intended methods of disposition by the Participating Holders set forth in such registration statement for such period as provided for in Section 2.3(a)(i);

(iii) furnish, without charge, to each Participating Holder and each underwriter such number of conformed copies of such registration statement and of each such amendment and supplement thereto (in each case including all exhibits), such number of copies of the prospectus contained in such registration statement (including each preliminary prospectus and summary prospectus) and any other prospectus filed under Rule 424 under the Securities Act, in conformity with the requirements of the Securities Act, each free writing prospectus utilized in connection therewith, and such other documents, as the Majority Participating Holders and such underwriters may request (it being understood that the Company consents to the use of such prospectus or any amendment or supplement thereto or free writing prospectus by each Participating Holder and the underwriters in connection with the offering and sale of the Registrable Securities covered by such prospectus or any amendment or supplement thereto);

(iv) use its reasonable best efforts (A) to register or qualify all Registrable Securities and other Equity Interests of the Company covered by such registration statement under such state, federal or foreign securities or "blue sky" laws where an exemption is not available and as the Majority Participating Holders or any managing underwriter shall request, (B) to keep such registration or qualification in effect for so long as such registration statement remains in effect, and (C) to take any and all other actions which may be necessary or advisable to enable the Participating Holders or underwriters to consummate the disposition in such jurisdictions of the Equity Interests of the Company to be sold by the Participating Holders or underwriters, except that the Company shall not for any such purpose be required to qualify generally to do business as a foreign corporation in any jurisdiction wherein it would not, but for the requirements of this Section 2.3(a)(iv), be obligated to be so qualified;

(v) use its reasonable best efforts to cause all Registrable Securities covered by such registration statement to be registered with or approved by such other local, state, federal, or foreign governmental agencies or authorities as may be necessary in the opinion of counsel to the Company and Counsel to the Participating Holders to consummate the disposition of such Registrable Securities;

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(vi) use its reasonable best efforts to furnish to each Participating Holder and each underwriter a signed counterpart of (A) an opinion of counsel to the Company and (B) a “comfort” letter signed by the independent public accountants who have certified the Company’s financial statements included or incorporated by reference in such registration statement, in each case, addressed to each Participating Holder and each underwriter covering matters with respect to such registration statement (and the prospectus included therein) as such Majority Participating Holders and managing underwriter(s) shall request;

(vii) promptly notify each Participating Holder and each managing underwriter (A) when such registration statement, any pre-effective amendment, the prospectus or any prospectus supplement related thereto, any post-effective amendment to such registration statement or any free writing prospectus has been filed and/or used and, with respect to such registration statement or any post-effective amendment, when the same has become effective; (B) of the receipt by the Company of any comments from the SEC or receipt of any request by the SEC for additional information with respect to any registration statement or the prospectus related thereto or any request by the SEC for amending or supplementing the registration statement and the prospectus used in connection therewith; (C) of the issuance by the SEC of any stop order suspending the effectiveness of such registration statement or the initiation of any proceedings for that purpose; (D) of the receipt by the Company of any notification with respect to the suspension of the qualification of any of the Registrable Securities for sale under the securities or “blue sky” laws of any jurisdiction or the initiation of any proceeding for such purpose; (E) at any time when a prospectus relating thereto is required to be delivered under the Securities Act, upon discovery that, or upon the happening of any event as a result of which, the prospectus included in such registration statement, any document incorporated therein by reference, any free writing prospectus or information conveyed to any purchaser, as then in effect, includes an untrue statement of a material fact or omits to state any material fact required to be stated therein or necessary to make the statements therein not misleading, in the light of the circumstances under which they were made, and in the case of this clause (E), promptly prepare and furnish, at the Company’s expense, to each Participating Holder and each managing underwriter a number of copies of a supplement to or an amendment of such prospectus as may be necessary so that, as thereafter delivered to the purchasers of such Equity Interests of the Company, such prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances under which they were made; (F) at any time when the representations and warranties of the Company contemplated by Section 2.4(a) or 2.4(b) cease to be true and correct; and (G) of the Company’s filing of a document pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act that, in the reasonable judgment of the Company, must be included in the registration statement pursuant to a post-effective amendment to the registration statement or supplement to the related prospectus, and in the case of this clause (G), promptly prepare and furnish, at the Company’s expense, to each Participating Holder and each managing underwriter copies of a supplement to or an amendment of such prospectus on account of such Exchange Act filing;

(viii) otherwise comply with all applicable rules and regulations of the SEC, and make available to each Participating Holder, as soon as practicable (and in any event within sixteen (16) months after the effective date of the registration statement), an

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earnings statement covering the period of at least twelve (12) consecutive months beginning with the first full calendar month after the effective date of such registration statement, which earnings statement shall satisfy the provisions of Section 11(a) of the Securities Act and Rule 158 promulgated thereunder;

(ix) provide and cause to be maintained a transfer agent and registrar for all Registrable Securities covered by such registration statement from and after a date not later than the effective date of such registration statement;

(x) (A) use its reasonable best efforts to cause all Registrable Securities covered by such registration statement to be listed on the principal securities exchange on which similar Equity Interests of the Company are then listed (if any), if the listing of such Registrable Securities is then permitted under the rules of such exchange, or (B) if no such similar Equity Interests are then so listed, use its reasonable best efforts to (1) cause all such Registrable Securities to be listed on a national securities exchange, (2) secure designation of all such Registrable Securities as a National Association of Securities Dealers, Inc. Automated Quotation System (“NASDAQ”) “national market system security” within the meaning of Rule 11Aa2-1 of the SEC, or (3) failing that, to secure NASDAQ authorization for such shares and, without limiting the generality of the foregoing, to arrange for at least two market makers to register as such with respect to such shares with FINRA;

(xi) deliver promptly to Counsel to the Participating Holders and each underwriter, if any, participating in the offering of the Registrable Securities, copies of all correspondence between the SEC and the Company, its counsel or auditors and all memoranda relating to discussions with the SEC or its staff with respect to such registration statement;

(xii) use its reasonable best efforts to obtain the withdrawal of any order suspending the effectiveness of the registration statement;

(xiii) provide a CUSIP number for all Registrable Securities no later than the effective date of the registration statement and provide the applicable transfer agents with printed certificates for the Registrable Securities which are in a form eligible for deposit with The Depository Trust Company;

(xiv) cause its officers and employees to participate in, and to otherwise facilitate and cooperate with, the preparation of the registration statement and prospectus and any amendments or supplements thereto (including participating in meetings, drafting sessions, due diligence sessions and the marketing of the Registrable Securities covered by the registration statement (including participation in “road shows”) taking into account the Company’s business needs);

(xv) enter into and perform its obligations under such customary agreements (including, if applicable, an underwriting agreement as provided for in Section 2.4) and take such other actions as the Majority Participating Holders or managing underwriter(s) shall request in order to expedite or facilitate the disposition of such Registrable Securities;

