Use these links to rapidly review the document
TABLE OF CONTENTS
TABLE OF CONTENTS 2

Table of Contents

As confidentially submitted to the Securities and Exchange Commission on April 9, 2018, as Amendment No. 3 to the draft registration statement.
This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains confidential.

Registration No. 333-

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

Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Liquidia Technologies, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**2836**	**20-1926605**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

419 Davis Drive, Suite 100
Morrisville, North Carolina 27560
Telephone: (919) 328-4400
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Neal F. Fowler
Chief Executive Officer
Liquidia Technologies, Inc.
419 Davis Drive, Suite 100
Morrisville, North Carolina 27560
Telephone: (919) 328-4400
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Andrew P. Gilbert
David C. Schwartz
DLA Piper LLP (US)
51 John F. Kennedy Parkway, Suite 120
Short Hills, New Jersey 07078
(973) 520-2550

Brent B. Siler
Brian Leaf
Divakar Gupta
Cooley LLP
1299 Pennsylvania Avenue NW,
Suite 700
Washington, DC 20004
(202) 842-7800

Approximate date of commencement of proposed sale to the public:
As soon as practicable after the effective date of this registration statement.

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. o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please 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, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer" "smaller reporting company" and "emerging growth 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 Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☒

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	**Proposed Maximum Aggregate Offering Price(1)(2)**	**Amount of Registration Fee(3)**
Common stock, par value $0.001 per share	$	$

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933.

(2) Includes shares subject to the underwriters' option to purchase additional shares.

(3) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

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.

Table of Contents

SUBJECT TO COMPLETION, DATED APRIL 9, 2018

PRELIMINARY PROSPECTUS

Shares

Liquidia Technologies, Inc.

Common Stock

We are offering shares of our common stock. This is our initial public offering and no public market currently exists for our common stock. We expect the initial public offering price to be between $ and $ per share. We have applied to list our common stock on The Nasdaq Global Market under the symbol "LQDA".

We are an "emerging growth company" as defined in Section 2(a) of the Securities Act of 1933 and will be subject to reduced public company reporting requirements. See "Prospectus Summary—Implications of Being an Emerging Growth Company".

Investing in our common stock involves a high degree of risk. Please read "Risk Factors" beginning on page 13 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	PER SHARE	TOTAL
Public Offering Price	$	$
Underwriting Discounts and Commissions[1]		
Proceeds to Liquidia Technologies, Inc. before expenses		

[1] See "Underwriting" on page 173 for additional information regarding underwriting compensation.

Delivery of the shares of common stock is expected to be made on or about , 2018. We have granted the underwriters an option for a period of 30 days to purchase an additional shares of our common stock. If the underwriters exercise the option in full, the total discounts and commissions payable by us will be $, and the total proceeds to us, before expenses, will be $.

Joint Book-Running Managers

Jefferies **Cowen**

Co-Managers

Needham & Company **Wedbush PacGrow**

Prospectus dated , 2018.

TABLE OF CONTENTS

You should rely only on the information contained in this prospectus or in any free writing prospectus we file with the U.S. Securities and Exchange Commission, or the SEC. Neither we nor the underwriters have authorized anyone to provide you with information other than that contained in this prospectus or any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are offering to sell, and seeking offers to buy, common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date on the front cover page of this prospectus, or other earlier date stated in this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock.

Through and including , 2018 (25 days after the commencement of this offering), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to their unsold allotments or subscriptions.

For investors outside the United States: We have not and the underwriters have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States. See "Underwriting."

TRADEMARKS

This prospectus includes our trademarks, trade names and service marks, such as Liquidia, the Liquidia logo and PRINT, which are protected under applicable intellectual property laws and are the property of Liquidia Technologies, Inc. This prospectus also contains trademarks, trade names and service marks of other companies, which are the property of their respective owners. Solely for convenience, trademarks, trade names and service marks referred to in this prospectus may appear without the ®, ™ or SM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable licensor to these trademarks, trade names and service marks. We do not intend our use or display of other parties' trademarks, trade names or service marks to imply, and such use or display should not be construed to imply, a relationship with, or endorsement or sponsorship of us by, these other parties.

MARKET AND INDUSTRY DATA

Unless otherwise indicated, information contained in this prospectus concerning our industry and the markets in which we operate is based on reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources as well as our own internal estimates and research. Decision Resources Group is the primary source for the market data included in this prospectus and we compensated them for use of market data. Although we believe the data from these third-party sources is reliable, we have not independently verified any third-party information. In addition, projections, assumptions and estimates of the future performance of the industry in which we operate and our future performance are necessarily subject to uncertainty and risk due to a variety of factors, including those described in "Risk Factors." These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus and does not contain all of the information that you should consider before deciding to invest in our common stock. You should read the entire prospectus carefully, including the "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes included elsewhere in this prospectus, before making an investment decision. Except where the context otherwise requires or where otherwise indicated, the terms "Liquidia," "we," "us," "our," "our company" and "our business" refer to Liquidia Technologies, Inc.

Overview

We are a late-stage clinical biopharmaceutical company focused on the development and commercialization of human therapeutics using our proprietary PRINT® technology to transform the lives of patients. PRINT is a particle engineering platform that enables precise production of uniform drug particles designed to improve the safety, efficacy and performance of a wide range of therapies. We are currently focused on the development of two product candidates for which we hold worldwide commercial rights: LIQ861 for the treatment of pulmonary arterial hypertension, or PAH, and LIQ865 for the treatment of local post-operative pain. Our lead product candidate, LIQ861, is being evaluated in a Phase 3 trial. LIQ861 is a dry powder formulation of treprostinil designed to improve the therapeutic profile of treprostinil by enhancing deep-lung delivery and achieving higher dose levels than current inhaled therapies. We have applied our PRINT technology to enable us to deliver LIQ861 through a convenient, disposable dry powder inhaler, or DPI. We have also applied our PRINT technology to our second product candidate, LIQ865, currently being evaluated in a Phase 1 trial, which is designed to deliver sustained-release particles of bupivacaine, a non-opioid anesthetic, to treat local post-operative pain for three to five days through a single administration. In addition to developing our two product candidates, we collaborate, and intend to collaborate, with leading pharmaceutical companies to develop their own product candidates across a wide range of therapeutic areas, molecule types and routes of administration, leveraging our PRINT technology.