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(xvi) promptly incorporate in a prospectus supplement or post-effective amendment such information as the managing underwriter(s) or Majority Participating Holders request to be included therein relating to the plan of distribution with respect to such Registrable Securities; and make all required filings of such prospectus supplement or post-effective amendment as soon as practicable after being notified of the matters to be incorporated in such prospectus supplement or post-effective amendment;

(xvii) cooperate with each Participating Holder and each underwriter, and their respective counsel in connection with any filings required to be made with FINRA, the New York Stock Exchange, the Nasdaq National Market, or any other securities exchange on which such Registrable Securities are traded or will be traded;

(xviii) promptly prior to the filing of any document which is to be incorporated by reference into the registration statement or the prospectus contained therein (after the initial filing of such registration statement), and prior to the filing or use of any free writing prospectus, provide copies of such document to Counsel to the Participating Holders and to each managing underwriter, and make the Company’s representatives available for discussion of such document and make such changes in such document concerning the Participating Holders prior to the filing thereof as Counsel to the Participating Holders or underwriters may request;

(xix) furnish to each Participating Holder and each managing underwriter, without charge, at least one (1) signed copy of the registration statement and any post-effective amendments thereto, including financial statements and schedules, all documents incorporated therein by reference and all exhibits (including those incorporated by reference) and any free writing prospectus utilized in connection therewith;

(xx) cooperate with the Participating Holders and the managing underwriter(s) to facilitate the timely preparation and delivery of certificates not bearing any restrictive legends representing the Registrable Securities to be sold, and cause such Registrable Securities to be issued in such denominations and registered in such names in accordance with the underwriting agreement prior to any sale of Registrable Securities to the underwriters or, if not an underwritten offering, in accordance with the instructions of the Participating Holders at least five (5) Business Days prior to any sale of Registrable Securities and instruct any transfer agent or registrar of Registrable Securities to release any stop transfer orders in respect thereof;

(xxi) to the extent required by the rules and regulations of FINRA, retain a Qualified Independent Underwriter, which shall be acceptable to the Majority Participating Holders;

(xxii) take no direct or indirect action prohibited by Regulation M under the Exchange Act; provided that to the extent that any prohibition is applicable to the Company, the Company will take all reasonable action to make any such prohibition inapplicable;

(xxiii) take all reasonable action to ensure that any free writing prospectus utilized in connection with any registration covered by Section 2.1 or 2.2 complies in

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all material respects with the Securities Act, is filed in accordance with the Securities Act to the extent required thereby, is retained in accordance with the Securities Act to the extent required thereby and, when taken together with the related prospectus, prospectus supplement and related documents, will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading;

(xxiv) in connection with any underwritten offering (whether or not off of a shelf registration statement), if at any time the information conveyed to a purchaser at the time of sale includes any untrue statement of a material fact or omits to state any material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, promptly file with the SEC such amendments or supplements to such information as may be necessary so that the statements as so amended or supplemented will not, in light of the circumstances, be misleading; and

(xxv) in connection with any underwritten offering (whether or not off of a shelf registration statement), if the Company files a document pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act that, in the reasonable judgment of the Company, must be included in the registration statement pursuant to a post-effective amendment to the registration statement or supplement to the related prospectus, promptly file with the SEC such amendments or supplements to such information as may be necessary on account of such Exchange Act filing.

(b) Each Participating Holder agrees that upon receipt of any notice from the Company of the happening of any event of the kind described in clause (C), (E) or (G) of Section 2.3(a)(vii), each Participating Holder will, to the extent appropriate, discontinue its disposition of Registrable Securities pursuant to the registration statement relating to such Registrable Securities until, in the case of clause (C) of Section 2.3(a)(vii), its receipt of notice from the Company that such stop order or suspension of effectiveness is no longer in effect, and in the case of clauses (E) and (G) of Section 2.3(a)(vii), its receipt of the copies of the supplemented or amended prospectus contemplated by clause (E) or (G) of Section 2.3(a)(vii) and, if so directed by the Company, will deliver to the Company (at the Company's expense) all copies, other than permanent file copies, then in its possession, of the prospectus relating to such Registrable Securities current at the time of receipt of such notice. If the disposition by a Participating Holder of its Registrable Securities is discontinued pursuant to the foregoing sentence, the Company shall extend the period of effectiveness of the registration statement by the number of days during the period from and including the date of the giving of such notice to and including the date when the Participating Holder shall have received (in the case of clause (C) of Section 2.3(a)(vii)) notice that such stop order or suspension of effectiveness is no longer in effect, and (in the case of clauses (E) and (G) of Section 2.3(a)(vii)) copies of the supplemented or amended prospectus contemplated by clause (E) or (G) of Section 2.3(a)(vii); and, if the Company shall not so extend such period, the Participating Holder's request pursuant to which such registration statement was filed shall not be counted for purposes of the requests for registration to which the Participating Holder is entitled pursuant to Section 2.1. If for any other reason the effectiveness of any registration statement filed pursuant to Section 2.1 or 2.2 is suspended or interrupted prior to the expiration of the time period regarding the maintenance of

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the effectiveness of such registration statement required by Section 2.3(a)(i) so that Registrable Securities may not be sold pursuant thereto, the applicable time period shall be extended by the number of days equal to the number of days during the period beginning with the date of such suspension or interruption to and ending with the date when the sale of Registrable Securities pursuant to such registration statement may be resumed.

(c) If any such registration statement or comparable statement under "blue sky" laws refers to any Holder by name or otherwise as the holder of any Equity Interests of the Company, then such Holder shall have the right to require (i) the insertion therein of language, in form and substance satisfactory to such Holder and the Company, to the effect that the holding by such Holder of such Equity Interests is not to be construed as a recommendation by such Holder of the investment quality of the Company's Equity Interests covered thereby and that such holding does not imply that such Holder will assist in meeting any future financial requirements of the Company, or (ii) in the event that such reference to such Holder by name or otherwise is not in the judgment of the Company, as advised by counsel, required by the Securities Act or any similar federal statute or any state or foreign "blue sky" or securities law then in force, the deletion of the reference to such Holder.

(d) Holders may seek to register different types of Registrable Securities simultaneously and the Company shall use its reasonable best efforts to effect such registration and sale in accordance with the intended method or methods of disposition specified by such Holders.

(e) In connection with an underwritten offering related to a shelf take-down, the Company will comply with all of these registration procedures as reasonably appropriate in the opinion of the Majority Participating Holders.