Our lead product candidate, LIQ861, is being evaluated for the treatment of PAH, a chronic, progressive disease caused by the hardening and narrowing of pulmonary arteries that can lead to right heart failure and eventually death. Prostacyclin is a vasoactive mediator essential to normal lung function that is deficient in patients with PAH. With PAH, the elevated pressure in the pulmonary arteries strains the right side of the heart as it pumps blood to the lungs. The extra stress causes the heart to enlarge and become less flexible, compromising its ability to push blood out of the heart through the lungs and into the rest of the body. PAH initially presents as exertional dyspnea, lethargy and fatigue and may be confused with other disease states with similar symptoms. PAH often goes undiagnosed or misdiagnosed until symptoms become severe, with the mean time from onset of symptoms to correct diagnosis being more than two years in the United States. As PAH progresses and right ventricular failure develops, exertional chest pain, or angina, exertional syncope and peripheral edema may develop. Following confirmation of diagnosis based on hemodynamic parameters, treatment is recommended to lower pulmonary pressures and treat the symptoms of PAH. Due to delayed diagnosis, many patients already have advanced disease requiring aggressive treatment combining multiple classes of therapy. PAH is a rare disease, with an estimated prevalence in the United States expected to be between 25,000 and 30,000 patients by 2020. PAH is most commonly diagnosed in the developed world, including the United States, Europe and Japan. Today, the mean age of diagnosis is 50 years according to both French and U.S. registries, with more women being diagnosed than men. Patients may have idiopathic PAH in which no underlying cause can be determined or a heritable form of the disease. A large number of PAH patients also have associated comorbidities such as congenital heart disease, HIV, connective tissue diseases like scleroderma, liver diseases, systemic hypertension, obesity, clinical depression, non-PAH related obstructive airways disease, sleep apnea and diabetes.

Decision Resources Group, an independent industry research firm, estimated that in 2016 more than 50% of patients with PAH in the United States were prescribed treprostinil across its three routes of administration (oral, inhaled and parenteral infusion), generating revenue that represented about one-third of the approximately $3.7 billion U.S. market for PAH drug therapies. The inhaled route of administration, in which medication is inhaled directly into the lungs, helps minimize the off-tissue adverse side effects of systemic delivery by delivering the drug directly where it is needed. Tyvaso® (treprostinil, inhaled solution), marketed by United Therapeutics Corporation in the United States, is the standard of care among the inhaled therapies, with more than 80% of inhaled prostacyclin sales in the United States. Current inhaled therapies, including Tyvaso, are delivered by a nebulizer, a device that converts a liquid formulation into mist, and require between four and nine doses per day. Nebulizers require regular care and maintenance, including daily cleaning and access to additional parts and supplies, such as distilled water and a power source, all of which compromise the portability of the device and the quality of life of patients.

We believe LIQ861, if approved, will be the first-to-market inhaled dry powder treprostinil that can be delivered using a convenient, palm-sized, disposable DPI. We believe LIQ861 can overcome the limitations of current inhaled therapies and has the potential to maximize the therapeutic benefits of treprostinil in treating PAH by safely delivering higher doses into the lungs. Based on our *in vitro* studies we believe that the precise size, trefoil-like shape and uniformity of each LIQ861 particle may provide deep-lung delivery of treprostinil and may reduce deposition in the upper airway where irritation and pain have been observed with nebulized treprostinil. If approved, we believe LIQ861 will have the potential to increase the number of patients using the inhaled route of treatment for PAH by providing the benefits of inhaled prostacyclin therapy earlier in a patient's disease progression as well as delaying the burden of starting continuously infused products.

Our second product candidate, LIQ865, is an injectable, sustained-release formulation of bupivacaine for the management of local post-operative pain for three to five days after a procedure. We believe LIQ865, if approved, has the potential to provide significantly longer local post-operative pain relief compared to currently marketed formulations of bupivacaine. We estimate that there were over 40 million surgeries in our target market, which consists of orthopedic and soft tissue surgeries, performed in the United States in 2016. According to IMS Health, an independent market research firm, the global market for local anesthetics was approximately $776 million in 2016. Post-operative pain management is becoming more important as surgeries increase in volume and complexity and hospitals seek treatments that support faster recovery and time to discharge. Concurrently, the risk of opioid abuse and diversion has led physicians, payors and the U.S. federal government to prioritize pain management strategies that minimize reliance on opioids. Local anesthetics, such as bupivacaine, provide a well-established, non-opioid option for post-operative pain management, but their duration of efficacy has been limited to eight hours or less. The United States Food and Drug Administration, or the FDA, has approved one long-acting local anesthetic, liposomal bupivacaine, but pain relief typically lasts only 24 to 36 hours, according to physicians, and its use in combination with other local anesthetics can result in an unsafe release of drug. In LIQ865, we have engineered the size and composition of the PRINT particles to release bupivacaine over three to five days through a single administration.

Both LIQ861 and LIQ865 are being developed using our proprietary PRINT particle engineering technology, which allows us to engineer and manufacture highly uniform drug particles with independent control over their size, three-dimensional geometric shape and chemical composition. By controlling these physical and chemical parameters of particles, PRINT enables us to engineer desirable pharmacological benefits into product candidates, including prolonged duration of drug release, increased drug loading, more convenient routes of administration, the ability to create novel combination product, enhanced storage and stability and the potential to reduce adverse side effects. Controlling three-dimensional geometric shape and chemical composition of drug particles enables us to research, identify and pursue the improvement of existing therapies and creation of new therapies from existing drugs or new chemical entities, including small molecules and biologics. Our ability to design and control these features of drug particles has the potential

to provide significant benefits across the breadth of pharmaceutical applications. Product characteristics and features can be tuned depending on the need of a particular application, drug substance, delivery route and other such considerations. Based on our research to date, we anticipate the ability to: (i) enhance inhaled delivery through the highly uniform geometric shape of each drug particle; (ii) design desired drug release profiles ranging from minutes post-delivery to days, weeks or months depending on need of a target therapy, by controlling the chemical composition of the drug particles and the surface area-to-volume ratio of the particles; (iii) enable combination products where one or more of the chemical constituents can destabilize or interact by encapsulating the desired constituent in a particle to shield it from another constituent during packaging and storage; and (iv) enhance the deposition and retention of topically delivered products by designing particles with a desired charge and/or Young's modulus. Our molding approach, which we branded as "PRINT", or Particle Replication In Non-wetting Templates, combines the precision of the semi-conductor industry with the high throughput of roll-to-roll manufacturing to make highly uniform micro- and nano-particles at a commercially viable scale. Our manufacturing equipment and materials used in the production of our drug particles are proprietary and protected by our patent portfolio and trade secret know-how. Our PRINT equipment is also modular, scalable and cost-effective. We protect our PRINT technology and the resulting engineered particles through a combination of patents, trade secrets, proprietary know-how and licensing arrangements. We have an active patent strategy that covers major geographic markets, including the United States, Europe and Japan.

Initially, our internal pipeline is focused on the development of improved and differentiated drug products containing FDA-approved active pharmaceutical ingredients, or APIs, with established efficacy and safety profiles, which we believe are eligible for the 505(b)(2) regulatory pathway to seek marketing approval in the United States. The 505(b)(2) regulatory pathway can be capital efficient and potentially enable a shorter time to approval. We intend to seek marketing approval in the United States for LIQ861 and LIQ865 under the 505(b)(2) regulatory pathway, which would allow us to rely in part on existing knowledge of the safety and efficacy of the reference listed drugs. LIQ861 and the DPI together will be regulated as a combination product by the FDA. In addition to building our own internal pipeline, we collaborate with leading pharmaceutical companies to develop their own product candidates across a wide range of therapeutic areas, molecule types and routes of administration. Through our collaboration arrangements with established pharmaceutical leaders, such as GlaxoSmithKline plc and its subsidiaries, collectively, GSK, we apply PRINT technology to novel molecules. GSK applies our PRINT technology broadly across inhaled delivery of their small molecule and biologic chemical entities. If our product candidates receive marketing approval, we plan to commercialize them in the United States by establishing our own sales force and commercial infrastructure. Outside of the United States, we intend to pursue the regulatory approval and commercialization of our product candidates with leading pharmaceutical companies with regional expertise. We intend to manufacture PRINT particles using in-house capabilities. Where appropriate, we will rely on contract manufacturing organizations, or CMOs, to produce, package and distribute our approved drug products on a commercial scale.

Product Pipeline

The following table summarizes key information about clinical-stage product candidates being developed using PRINT technology:

Product	Indication	Formulation & Route	Phase 1	Phase 2	Phase 3	Next Key Milestone	Worldwide Commercial Rights
LIQ861[1]	PAH	Dry powder inhalation				Interim safety data 1H:19	Liquidia
LIQ865	Local, post-operative pain	Sustained-release injectable				Ph2-enabling studies 2H:18	Liquidia
CCI15106	COPD[2]	Dry powder inhalation					GSK

1. After consultation with the FDA, we advanced from a Phase 1 trial directly to a single, pivotal Phase 3 trial and will seek approval under the 505(b)(2) pathway
2. COPD is chronic obstructive pulmonary disease

Our Strategy

Our goal is to develop and commercialize medicines with improved and differentiated product profiles based on our PRINT particle engineering technology. To achieve this goal, we intend to execute the following key elements of our business strategy:

- ***Complete the pivotal, safety and pharmacology Phase 3 trial for our lead product candidate, LIQ861, in PAH.*** We initiated a single, open-label Phase 3 trial, known as INSPIRE, or Investigation of the Safety and Pharmacology of Dry Powder Inhalation of Treprostinil, in 100 patients with PAH. We believe, based on feedback from the FDA, that this clinical trial will support the new drug application, or NDA, filing for our novel inhaled dry powder formulation of treprostinil to treat PAH. We expect to release interim safety data from INSPIRE in the first half of 2019.

- ***Advance our local post-operative pain product candidate, LIQ865, through Phase 2-enabling toxicology studies.*** We have completed one Phase 1 clinical trial of LIQ865, our novel long-acting formulation of bupivacaine, in Denmark and we are conducting a second Phase 1 clinical trial in the United States. We expect to initiate Phase 2-enabling toxicology studies in the second half of 2018.

- ***Secure regulatory approval and commercialize our internal product candidates independently in the United States and with leading pharmaceutical companies globally.*** We hold worldwide commercialization rights to LIQ861 and LIQ865. Subject to receiving marketing approval, which we intend to pursue in the United States via the 505(b)(2) regulatory pathway, we intend to independently pursue the commercialization of LIQ861 in the United States by establishing targeted sales and marketing teams. After reviewing the results of our Phase 2-enabling toxicology studies for LIQ865, and subject to the availability of sufficient funding, we will develop and commercialize LIQ865 independently, if it is ultimately approved, or seek to license this product candidate to one or more third parties. Outside of the United States, we intend to pursue the regulatory approval and commercialization of LIQ861 and LIQ865 with leading pharmaceutical companies with regional expertise.