2.4. Underwritten Offerings.

(a) Demand Underwritten Offerings. If requested by the underwriters for any underwritten offering by the Participating Holders pursuant to a registration requested under Section 2.1, the Company shall enter into a customary underwriting agreement with the managing underwriter(s) selected by the Majority Participating Holders pursuant to Section 2.1(f). Such underwriting agreement shall be reasonably satisfactory in form and substance to the Majority Participating Holders and the Company and shall contain such representations and warranties by, and such other agreements on the part of, the Company and such other terms as are generally prevailing in agreements of that type, including customary provisions relating to indemnification and contribution which are no less favorable to the recipient than those provided in Section 2.6. Each Participating Holder shall be a party to such underwriting agreement. The Majority Participating Holders may, at their option, require that any or all of the representations and warranties by, and the other agreements on the part of, the Company to and for the benefit of such underwriters shall also be made to

and for the benefit of each Participating Holder and that any or all of the conditions precedent to the obligations of such underwriters under such underwriting agreement be conditions precedent to the obligations of each Participating Holder; provided that the Company shall not be required to make any representations or warranties with respect to written information specifically provided by a

Participating Holder for inclusion in the registration statement. No Participating Holder shall be required to make any representations or warranties to or agreements with the Company or the underwriters other than representations, warranties or agreements regarding such Participating Holder, its ownership of and title to the Registrable Securities, its intended method of distribution, and disclosures related to the foregoing; and any liability of any Participating Holder to any underwriter or other Person under such underwriting agreement shall be limited to liability arising from breach of its representations and warranties and shall be limited to an amount equal to the proceeds (net of expenses and underwriting discounts and commissions) that it derives from such registration, except in the case of willful fraud by such Participating Holder.

(b) Incidental Underwritten Offerings. In the case of a registration pursuant to Section 2.2, if the Company shall have determined to enter into an underwriting agreement in connection therewith, all of the Registrable Securities to be included in such registration shall be subject to such underwriting agreements. The Majority Participating Holders may, at their option, require that any or all of the representations and warranties by, and the other agreements on the part of, the Company to and for the benefit of such underwriters shall also be made to and for the benefit of the Participating Holders and that any or all of the conditions precedent to the obligations of such underwriters under such underwriting agreement be conditions precedent to the obligations of the Participating Holders; provided that the Company shall not be required to make any representations or warranties with respect to written information specifically provided by a Participating Holder for inclusion in the registration statement. None of the Participating Holders shall be required to make any representations or warranties to or agreements with the Company or the underwriters other than representations, warranties or agreements regarding such Participating Holder, its ownership of and title to the Registrable Securities, its intended method of distribution and disclosures related to the foregoing; and any liability of any Participating Holder to any underwriter or other Person under such underwriting agreement shall be limited to liability arising from breach of its representations and warranties and shall be limited to an amount equal to the proceeds (net of expenses and underwriting discounts and commissions) that it derives from such registration, except in the case of willful fraud by such Participating Holder.

(c) Participation in Underwritten Registrations. In the case of an underwritten registration pursuant to Section 2.1 or 2.2, as the Company may from time to time reasonably request in writing, the Company may require the Participating Holders (i) to furnish the Company such information regarding such Participating Holders and the distribution of the Registrable Securities to enable the Company to comply with the requirements of applicable laws or regulations in connection with such registration and (ii) to complete and execute all customary questionnaires, powers of attorney, indemnities, underwriting agreements and other documents reasonably required under the terms of such underwriting arrangements. The Company shall not be obligated to effect the registration of any Registrable Securities of a particular Participating Holder unless such information and documents regarding such Participating Holder and the distribution of such Participating Holder's Registrable Securities is provided to the Company.

2.5. Preparation; Reasonable Investigation. In connection with the preparation and filing of each registration statement under the Securities Act pursuant to this Agreement, the Company will give the Participating Holders, the managing underwriter(s), and their respective

counsel, accountants and other representatives and agents the opportunity to participate in the preparation of such registration statement, each prospectus included therein or filed with the SEC, and each amendment thereof or supplement thereto or comparable statements under securities or "blue sky" laws of any jurisdiction, and give each of the foregoing parties access to its books and records, all financial and other records, pertinent corporate documents and properties of the Company and its subsidiaries, and such opportunities to discuss the business of the Company and its subsidiaries with their respective directors, officers and employees and the independent public accountants who have certified the Company and its subsidiaries' financial statements, and supply all other information and respond to all inquiries requested by such Participating Holders, managing underwriter(s), or their respective counsel, accountants or other representatives or agents in connection with such registration statement, as shall be necessary or appropriate, in the opinion of counsel to such Participating Holder or managing underwriter(s), to conduct a reasonable investigation within the meaning of the Securities Act, and the Company shall not file any registration statement or amendment thereto or any prospectus or supplement thereto to which the Majority Participating Holders or the managing underwriter(s) shall object.

2.6. Indemnification.

(a) Indemnification by the Company. The Company agrees that in the event of any registration of any Registrable Securities under the Securities Act, the Company shall, and hereby does, indemnify and hold harmless, to the fullest extent permitted by law, (i) each of the Holders and their respective Affiliates, (ii) each of the Holders' and their Affiliates' respective Affiliates, officers, directors, successors, assigns, members, partners, equity holders, employees, advisors, and agents, (iii) each other Person who participates as an underwriter or Qualified Independent Underwriter in the offering or sale of such Equity Interests and their respective directors, officers and Affiliates, (iv) each Person who controls (within the meaning of the Securities Act or the Exchange Act) any of the Persons listed in clauses (i), (ii) or (iii), and (v) any representative (legal or otherwise) of any of the Persons listed in clauses (i), (ii), (iii) or (iv) (collectively, the "Indemnitees"), from and against any losses, penalties, fines, liens, judgments, suits, claims, damages, liabilities, costs and expenses (including attorney's fees and any amounts paid in any settlement effected in compliance with Section 2.6(e)) or liabilities, joint or several (or actions or proceedings, whether commenced or threatened, in respect thereof, and whether or not such Indemnitee is a party thereto) ("Losses"), to which such Indemnitee has become or may become subject under the Securities Act or otherwise, insofar as such Losses arise out of, relate to or are based upon (A) any untrue statement or alleged untrue statement of any material fact contained in any registration statement under which such Equity Interests were registered under the Securities Act, any preliminary prospectus, final prospectus or summary prospectus contained therein, any amendment or supplement thereto, any documents incorporated by reference therein, or any free writing prospectus or road show utilized in connection therewith, (B) any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, (C) any untrue statement or alleged untrue statement of a material fact in the information conveyed to any purchaser at the time of the sale to such purchaser, or the omission or alleged omission to state therein a material fact required to be stated therein, or (D) any violation by the Company of any federal, state or common law rule or regulation applicable to the Company and relating to action required of or inaction by the Company in connection with any such registration, and the Company shall reimburse such

Indemnitee for its legal and other fees and expenses incurred by it in connection with investigating or defending any such Loss; provided that the Company shall not be liable to an Indemnitee to the extent that any such Loss arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in any such registration statement, any such preliminary prospectus, final prospectus or summary prospectus, any amendment or supplement thereto or document incorporated by reference therein, or any such free writing prospectus or road show, in reliance upon and in conformity with written information furnished to the Company by or on behalf of such Indemnitee, which specifically states that it is for use in the preparation of such registration statement, preliminary prospectus, final prospectus, summary prospectus, amendment, supplement, document or free writing prospectus.