- ***Expand our internal pipeline leveraging our PRINT technology.*** We intend to continue targeting diseases where we believe our PRINT technology can improve the efficacy, safety and patient experience of current treatments that have been impaired by suboptimal drug product formulation and delivery. We plan to focus initially on the development of improved and differentiated drug products containing FDA-approved APIs with proven efficacy and safety profiles eligible to use the

505(b)(2) regulatory pathway. In addition, we may expand our clinical development of LIQ861 and LIQ865, where appropriate, into broader indications or new applications.

§ ***Pursue strategic collaborations to maximize the value of products enabled by PRINT technology.*** In addition to advancing our own internal product candidates, we intend to continue collaborating with leading pharmaceutical companies to expand the applications for our PRINT technology. Our collaborations help advance new PRINT capabilities, while adding to our intellectual property portfolio.

Our Competitive Strengths

We believe that we have several key strengths that have contributed to the development of our business and that will help us to realize our goal of becoming a biopharmaceutical company across research, development and commercialization activities. Our competitive strengths include:

§ ***Our PRINT technology gives us the capability to overcome the constraints of conventional formulation and production methods and can be applied broadly across therapeutic areas, molecule types and routes of administration.*** Our PRINT technology allows us to precisely engineer drug particles in a wide variety of compositions, sizes and shapes and achieve a high level of control over the physical and chemical characteristics of drug particles, as compared to conventional formulation and production methods. PRINT particles can be designed to address specific pharmacological or therapeutic objectives, such as enhancing the route of administration, improving solubility, enhancing stability or extending therapeutic effects. Using our PRINT technology, we are able to engineer, among others, small molecule and biologic particles, single agent drug and combination drug particles and vaccine particles to improve efficacy, safety and convenience for patients. Our internal pipeline strategy is currently focused on developing proprietary innovations to currently approved drug products in order to minimize development risks and increase speed to market.

In particular, we have designed LIQ861 to maximize the therapeutic benefits of treprostinil in treating PAH by safely delivering higher doses into the lungs using a convenient, palm-sized, disposable DPI. We believe that this may lead to a more attractive product profile with a more convenient method of administering the drug, as compared to existing inhaled therapies. We have also designed LIQ865 with the intention of providing patients with local post-operative analgesia for three to five days. We believe this would provide a longer period of pain relief than existing local-acting pain drugs, which could be a positive feature in light of interest in reducing reliance on opioids and non-steroidal anti-inflammatory drugs, or NSAIDs, for local post-operative pain management.

Our PRINT technology is broadly applicable — across therapeutic areas, molecule types and routes of administration — providing us with opportunities for future drug product development.

§ ***We have scaled operations with rapid and cost-effective transition to clinical development and commercial production.*** We believe our research and development operations and PRINT technology allow us to transition rapidly and cost-effectively from laboratory to clinical development and commercial-scale manufacture of drug particles. Utilizing well-established techniques from other roll-to-roll manufacturing processes, we have scaled PRINT technology to support the quality and quantity needs for clinical and, we believe, commercial production of our product candidates. We believe our production facilities comply with the FDA's current good manufacturing practices, or cGMP, requirements. The physical equipment for the PRINT technology requires a relatively small footprint, low capital investment and minimal operating costs. We believe that our PRINT technology provides us and our CMOs with the ability to expand production capacity cost-effectively.

§ ***We have a strong proprietary position through a combination of patents, trade secrets, proprietary know-how and licensing arrangements.*** We protect our PRINT technology and the resulting engineered particles through a combination of patents, trade secrets, proprietary know-how and licensing arrangements. We have an active patent strategy that covers major geographic markets, including the United States, Europe and Japan. As of April 1, 2018, our patent portfolio, which

includes patents and patent applications we own or co-own, as well as patents and patent applications we have licensed from third parties, such as the University of North Carolina at Chapel Hill, or UNC, comprises 81 issued patents and 43 pending patent applications worldwide. As we develop new product candidates, either independently or with collaborators, we will seek additional patent protection.

- ***We have strong capabilities in pharmaceutical research and clinical development.*** Our research and development team includes 27 employees, led by our senior management, and has extensive experience in clinical development and pharmaceutical research and development activities in our specific areas of research interest.

- ***We have a seasoned management team.*** Our team includes industry veterans with significant experience in drug discovery, development and commercialization. Members of our leadership team have worked across different segments of the pharmaceutical industry, including branded and generic pharmaceuticals, medical devices and manufacturing services. Prior to joining us, our Chief Executive Officer and director, Neal Fowler, served as president of Centocor, Inc., a subsidiary of Johnson & Johnson that is focused on the development and commercialization of biomedicines used to treat chronic inflammatory diseases. Additionally, our President and Chief Financial Officer, Kevin Gordon, previously served as executive vice president and chief operating officer and chief financial officer of Quintiles Transnational Holdings Inc. (now named IQVIA Holdings Inc.), a global biopharmaceutical services provider, and our Chief Operations Officer, Robert Lippe, previously served as executive vice president of operations and chief operations officer at Alexza Pharmaceuticals, Inc. Furthermore, our Senior Vice President, Product Development, Dr. Robert Roscigno, previously served as the executive vice president of GeNO, LLC, where he led the clinical development team working on a novel nitric oxide delivery system, and before that he served as the president and chief operating officer of Lung Rx, Inc., where he was part of the team responsible for bringing Tyvaso through Phase 3 development, and he previously served in multiple leadership positions at United Therapeutics Corporation and its subsidiaries, contributing to the successful development and worldwide commercialization of Remodulin™, which is treprostinil administered through subcutaneous intravenous infusion, for the treatment of PAH. We believe that their experience enables us to evaluate opportunities and build collaboration arrangements that match the breadth of the potential applications of our PRINT technology.

Risks Related to Our Business

Our ability to successfully implement our business strategy is subject to numerous risks, as more fully described in the section entitled "Risk Factors" immediately following this prospectus summary. These risks include, among others:

- We are a clinical-stage biopharmaceutical company with no approved products and no historical product revenue, which may make it difficult for you to evaluate our business, financial condition and prospects.