(b) Indemnification by Participating Holders. As a condition to including any Registrable Securities in any registration statement, the Company shall have received an undertaking reasonably satisfactory to it from each Participating Holder so including any Registrable Securities to, severally and not jointly, indemnify and hold harmless, to the fullest extent permitted by law, (i) the Company, each director and officer of the Company, and each other Person, if any, who controls the Company within the meaning of the Securities Act or Exchange Act and (ii) any underwriters of the Registrable Securities, their officers and directors and each Person who controls such underwriters (within the meaning of the Securities Act or the Exchange Act) and their Affiliates, from and against any Losses to which such indemnified parties have become or may become subject under the Securities Act or otherwise, insofar as such Losses arise out of, relate to or are based upon any statement or alleged statement in or omission or alleged omission from such registration statement, any preliminary prospectus, final prospectus or summary prospectus contained therein, any amendment or supplement thereto, or any free writing prospectus or road show utilized in connection therewith, but only to the extent such statement or alleged statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished by such Participating Holder to the Company which specifically states that it is for use in the preparation of such registration statement, any preliminary prospectus, final prospectus or summary prospectus contained therein, any amendment or supplement thereto, or any free writing prospectus or road show utilized in connection therewith, and such Participating Holder shall reimburse such indemnified party for any reasonable legal or any other fees or expenses reasonably incurred by them in connection with investigating or defending any such Loss; provided that the aggregate liability of such indemnifying party under this Section 2.6(b) shall be limited to the amount of proceeds (net of expenses and underwriting discounts and commissions) received by such indemnifying party in the offering giving rise to such liability, except in the case of willful fraud by such Participating Holder. Each Participating Holder shall also indemnify and hold harmless all other prospective sellers and Participating Holders, their respective Affiliates, officers, directors, successors, assigns, members, partners, equity holders, employees, advisors, representatives (legal or otherwise), and agents, and each Person who controls (within the meaning of the Securities Act or the Exchange Act) any such seller or Participating Holder to the same extent as provided above with respect to indemnification of the Company and underwriters.

(c) Notices of Claims. Promptly after receipt by an indemnified party of notice of the commencement of any action or proceeding involving a claim referred to in

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Section 2.6(a) or 2.6(b), such indemnified party shall, if a claim in respect thereof is to be made against an indemnifying party, give written notice to such indemnifying party of the commencement of such action or proceeding; provided that the failure of any indemnified party to give notice as provided herein shall not relieve the indemnifying party of its obligations under Section 2.6(a) or 2.6(b), except to the extent that the indemnifying party is actually and materially prejudiced by such failure to give notice, and shall not relieve the indemnifying party from any liability which it may have to the indemnified party otherwise than under this Section 2.6.

(d) Defense of Claims. In case any such action or proceeding is brought against an indemnified party, except as provided for in the next sentence, the indemnifying party shall be entitled to participate therein and assume the defense thereof, jointly with any other indemnifying party, with counsel reasonably satisfactory to such indemnified party, and after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof and approval by the indemnified party of such counsel, the indemnifying party shall not be liable to such indemnified party for any legal expenses subsequently incurred by such indemnified party in connection with the defense thereof other than costs of investigation, and the indemnified party shall be entitled to participate in such defense at its own expense. If (i) the indemnifying party fails to notify the indemnified party in writing, within fifteen (15) days after the indemnified party has given notice of the action or proceeding, that the indemnifying party will indemnify the indemnified party from and against all Losses the indemnified party may suffer resulting from, arising out of, relating to, in the nature of, or caused by the claim, (ii) the indemnifying party fails to provide the indemnified party with evidence acceptable to the indemnified party that the indemnifying party will have the financial resources to defend against the claim or proceeding and fulfill its indemnification obligations hereunder, (iii) after electing to participate in and assume the defense of such action or proceeding, the indemnifying party fails to defend diligently the action or proceeding within ten (10) Business Days after receiving notice of such failure from such indemnified party; (iv) such indemnified party reasonably shall have concluded (upon advice of its counsel) that there may be one or more legal defenses available to such indemnified party or other indemnified parties which are not available to the indemnifying party; or (v) if such indemnified party reasonably shall have concluded (upon advice of its counsel) that, with respect to such claims, the indemnified party and the indemnifying party may have different, conflicting, or adverse legal positions or interests then, in any such case, the indemnified party shall have the right to assume or continue its own defense and the indemnifying party shall be liable for any fees and expenses therefor.

(e) Consent to Entry of Judgment and Settlements. No indemnifying party shall be liable for any settlement of any action or proceeding effected without its written consent, which consent shall not be unreasonably withheld, delayed or conditioned, provided that, in the case where the indemnifying party shall have failed to take any of the actions listed in clauses (i), (ii) or (iii) of the last sentence of Section 2.6(d), the indemnified party shall have the right to compromise or settle such action on behalf of and for the account, expense, and risk of the indemnifying party and the indemnifying party will remain responsible for any Losses the indemnified party may suffer resulting from, arising out of, relating to, in the nature of, or caused by the action or proceeding to the fullest extent provided in this Section 2.6. No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry of any judgment with respect to, any pending or

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threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to such action or claim) unless such settlement, compromise or judgment (A) includes an unconditional release of the indemnified party from all liability arising out of such action or claim, (B) does not include a statement as to an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party and (C) does not require any action other than the payment of money by the indemnifying party.

(f) Contribution. If for any reason the indemnification provided for in Section 2.6(a), 2.6(b) or 2.6(g) is unavailable to an indemnified party or insufficient in respect of any Losses referred to therein, then, in lieu of the amount paid or payable under Section 2.6(a), 2.6(b) or 2.6(g), the indemnifying party shall contribute to the amount paid or payable by the indemnified party as a result of such Loss (i) in such proportion as is appropriate to reflect the relative fault of the indemnifying party on the one hand, and the indemnified party on the other hand, with respect to the statements or omissions which resulted in such Loss, as well as any other relevant equitable considerations, or (ii) if the allocation provided by clause (i) is not permitted by applicable law or if the allocation provided in this clause (ii) provides a greater amount to the indemnified party than clause (i), in such proportion as shall be appropriate to reflect not only the relative fault but also the relative benefits received by the indemnifying party and the indemnified party from the offering of the Equity Interests of the Company covered by such registration statement as well as any other relevant equitable considerations. The relative fault shall be determined by a court of competent jurisdiction with reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the indemnifying party or the indemnified party and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The parties hereto agree that it would not be just and equitable if contributions pursuant to this Section 2.6(f) were to be determined by pro rata allocation or by any other method of allocation which does not take into account the equitable considerations referred to in the preceding sentence of this Section 2.6(f). No Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation. The amount paid or payable by an indemnified party as a result of the Losses referred to in Section 2.6(a), 2.6(b) or 2.6(g) shall be deemed to include, subject to the limitations set forth in Sections 2.6(a), 2.6(b) and 2.6(g), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding anything in this Section 2.6(f) to the contrary, no Participating Holder shall be required to contribute any amount in excess of the proceeds (net of expenses and underwriting discounts and commissions) received by such Participating Holder from the sale of the Registrable Securities in the offering to which the Losses of the indemnified parties relate, except in the case of willful fraud by such Participating Holder.