- We are primarily dependent on the success of our lead product candidate, LIQ861, and to a lesser degree, LIQ865, which are still in clinical development, and these product candidates may fail to receive marketing approval or may not be commercialized successfully.

- Our preclinical studies and clinical trials may not be successful and delays to such preclinical studies or clinical trials may cause our costs to increase and significantly impair our ability to commercialize our product candidates.

- We are planning to pursue the FDA 505(b)(2) pathway to apply for marketing approval of our product candidates in the United States. If we are unable to rely on the 505(b)(2) regulatory pathway, we will be required to seek approval of these product candidates through the 505(b)(1) NDA pathway, which would require full clinical trials to establish safety and effectiveness, and the process of obtaining marketing approval for our product candidates would likely be significantly longer and more costly.

- If we are unable to establish licensing and collaboration arrangements with other pharmaceutical companies on acceptable terms, or at all, we may not be able to develop and commercialize additional product candidates using our PRINT technology.
- We may not be able to build our marketing and sales capabilities or enter into agreements with third parties to market and sell our drug products.
- We depend on GSK for a significant portion of our near-term revenue.
- We depend on third parties for clinical and commercial supplies, including a single supplier for the active ingredient of LIQ861.
- Even if this offering is successful, we expect that we will need further financing for our existing business and future growth, which may not be available on acceptable terms, if at all. Failure to obtain funding on acceptable terms and on a timely basis may require us to curtail, delay or discontinue our product development efforts or other operations. The failure to obtain further financing may also prevent us from capitalizing on other potential product candidates or indications which may be more profitable than LIQ861 and LIQ865 or for which there may be a greater likelihood of success.
- We may be unable to continually develop a pipeline of product candidates, which could affect our business and prospects.
- We may encounter difficulties in enrolling patients in our clinical trials.
- The marketing approval processes of the FDA and comparable regulatory authorities in other countries are unpredictable and our product candidates may be subject to multiple rounds of review or may not receive marketing approval.
- The commercial success of our drug products depends on the availability and sufficiency of third-party payor coverage and reimbursement.
- Our commercial success depends largely on our ability to protect our intellectual property.

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, as amended, 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. As an emerging growth company:

- we may present 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;
- we may provide reduced disclosure about our executive compensation arrangements;
- we are not required to have advisory votes on executive compensation or golden parachute arrangements; and
- we have an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

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 on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (ii) the last day of 2023; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We have chosen to opt out of the extended transition periods available to emerging growth companies under the JOBS Act for complying with new or revised accounting standards. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition periods for complying with new or revised accounting standards is irrevocable. We may choose to take advantage of some but not all of these other exemptions available to emerging growth companies. We have

taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock.

Corporate Information

Liquidia Technologies, Inc. was incorporated in Delaware on June 8, 2004. Our principal executive offices are located at 419 Davis Drive, Suite 100, Morrisville, North Carolina 27560 and our telephone number is (919) 328-4400. Our website is located at www.liquidia.com. The information on or that can be accessed through our website is not incorporated by reference into this prospectus, and you should not consider any such information as part of this prospectus or in deciding whether to purchase our common stock.

THE OFFERING

Issuer	Liquidia Technologies, Inc.
Common stock offered by us	shares (or shares if the underwriters exercise their option to purchase additional shares in full).
Common stock to be outstanding immediately after this offering	shares (or shares, if the underwriters exercise their option to purchase additional shares in full).
Option to purchase additional shares	We have granted to the underwriters the option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares of common stock.
Use of proceeds	We estimate that the net proceeds to us from this offering, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately $ million (or approximately $ million if the underwriters exercise in full their option to purchase additional shares of common stock), based on an assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus. We currently estimate that we will use the net proceeds from this offering to complete our ongoing Phase 3 clinical trial of LIQ861, advance LIQ865 through our ongoing Phase 1 trial in the United States and our planned Phase 2-enabling toxicology studies, fund operations supporting the development of LIQ861 and LIQ865 and repay approximately $2.3 million of outstanding indebtedness. We will use the remainder for working capital and general corporate purposes. See "Use of Proceeds" for more information.
Risk factors	You should read the "Risk Factors" section beginning on page 13 of this prospectus for a discussion of the factors you should carefully consider before deciding to purchase any shares of our common stock.
Proposed Nasdaq Global Market symbol	"LQDA"

The number of shares of our common stock to be outstanding after this offering is based on 9,254,228 shares of our common stock outstanding as of December 31, 2017, and gives effect to the issuance of 91,147,482 shares of Series D preferred stock in February 2018 and the conversion of all of our outstanding preferred stock, including our Series D preferred stock, and Class B non-voting common stock into shares of our common stock, which will occur automatically upon the closing of this offering, and excludes:

- 11,245,985 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2017, with a weighted average exercise price of $0.27 per share;
- shares of common stock issuable upon the exercise of stock options granted after December 31, 2017, with a weighted average exercise price of $ per share;

- 2,146,767 shares of common stock issuable upon the vesting of restricted stock units granted after December 31, 2017 to Kevin Gordon, our President and Chief Financial Officer;
- 4,699,565 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2017, with a weighted average exercise price of $0.09 per share;
- an aggregate of shares of common stock issuable upon the exercise of stock options to be granted to certain of our officers and directors on the date of execution of the underwriting agreement under the 2018 Plan, assuming we sell shares in this offering;
- shares of common stock issuable upon the vesting of restricted stock units to be granted to Mr. Gordon on the date of execution of the underwriting agreement pursuant to his employment agreement, assuming we sell shares in this offering;
- an additional 10,158,368 shares of common stock reserved for issuance under the Liquidia Technologies, Inc. Stock Option Plan, as amended, or the 2004 Plan, as of December 31, 2017, which shares will no longer be reserved following this offering;
- an additional 1,087,617 shares of common stock reserved for issuance under the Liquidia Technologies, Inc. 2016 Equity Incentive Plan, as amended, or the 2016 Plan, as of December 31, 2017, which shares will no longer be reserved following this offering; and
- an additional shares of common stock that will be made available for future issuance under the Liquidia Technologies, Inc. 2018 Long-Term Incentive Plan, or the 2018 Plan, upon the effectiveness of the registration statement of which this prospectus forms a part.

Unless otherwise indicated, all information in this prospectus reflects or assumes the following:

- the filing of our amended and restated certificate of incorporation and the effectiveness of our amended and restated by-laws upon the closing of this offering;
- the conversion of all of our outstanding shares of preferred stock into an aggregate of shares of common stock upon the closing of this offering;
- no exercise of outstanding options after December 31, 2017;
- a -for- reverse split of our common stock to be effected prior to the completion of this offering; and
- no exercise by the underwriters of their option to purchase up to additional shares of common stock in this offering.

SUMMARY FINANCIAL DATA

The following tables set forth, for the periods and at the dates indicated, our summary financial data. The statement of operations data for the years ended December 31, 2016 and 2017 and the balance sheet data at December 31, 2017 are derived from our audited financial statements appearing elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in any future period. You should read the following information together with the more detailed information contained in "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the accompanying notes thereto appearing elsewhere in this prospectus. The summary financial data in this section are not intended to replace the financial statements and are qualified in their entirety by the financial statements and related notes included elsewhere in this prospectus.

	Year Ended December 31,	
	2016	2017
Statement of Operations Data:		
Revenues	$ 13,216,989	$ 7,258,123
Costs and expenses:		
Cost of sales	918,778	319,759
Research and development	23,319,886	24,753,876
General and administrative	4,841,128	10,212,774
Total costs and expenses	29,079,792	35,286,409
Loss from operations	(15,862,803)	(28,028,286)
Other income (expense):		
Interest income	14,906	268
Interest expense	(85,865)	(13,010,475)
Derivative and warrant fair value adjustment	—	11,884,253
Total other income (expense), net	(70,959)	(1,125,954)
Net loss	(15,933,762)	(29,154,240)
Other comprehensive loss	—	—
Comprehensive loss	$ (15,933,762)	$ (29,154,240)
Net loss per share, basic and diluted	$ (2.16)	$ (3.08)
Weighted average shares outstanding, basic and diluted	7,361,596	9,475,083
Pro forma net loss per share, basic and diluted (unaudited)		$
Pro forma weighted average common shares outstanding, basic and diluted (unaudited)		$

	As of December 31, 2017		
	Actual	Pro forma(1)	Pro forma as adjusted(2)
Balance Sheet Data:			
Cash	$ 3,418,979	$	$
Working capital(3)	(25,039,296)		
Total assets	14,843,602		
Total debt	21,165,131		
Capital stock and additional paid-in capital	79,721,075		
Accumulated deficit	(113,413,311)		
Total stockholders' (deficit) equity	(33,692,236)		

(1) The pro forma balance sheet data give effect to (i) our issuance of 42,863,825 shares of Series D preferred stock in February 2018 and our receipt of $25.6 million in aggregate proceeds from the issuance and the related rights offering, (ii) our issuance of 48,283,657 shares of Series D preferred stock at the same time upon the conversion of outstanding convertible notes in the aggregate amount of $28.9 million, (iii) the conversion of all outstanding shares of preferred stock, including the Series D preferred stock issued in February 2018, into an aggregate of shares of our common stock, which will occur automatically upon the closing of this offering.

(2) The pro forma as adjusted balance sheet data give further effect to (i) our sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and (ii) our use of approximately $2.3 million of the proceeds therefrom to repay debt as described in "Use of Proceeds".

(3) We define working capital as current assets less current liabilities.

The pro forma as adjusted information discussed above is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the estimated price range set forth on the cover of this prospectus, would increase or decrease each of pro forma as adjusted cash, working capital, total assets and total stockholders' equity by $ 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 may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million in the number of shares offered by us would increase or decrease each of pro forma as adjusted cash, working capital, total assets and total stockholders' equity by $ million, assuming that the assumed initial public offering price remains the same, and after deducting estimated underwriting discounts and commissions.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and growth prospects. In such an event, the market price of our common stock could decline and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations.

Risks Related to Our Company and our Financial Condition

We have a history of losses, have not commenced commercial operations to date and our future profitability is uncertain.

We have incurred net losses of $15.9 million and $29.2 million for the years ended December 31, 2016 and 2017, respectively. We also had negative operating cash flows in 2016 and 2017 and negative working capital at December 31, 2016 and 2017. As of December 31, 2017, we had an accumulated deficit of $113.4 million.

Since our incorporation, we have invested heavily in the development of our product candidates and technologies, as well as in recruiting management and scientific personnel. To date, we have not commenced the commercialization of our product candidates and all of our revenue has been derived from up-front fees and milestone payments made to us in connection with licensing and collaboration arrangements we have entered into. These up-front fees and milestone payments have been, and may continue to be, insufficient to match our operating expenses. We expect to continue to devote substantial financial and other resources to the clinical development of our product candidates and, as a result, must generate significant revenue to achieve and maintain profitability. We may continue to incur losses and negative cash flow and may never transition to profitability or positive cash flow.

We are primarily dependent on the success of our lead product candidate, LIQ861, and to a lesser degree, LIQ865, which are still in clinical development, and these product candidates may fail to receive marketing approval or may not be commercialized successfully.

We have no products approved for marketing in any jurisdiction and we have never generated any revenue from product sales. Our ability to generate revenue from product sales and achieve profitability depends on our ability, alone or with strategic collaboration partners, to successfully complete the development of, and obtain the regulatory and marketing approvals necessary to commercialize one or more of our product candidates. We expect that a substantial portion of our efforts and expenditure over the next few years will be devoted to our product candidates, LIQ861, a proprietary inhaled dry powder formulation of treprostinil, which is intended as an inhaled therapy for pulmonary arterial hypertension, or PAH, and LIQ865, a sustained-release formulation of bupivacaine for the management of local post-operative pain. We do not anticipate generating revenue from product sales for at least the next few years, if ever.