(g) Other Indemnification. Indemnification and contribution similar to that specified in the preceding subsections of this Section 2.6 (with appropriate modifications) shall be given by the Company and the Participating Holders with respect to any required registration or other qualification of Equity Interests of the Company under any state, federal or foreign securities or “blue sky” laws. The indemnification agreements contained in this Section 2.6

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shall be in addition to any other rights to indemnification or contribution which any indemnified party may have pursuant to law or contract and shall remain operative and in full force and effect regardless of any investigation made by or on behalf of any Indemnitee or other indemnified party and shall survive the transfer of any of the Registrable Securities by any such party.

(h) Indemnification Payments. The indemnification and contribution required by this Section 2.6 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or a Loss is incurred.

2.7. Limitation on Sale of Equity Interests.

(a) For the Company and Others. If the Company receives a request for registration pursuant to an underwritten offering of Registrable Securities pursuant to Section 2.1 or 2.2 or if a shelf take-down is being undertaken, and if such a request is being implemented or has not been withdrawn or abandoned, the Company agrees that (i) the Company shall not effect any public or private offer, sale, distribution or other disposition of any Registrable Securities or Convertible Securities or effect any registration of any of its Equity Interests under the Securities Act (in each case, other than (u) as part of such registration, (v) any Equity Interests issued by the Company upon the exercise of an option or warrant or the conversion of an Equity Interest, but only to the extent that (A) such option, warrant or Equity Interest was outstanding on the date hereof or (B) the grant or issuance of such option, warrant or Equity Interest received the Requisite Approval, (w) any Equity Interests issued or granted pursuant to equity incentive plans, including any non-employee director stock plan, the adoption of which plan received the Requisite Approval and which issuance or grant received the Requisite Approval; (x) any Equity Interests issued pursuant to any dividend reinvestment plan, the adoption of which plan received the Requisite Approval; (y) the filing by the Company of any registration statement on Form S-8 or a successor form thereto; and (z) any Equity Interests issued in connection with a transaction that includes a commercial relationship (including joint ventures or other strategic acquisitions), which transaction received the Requisite Approval), whether or not for sale for its own account, during the period beginning on the date the Company receives such request and ending one hundred eighty (180) days after the effective date of such registration in the case of the Initial Public Offering or ninety (90) days after the effective date of such registration in the case of any other underwritten Public Offering, plus, in each case, any customary extension periods (or such shorter period as the managing underwriter(s) may require), and (ii) the Company shall use its reasonable best efforts to obtain from each of its officers, directors and Persons who Beneficially Own five percent (5%) or more of the Company's Equity Interests, an agreement not to effect any public or private offer, sale, distribution or other disposition of Equity Interests of the Company, or any Equity Interests of the Company that are convertible into or exchangeable or exercisable for other Equity Interests of the Company, including a sale pursuant to Rule 144, during the one hundred eighty (180) day period in the case of an Initial Public Offering (or such shorter period as the managing underwriter(s) may require), or the ninety (90) day period in the case of any other underwritten Public Offering (or such shorter period as the managing underwriter(s) may require), in each case beginning on the effective date of such registration statement.

(b) For the Holders. If the Company receives a request for registration pursuant to an underwritten offering of Registrable Securities pursuant to Section 2.1 or 2.2 or if

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a shelf take-down is being undertaken (and if such a request is being implemented or has not been withdrawn or abandoned), each Holder agrees that, to the extent requested in writing by the managing underwriter(s), it will not effect any public or private offer, sale, distribution or other disposition of any Registrable Securities or Convertible Securities (other than as a part of such registration), including a sale pursuant to Rule 144, during the one hundred eighty (180) day period in the case of an Initial Public Offering (or such shorter period as the managing underwriter(s) may require), or the ninety (90) day period in the case of any other underwritten Public Offering (or such shorter period as the managing underwriter(s) may require), in each case beginning on the effective date of such registration statement or the closing of the shelf take-down plus any customary extension periods; provided that each Holder has received the written notice required by Section 2.1(a) or 2.2(a), as applicable; and provided, further, that in connection with such underwritten offering each officer and director of the Company is subject to restrictions substantially equivalent to those imposed on the Holders.

2.8. No Required Sale. Nothing in this Agreement shall be deemed to create an independent obligation on the part of any of the Holders to sell any Registrable Securities pursuant to any effective registration statement.

2.9. Rule 144; Rule 144A; Regulation S. The Company covenants that, at its own expense, it will file the reports required to be filed by it under the Securities Act and the Exchange Act, and it will take such further action as any Holder may reasonably request, all to the extent required from time to time to enable such Holder to sell Registrable Securities without registration under the Securities Act within the limitations of the exemptions provided by (a) Rule 144, Rule 144A or Regulation S under the Securities Act or (b) any similar rule or regulation hereafter adopted by the SEC. Upon the request of a Holder, the Company, at its own expense, will promptly deliver to such Holder (i) a written statement as to whether it has complied with such requirements (and such Holder shall be entitled to rely upon the accuracy of such written statement), (ii) a copy of the most recent annual or quarterly report of the Company and (iii) such other reports and documents as such Holder may reasonably request in order to avail itself of any rule or regulation of the SEC allowing it to sell any Registrable Securities without registration.

2.10. Adjustments. At the request of Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders, in the event of any change in the capitalization of the Company as a result of any stock split, stock dividend, reverse split, combination, conversion, recapitalization, merger, consolidation or otherwise, the provisions of this Section 2 shall be appropriately adjusted. The Company agrees that it shall not effect or permit to occur any combination or subdivision of its Equity Interests which would adversely affect the ability of the Holders to include any Registrable Securities in any registration contemplated by this Agreement or the marketability of such Registrable Securities in any such registration. The Company agrees that it will take all steps necessary to effect a combination or subdivision of its Equity Interests if, in the judgment of Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders or the managing underwriter(s), such combination or subdivision would enhance the marketability of the Registrable Securities.

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3.1. Limitations on Subsequent Registration Rights. From and after the date of this Agreement until the Holders and their respective Permitted Assignees shall no longer hold any Registrable Securities, without the prior written consent of Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders, the Company shall not enter into an agreement that grants a holder or prospective holder of any Equity Interests of the Company demand or incidental registration rights. Notwithstanding the foregoing, if, after the date of this Agreement, the Company enters into any other agreement with respect to the registration of any of its Equity Interests, and the terms contained therein are more favorable to, or less restrictive on, the other party thereto than the terms and conditions contained in this Agreement (insofar as they are applicable) with respect to the Holders, then, at the request of Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders, the terms of this Agreement shall immediately be deemed to have been amended without further action by the Company or the Holders so that the Holders shall be entitled to the benefit of any such more favorable or less restrictive terms or conditions.

3.2. No Inconsistent Agreements. Without the prior written consent of Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders, the Company will not, on or after the date of this Agreement, enter into any agreement with respect to its Equity Interests which is inconsistent with the rights granted to the Holders in Section 2 or otherwise conflicts with the provisions of Section 2, other than any customary lock-up agreement with the underwriters in connection with any offering effected hereunder, pursuant to which the Company shall agree not to register for sale, and the Company shall agree not to sell or otherwise dispose of, Equity Interests of the Company or any Convertible Securities, for a specified period (not to exceed one hundred eighty (180) days plus customary extension periods) following such offering. The Company represents and warrants that the rights granted to the Holders hereunder do not in any way conflict with and are not inconsistent with any other agreements to which the Company is a party or by which it is bound. The Company is not bound by any agreement with respect to its Equity Interests granting any registration rights to any Person.

SECTION 4. Miscellaneous.

4.1. Rules of Construction.

- (a) An accounting term not otherwise defined herein has the meaning assigned to it in accordance with U.S. GAAP;
- (b) References in the singular or to “him,” “her,” “it,” “itself,” or other like references, and references in the plural or the feminine or masculine or neutral reference, as the case may be, shall also, when the context so requires, be deemed to include the plural or singular, or the masculine or feminine or neutral reference, as the case may be;
- (c) References to Sections shall refer to sections of this Agreement, unless otherwise specified;

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(d) The headings in this Agreement are for convenience and identification only and are not intended to describe, interpret, define or limit the scope, extent or intent of this Agreement or any provision hereof;

(e) This Agreement shall be construed without regard to any presumption or other rule requiring construction against the party that drafted and caused this Agreement to be drafted;

(f) References to “days” shall refer to calendar days unless Business Days are specified. If any period expires on a day which is not a Business Day or any event or condition is required by the terms of this Agreement to occur or be fulfilled on a day which is not a Business Day, such period shall expire or such event or condition shall occur or be fulfilled, as the case may be, on the next succeeding Business Day;

(g) Any action required to be taken “within” a specified time period following the occurrence of an event shall be required to be taken no later than 5:00 PM, Eastern time, on the last day of the time period, which shall be calculated starting with the day immediately following the date of the event;

(h) All monetary figures shall be in United States dollars unless otherwise specified, and any monetary figure in United States dollars shall be deemed to refer to the equivalent amount of foreign currency when used in a context which refers to or includes operations conducted principally outside of the United States;

(i) References to “include,” “includes” and “including” in this Agreement shall be deemed to be followed by “, without limitation,” whether or not so specified; and

(j) The word “extent” in the phrase “to the extent” shall mean the degree to which a subject or other theory extends, and such phrase shall not mean “if.”

4.2. Further Actions. Each party hereto shall cooperate with each other party, shall do and perform or cause to be done and performed all further acts and things, and shall execute and deliver all other agreements, certificates, instruments and documents as any other party hereto reasonably may request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

4.3. Notices.

(a) Unless otherwise expressly provided herein, all notices, requests, demands, claims and other communications provided for under the provisions of this Agreement shall be in writing. Any notice, request, demand, claim or other communication hereunder shall be sent by (i) personal delivery (including receipted courier service) or overnight delivery service to the intended recipient at the address set forth below, (ii) facsimile or electronic mail, with confirmation of receipt, to the number or email address of the intended recipient set forth below (provided that a copy is also sent by another permitted method; and provided, further, that delivery to the NMP Entities may not be sent by facsimile), (iii) internationally recognized overnight delivery courier service to the intended recipient at the address set forth below, or

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(iv) registered or certified mail, return receipt requested, postage prepaid, to the intended recipient at the address set forth below:

(i) If to the Company, at the address indicated below, or at such other address as the Company may hereafter designate by written notice to the Holders:

Bellerophon Therapeutics, Inc.
53 Frontage Road, Suite 301
Hampton, NJ 08827
Attn: Chief Executive Officer

Fax: 844-325-6587
Email: jon.peacock@bellerophon.com

with copies (which shall not constitute notice) to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attn: Lia Der Marderosian, Esq.
Fax: +1-617-526-5000
Email: lia.derwarderosian@wilmerhale.com

and

Fried, Frank, Harris, Shriver & Jacobson LLP
One New York Plaza
New York, NY 10004
Attn: Aviva F. Diamant, Esq. and Abigail P. Bomba, Esq.
Fax: +1-212-859-4000
Email: aviva.diamant@friedfrank.com and
abigail.bomba@friedfrank.com

(ii) If to any Holder, to such Holder at the address set forth below such Holder's name on its signature page hereto, or at such other address as such Holder may hereafter designate by written notice to the Company, in each case, with a copy (which shall not constitute notice) to:

Fried, Frank, Harris, Shriver & Jacobson LLP
One New York Plaza
New York, NY 10004
Attn: Aviva F. Diamant, Esq. and Abigail P. Bomba, Esq.
Fax: +1-212-859-4000
Email: aviva.diamant@friedfrank.com and
abigail.bomba@friedfrank.com

and

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Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attn: Lia Der Marderosian, Esq.
Fax: +1-617-526-5000
Email: lia.derwarderosian@wilmerhale.com

(iii) If to any Tag-Along Holder, to such Tag-Along Holder at its address set forth on the books and records of the Company.

(b) Notices shall be deemed to have been received:

(i) If given by personal delivery or by facsimile or electronic transmission, on the day given, if given before 5:00 PM local time on a Business Day in the jurisdiction of the intended recipient; otherwise on the next Business Day, provided that receipt of any facsimile or electronic transmission is confirmed by written evidence of delivery of facsimile, electronic confirmation of delivery or written acknowledgment of receipt thereof by the recipient;

(ii) If given by internationally recognized overnight delivery courier service, on the date of delivery indicated in the records of such courier service; and

(iii) If given by registered or certified mail, return receipt requested, postage prepaid, on the date of delivery indicated on the return receipt.

4.4. Governing Law. This Agreement shall in all respects be governed by, and construed in accordance with, the laws (excluding conflict of laws rules and principles) of the State of Delaware applicable to agreements made and to be performed entirely within such State, including all matters of construction, validity and performance.

4.5. Specific Performance. The parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with its specific terms or were otherwise breached and that money damages or other remedy at law would not be a sufficient or adequate remedy for any breach or violation of, or a default under, this Agreement. It is accordingly agreed that, subject to Section 4.8, each of the parties shall be entitled, without any requirement for the securing or posting of any bond with respect to such remedy, to an injunction or injunctions to prevent or restrain any breach, violation or default, or threatened breach, violation or default, of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state having jurisdiction, such remedy being in addition to any other remedy to which any party may be entitled at law or in equity.

4.6. Entire Agreement. This Agreement, including, to the extent referred to herein, the Pre-IPO Certificate of Incorporation, the Certificate of Incorporation and the Stockholders Agreement, constitutes the entire agreement of the parties relating to the subject matter hereof

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and supersedes all prior agreements and undertakings, whether oral or written. For avoidance of doubt, this Agreement supersedes and replaces the Original Registration Rights Agreement, which agreement shall no longer have any force or effect. There are no representations, agreements, arrangements or understandings, oral or written, between or among the parties relating to the subject matter of this Agreement which are not fully expressed in this Agreement.