We completed a Phase 1 clinical trial for LIQ861 and an early Phase 1 clinical trial in Denmark for LIQ865. We commenced a Phase 3 clinical trial for LIQ861 in the first quarter of 2018 and a Phase 1 clinical trial for LIQ865 in the United States in the third quarter of 2017, and we expect to initiate Phase 2-enabling toxicology studies in the second half of 2018. We cannot assure you that our clinical trials, if commenced, will be successful or meet their endpoints.

If we successfully complete the clinical development of LIQ861 and LIQ865, we cannot assure you that they will receive marketing approval. The FDA or comparable regulatory authorities in other countries may delay, limit or deny approval of our product candidates for various reasons. For example, such authorities

may disagree with the design, scope or implementation of our clinical trials, or with our interpretation of data from our preclinical studies or clinical trials. Status as a combination product, as is the case for LIQ861, may complicate or delay the FDA review process. Product candidates that the FDA deems to be combination products, such as LIQ861, or that otherwise rely on innovative drug delivery systems, may face additional challenges, risks and delays in the product development and regulatory approval process. Moreover, the applicable requirements for approval may differ from country to country.

If we successfully obtain marketing approval for LIQ861 and LIQ865, we cannot assure you that they will be commercialized in a timely manner or successfully, or at all. For example, LIQ861 and LIQ865 may not achieve a sufficient level of market acceptance, or we may not be able to effectively build our marketing and sales capabilities or scale our manufacturing operations to meet commercial demand. The successful commercialization of LIQ861 and LIQ865 will also, in part, depend on factors that are beyond our control. Therefore, we may not generate significant revenue from the sale of such products, even if approved. Any delay or setback we face in the commercialization of LIQ861 or LIQ865 may have a material and adverse effect on our business and prospects, which will adversely affect your investment in our company.

We are a clinical-stage biopharmaceutical company with no approved products and no historical product revenue, which may make it difficult for you to evaluate our business, financial condition and prospects.

We are a clinical-stage biopharmaceutical company with no history of commercial operations upon which you can evaluate our prospects. Drug product development involves a substantial degree of uncertainty. Our operations to date have been limited to developing our PRINT technology, undertaking preclinical studies and clinical trials for our product candidates and collaborating with leading pharmaceutical companies, including GlaxoSmithKline plc and/or its subsidiaries, collectively, GSK, to expand the applications for our PRINT technology through licensing as well as joint product development arrangements. We have not obtained marketing approval for any of our product candidates and, accordingly, have not demonstrated an ability to generate revenue from pharmaceutical products or successfully overcome the risks and uncertainties frequently encountered by companies undertaking drug product development. Consequently, your ability to assess our business, financial condition and prospects may be significantly limited. Further, the net losses that we incur may fluctuate significantly from quarter-to-quarter and year-to-year, such that a period-to-period comparison of our results of operations may not be a good indication of our future performance. Other unanticipated costs may also arise.

Our net losses and significant cash used in operating activities have raised substantial doubt regarding our ability to continue as a going concern.

Our financial statements as of and for the year ended December 31, 2017 include a statement that our recurring losses and cash outflows from operations, our accumulated deficit and our debt maturing within twelve months raise substantial doubt about our ability to continue as a going concern. If we are unable to obtain sufficient funding, our business, prospects, financial condition and results of operations will be materially and adversely affected, and we may be unable to continue as a going concern. If we are unable to continue as a going concern, we may have to liquidate our assets and may receive less than the value at which those assets are carried on our audited financial statements, and it is likely that investors will lose all or a part of their investment. Our ability to continue as a going concern could also materially limit our ability to raise additional funds through the issuance of new debt or equity securities or generate revenues from licensing and collaboration arrangements. After this offering, future financial statements may also include statements expressing substantial doubt about our ability to continue as a going concern. If we seek additional financing to fund our business activities in the future and there remains substantial doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding to us on commercially reasonable terms or at all.

Even if this offering is successful, we expect that we will need further financing for our existing business and future growth, which may not be available on acceptable terms, if at all. Failure to obtain funding on acceptable terms and on a timely basis may require us to curtail, delay or discontinue our product development efforts or other operations. The failure to obtain further financing may also prevent us from capitalizing on other potential product candidates or indications which may be more profitable than LIQ861 and LIQ865 or for which there may be a greater likelihood of success.

We anticipate that we will need to raise additional funds to meet our future funding requirements.

In the event that funds generated from our operations are insufficient to fund our future growth, we may raise additional funds through an issuance of equity or debt securities or by borrowing from banks or other financial institutions. We cannot assure you that we will be able to obtain such additional financing on terms that are acceptable to us, or at all. Global and local economic conditions could negatively affect our ability to raise funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of such securities may include liquidation or other preferences that adversely affect your rights as a stockholder. Such financing, even if obtained, may be accompanied by restrictive covenants that may, among others, limit our ability to pay dividends or require us to seek consent for payment of dividends, or restrict our freedom to operate our business by requiring consent for certain actions.

If we fail to obtain additional financing on terms that are acceptable to us, we will not be able to implement our growth plans, and we may be required to significantly curtail, delay or discontinue one or more of our research, development or manufacturing programs or the commercialization of any approved product. Furthermore, if we fail to obtain additional financing on terms that are acceptable to us, we may forgo or delay the pursuit of opportunities presented by other potential product candidates or indications that may later prove to have greater commercial potential than the product candidates and indications that we have chosen to pursue.

We depend on GSK for a significant portion of our near-term revenue.