4.7. Severability. Should any provision of this Agreement or the application thereof to any Person or circumstance be held invalid or unenforceable to any extent, (a) such provision shall be ineffective to the extent, and only to the extent, of such invalidity or unenforceability and shall be enforced to the greatest extent permitted by law; (b) such invalidity or unenforceability with respect to any Person or in any jurisdiction shall not invalidate or render unenforceable such provision as applied (i) to any other Persons or circumstances or (ii) in any other jurisdiction; and (c) such invalidity or unenforceability shall not affect or invalidate any other provision of this Agreement.

4.8. Amendments and Waivers.

(a) Subject to Section 4.8(c), this Agreement and any of the provisions hereof may be amended, modified or supplemented, in whole or in part, only by written agreement of the Company (with the prior approval of the Board) and Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders; provided that (i) any amendment or modification of, or supplement to, Section 2.6 that relates only to a particular offering shall require only the written agreement of the Company (with the prior approval of the Board) and the Majority Participating Holders for such offering, and (ii) any amendment or modification of, or supplement to, this Agreement the direct result of which is to materially adversely affect any Holder (or class or series of Holders) in a manner that is materially different from the manner in which the other Holders (or other classes or series of Holders) are affected (other than such materially different effects resulting from the express provisions of this Agreement in effect immediately prior to such amendment, modification or supplement) may be effected only with the prior written consent of such Holder (or a majority of such class or series of Holders measured by the number of shares of the class or series held) so differently affected.

(b) The observance of any provision of this Agreement may be waived in writing by the Company (with the prior approval of the Board) and Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders; provided that any provision hereof may be waived by any waiving party on such party's own behalf, without the consent of any other party. Any waiver of any provision of Section 2.6 that relates only to a particular offering shall require only the written agreement of the Company (with the prior approval of the Board) and the Majority Participating Holders for such offering. Any waiver by any party hereto of a breach by any party hereto of any provision of this Agreement shall not operate or be construed as a waiver of such breach by any other party hereto, except as otherwise explicitly provided for in the writing evidencing such waiver. Except as otherwise expressly provided herein, no failure on the part of any party to exercise, and no delay in exercising, any right, power or remedy hereunder, or otherwise available in respect hereof at law or in equity, shall operate as a waiver thereof, nor shall any single or partial exercise of such

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right, power or remedy by such party preclude any other or further exercise thereof or the exercise of any other right, power or remedy.

(c) Other than in the case of a Permitted Assignee (which shall not require the consent of the Company or any Holder), the execution of a counterpart signature page or a joinder to this Agreement after the date hereof by any Person holding any Equity Interests of the Company shall require the consent of the Company (with the prior approval of the Board) and Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders and shall not be deemed an amendment to this Agreement so long as such Person agrees to be treated as a "Holder" hereunder.

4.9. No Third Party Beneficiaries. Other than Section 2.6, nothing in this Agreement, whether express or implied, shall be construed to give any Person (other than the parties hereto and their respective successors and permitted assigns who comply with the terms hereof and agree in writing to be bound by the provisions hereof) any legal or equitable right, remedy or claim under or in respect of this Agreement or any covenants, conditions or provisions contained herein, as a third party beneficiary or otherwise. Each Indemnatee shall be a third party beneficiary of the provisions of Section 2.6 and shall be entitled to enforce such provisions directly. The Tag-Along Holders (except as set forth in the immediately preceding sentence) shall not be third party beneficiaries of this Agreement and shall not be entitled to enforce any of the provisions hereof, provided that nothing in this Agreement shall limit the rights of the Tag-Along Holders under the Pre-IPO Certificate of Incorporation.

4.10. Assignments. The provisions of this Agreement shall be binding upon and inure to the benefit of the Company and the Holders and their respective successors and permitted assigns. The Company may not assign any of its rights or delegate any of its duties hereunder without the prior written consent of Holders holding in the aggregate at least fifty percent (50%) of the outstanding Registrable Securities then held by the Holders. With respect to the Holders, (a) prior to an Initial Public Offering, any Holder may, at its election and at any time or from time to time, assign its rights and delegate its duties hereunder, in whole or in part, to any Person to whom such Holder transfers any of such Holder's Equity Interests in compliance with the Pre-IPO Certificate of Incorporation and (b) at any time or from time to time following an Initial Public Offering, (i) any Holder may transfer its rights and delegate its duties hereunder, in whole or in part, to an Affiliate of such Holder and (ii) any NMP Holder may additionally transfer its rights and delegate its duties hereunder, in whole or in part, to any Person that acquires shares of Common Stock from an NMP Holder in a transaction other than a Public Offering or a sale pursuant to Rule 144 (each of the assignees referenced in clauses (a), (b)(i) and (b)(ii) of this sentence is referred to as a "Permitted Assignee"), provided, that an NMP Holder may only transfer in a transaction described in clause (b)(ii) above its then remaining demand registration rights under Section 2.1 (in whole or in part) to a Person that, immediately following such transfer, will hold, together with its Affiliates, at least ten percent (10%) in the aggregate of the Quarterly Outstanding Common Stock unless such transfer is of the balance of the Registrable Securities then held by all the NMP Holders in which case an NMP Holder may only transfer in such a transaction one or more of its then remaining demand registration rights under Section 2.1 to a Person that, immediately following such transfer, will hold, together with its Affiliates, at least five percent (5%) in the aggregate of the Quarterly Outstanding Common Stock. For the

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avoidance of doubt, there may be more than one transfer under any of clauses (a), (b)(i) and (b)(ii) of the preceding sentence. Notwithstanding the foregoing, no such assignment shall be binding upon or obligate the Company to any such Permitted Assignee unless and until such Permitted Assignee delivers to the Company (i) a written notice stating the name and address of such Assignee and identifying the Equity Interests of the Company with respect to which such rights are being assigned, if any, and (ii) a written instrument by which such Permitted Assignee agrees to be bound by the obligations imposed upon Holders under this Agreement to the same extent as if such Permitted Assignee were a party hereto (or executes and delivers to the Company a counterpart signature page or a joinder to this Agreement and agrees to be treated as a "Holder" for all purposes of this Agreement), whereupon such Permitted Assignee shall be entitled to all of the rights of a Holder under this Agreement, including under this Section 4.10.

4.11. Jurisdiction; Waiver of Jury Trial.

(a) Jurisdiction. Subject to Section 4.5, any action, suit or proceeding against any party to this Agreement arising out of or relating to this Agreement shall be brought in any federal or state court located in New York County in the State of New York, and each of the parties hereby submits to the exclusive jurisdiction of such courts for the purpose of any such action, suit or proceeding. A final judgment in any such action, suit or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. To the extent that service of process by mail or by internationally recognized overnight delivery courier service is permitted by applicable law, each party irrevocably consents to the service of process in any such action, suit or proceeding in such courts by the mailing of such process by registered or certified mail, postage prepaid, return receipt request or by internationally recognized overnight delivery courier service to such party at its address for notices provided for in Section 4.3. Each party irrevocably waives and agrees not to assert (i) any objection which it may ever have to the laying of venue of any such action, suit or proceeding in any federal or state court located in New York County in the State of New York, and (ii) any claim that any such action, suit or proceeding brought in any such court has been brought in an inconvenient forum.

(b) Waiver of Jury Trial. EACH PARTY IRREVOCABLY WAIVES, TO THE EXTENT LAWFUL, AND AGREES NOT TO ASSERT ANY RIGHT TO TRIAL BY JURY IN ANY ACTION, SUIT OR PROCEEDING ARISING OUT OF RELATING TO THIS AGREEMENT AND AGREES THAT ANY OF THEM MAY FILE A COPY OF THIS PARAGRAPH WITH ANY COURT AS WRITTEN EVIDENCE OF THE KNOWING, VOLUNTARY AND BARGAINED-FOR AGREEMENT AMONG THE PARTIES IRREVOCABLY TO WAIVE ITS RIGHT TO TRIAL BY JURY IN ANY ACTION, SUIT OR PROCEEDING ARISING OUT OF RELATING TO THIS AGREEMENT.

4.12. Attorneys' Fees. In the event that any action, suit or proceeding is brought for the purpose of determining or enforcing the right of any party or parties hereunder, the party or parties prevailing in such action, suit or proceeding shall be entitled to recover from the other party or parties all reasonable costs and expenses incurred by the prevailing party or parties in connection with such action, suit or proceeding, including reasonable attorneys' fees.

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4.13. Counterparts. This Agreement may be executed in any number of counterparts with the same effect as if all signatory parties had signed the same document. All counterparts shall be construed together and shall constitute one and the same instrument. A signature delivered by facsimile or electronic transmission shall be deemed to be an original signature for all purposes under this Agreement.

4.14. Effectiveness. Except for (a) Indemnitees and (b) as otherwise provided in the Pre-IPO Certificate of Incorporation and in this Agreement with respect to Tag-Along Securities, no Person shall have any rights under this Agreement, and neither the Company nor any Holder shall have any obligations under this Agreement to any other Person, unless and until such other Person has executed and delivered this Agreement or a counterpart hereto agreeing to be bound by this Agreement as a Holder. The failure of any one or more Persons to execute and deliver this Agreement or a counterpart hereto shall not invalidate this Agreement or any of the rights and obligations of the Company and of those Holders that have executed and delivered this Agreement or a counterpart hereto as among such parties that have so executed and delivered this Agreement or a counterpart hereto.

[Signature Page Follows]

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IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

COMPANY:

BELLEROPHON THERAPEUTICS, INC.

By: _____

Name: _____

Title: _____

Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

HOLDERS:

NEW MOUNTAIN PARTNERS II (AIV-A), L.P.

By: New Mountain Investments II, L.L.C.,
Its general partner

By: _____

Name: Steven B. Klinsky

Title: Managing Member

NEW MOUNTAIN PARTNERS II (AIV-B), L.P.

By: New Mountain Investments II, L.L.C.,
Its general partner

By: _____

Name: Steven B. Klinsky

Title: Managing Member

NEW MOUNTAIN AFFILIATED INVESTORS II, L.P.

By: New Mountain Investments II, L.L.C.,
Its general partner

By: _____

Name: Steven B. Klinsky

Title: Managing Member

ALLEGHENY NEW MOUNTAIN PARTNERS, L.P.

By: New Mountain Investments II, L.L.C.,
Its general partner

By: _____
Name: Steven B. Klinsky
Title: Managing Member

Signature Page to Registration Rights Agreement

Address for notices:

c/o New Mountain Capital, L.L.C.
787 Seventh Avenue, 49th Floor
New York, NY 10019
Attn: Matthew Holt
Email: mholt@newmountaincapital.com

Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

HOLDER:

ARCH VENTURE FUND VI, L.P.

By: ARCH Venture Partners VI, L.P.,
Its general partner

By: ARCH Venture Partners VI, LLC,
Its general partner

By: _____
Name: Robert T. Nelsen
Title: Managing Director

Address for notices:

c/o ARCH Venture Partners
8725 West Higgins Road
Suite 290
Chicago, IL 60631
Attn: Mark McDonnell
Fax: +1-773-380-6606
Email: mmcdonnell@archventure.com

Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

HOLDERS:

VENROCK PARTNERS, L.P.

By: Venrock Partners Management, LLC,
Its general partner

By: _____
Name: Bryan E. Roberts
Title: General Partner

VENROCK ASSOCIATES IV, L.P.

By: Venrock Management IV, LLC,
Its general partner

By: _____

Name: Bryan E. Roberts
Title: General Partner

VENROCK ENTREPRENEURS FUND IV, L.P.

By: VEF Management IV, LLC,
Its general partner

By: _____
Name: Bryan E. Roberts
Title: General Partner

Address for notices:

c/o Venrock Associates
3340 Hillview Avenue
Palo Alto, CA 94304
Attn: Bryan Roberts
Fax: +1-650-561-9180
Email: broberts@venrock.com

Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

HOLDER:

LINDE NORTH AMERICA, INC.

By: _____
Name: Patrick F. Murphy
Title: Chief Executive Officer & President

Address for notices:

c/o Linde AG
Klosterhofstrasse 1
80331 Munich
Germany
Attn: Head of Mergers & Acquisitions
Fax: +49-89-35-757-1505

Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

HOLDERS:

5AM VENTURES LLC

By: 5AM Partners LLC,
Its manager

By: _____
Name: Andrew J. Schwab
Title: Managing Director

5AM CO-INVESTORS LLC

By: 5AM Partners LLC,
Its manager

By: _____
Name: Andrew J. Schwab
Title: Managing Director

Address for notices:

c/o 5AM Ventures LLC
2200 Sand Hill Road, Suite 110
Menlo Park, CA 94025
Attn: Andrew Schwab
Fax: +1-650-233-8923
Email: andy@5amventures.com

Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the date first above written.

HOLDER:

ARAVIS VENTURE I, L.P.

By: Aravis General Partner Ltd,
Its general partner

By: _____
Name: Jean-Philippe Tripet
Title: Chairman

Address for notices:

c/o Aravis General Partner Ltd
One Capital Place
P.O. Box 847
Grand Cayman KY1-1103
Cayman Islands
Attn: Gwen McLaughlin

With a copy by email to:

Email: andreas@aravis.ch

Signature Page to Registration Rights Agreement

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Bellerophon Therapeutics LLC:

We consent to the use of our report dated May 14, 2014, except for note 13(a), which is as of January 8, 2015, with respect to the financial statements of Bellerophon Therapeutics LLC as of December 31, 2013 and 2012 and for the years then ended and for the period from August 26, 2009 (inception) to December 31, 2013, included herein and to the reference to our firm under the heading “Experts” in the prospectus.

/s/ KPMG LLP

Short Hills, New Jersey
February 3, 2015