We are party to a licensing agreement with GSK pursuant to which GSK has exercised an option to exclusively license our PRINT technology for applications in certain inhaled therapies, or the GSK ICO Agreement. We previously entered into a separate licensing agreement with GSK relating to the field of vaccines, or the GSK VCO Agreement. For the years ended December 31, 2016 and 2017, our revenue attributable to our collaboration and licensing arrangements with GSK, which included a combination of billings for particle formulations, manufacturing, milestone payments and amortization of deferred revenue from up-front fees, accounted for approximately 90% and 84%, respectively, of our total revenue.

Any changes in GSK's plans with respect to the GSK ICO Agreement may materially and adversely affect our results of operations and prospects. For example, in December 2017, GSK informed us of its modified plans under the GSK ICO Agreement that reduced its requirements and budget for our research and development support in 2018. Revenues from research and development services under the GSK ICO Agreement were $3.1 million for the year ended December 31, 2017. We expect that such revenues will be less than $250,000 during 2018 as a result of GSK's modified plans. In response, in January 2018 we reduced our research and development workforce accordingly, and we anticipate that we will incur approximately $400,000 in expense relating to the modification. As we have not commenced commercialization of our product candidates, we expect that in the near future, we will continue to derive a significant portion of our revenue from our collaboration and licensing arrangements with GSK. If GSK exercises its right to terminate the GSK ICO Agreement in its entirety or in respect of a particular product, and if we are not able to generate comparable revenue from our other existing or future collaboration and licensing arrangements, our results of operations and prospects could be materially and adversely affected.

Our credit facility with Pacific Western Bank, or PWB, contains operating and financial covenants that restrict our business and financing activities, and is subject to acceleration in specified circumstances, which may result in PWB taking possession and disposing of any collateral.

Our credit facility contains restrictions that limit our flexibility in operating our business. Under the terms of the loan and security agreement, or LSA, with PWB, pursuant to which PWB extended a $10.0 million term loan facility to us, we may not, among other things, without the prior written consent of PWB, (a) pay any dividends or make any other distribution or payment on account of or in redemption, retirement or purchase of any capital stock except in certain prescribed circumstances, (b) create, incur, assume, guarantee or be or remain liable with respect to any indebtedness except certain permitted indebtedness or prepay any indebtedness, (c) replace or suffer the departure of our Chief Executive Officer or Chief Financial Officer without delivering written notification to PWB within 10 days of such change or (d) suffer a change on our board of directors, or the Board, which results in the failure of at least one partner of either New Enterprise Associates or Canaan Partners or their respective affiliates to serve as a voting member. Our facility with PWB is secured by all of our assets excluding our intellectual property, on which we have granted a negative pledge.

We have, in the past, breached multiple covenants in our LSA related to cash levels, reporting requirements and required periodic deliverables to PWB, but have obtained waivers from PWB in relation to all such breaches. If we breach certain of our debt covenants and are unable to cure such breach within the prescribed period or are not granted waivers in relation to such breach, it may constitute an event of default under our facility agreements, giving lenders the right to require us to repay the then outstanding debt immediately, and the lenders could, among other things, foreclose on the collateral granted to them to collateralize such indebtedness, which excludes our intellectual property, if we are unable to pay the outstanding debt immediately. A breach of covenants and the acceleration of our repayment obligations by PWB could have a material adverse effect on our business, financial condition, results of operations and prospects.

We face significant competition from large pharmaceutical companies, among others, and our operating results will suffer if we are unable to compete effectively.

We face significant competition from industry players worldwide, including large multi-national pharmaceutical companies, other emerging or smaller pharmaceutical companies, as well as universities and other research institutions.

Many of our competitors have substantially greater financial, technical and other resources, such as a larger research and development staff, and more experience in manufacturing and marketing, than we do. As a result, these companies may obtain marketing approval for their product candidates more quickly than we are able to and be more successful in commercializing their products than us. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaboration arrangements that they enter into with large, established companies. We may also face competition as a result of advances in the commercial applicability of new technologies and greater availability of capital for investment in such technologies. Our competitors may also invest heavily in the discovery and development of novel drug products that could make our product candidates less competitive or may file FDA citizen petitions which may delay the approval process for our product candidates.

Furthermore, our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, pharmaceutical products that are easier to develop, more effective or less costly than any product candidates that we are currently developing or that we may develop. Our competitors may also succeed in developing blocking patents to which we do not have a license.

Any new drug product that competes with a prior approved drug product must demonstrate advantages in safety, efficacy, tolerability or convenience in order to overcome price competition and to be commercially successful. Our approved products are expected to face competition from drug products that are already on

the market, as well as those in our competitors' development pipelines. In particular, we expect that LIQ861 will face competition from Tyvaso®, and Ventavis®, which are existing drug products indicated for the treatment of PAH, potential new entrants such as Insmed Inc.'s INS-1009, as well as generic equivalents of Tyvaso following the expiry of Tyvaso's patent in 2018. We are aware that MannKind Corporation has recently filed an Investigational New Drug application, or IND, and initiated a Phase 1 trial evaluating an inhaled dry powder treprostinil product for the treatment of PAH. We expect LIQ865 to face competition from EXPAREL®, an existing injectable version of bupivacaine. The early success of EXPAREL may make it difficult for us to convince physicians, patients and other members of the medical community to accept and use LIQ865 over EXPAREL. In addition, while EXPAREL is currently the only direct competitor to LIQ865 on the market, Durect Corporation, Innocoll Holdings plc and Heron Therapeutics, Inc. each have products in the pipeline that are potential competitors to LIQ865, which are estimated to enter the market in 2018 or 2019, and generic equivalents of EXPAREL may enter the market following the expiry of EXPAREL's patent in 2018. If we are unable to maintain our competitive position, our business and prospects will be materially and adversely affected. See "Business — Competition" for further details.

The pharmaceutical industry is subject to rapid technological change, which could affect the commercial viability of our products.

The pharmaceutical industry is subject to rapid and significant technological change. Research, discoveries or inventions by others may result in medical insights or breakthroughs which render our products less competitive or even obsolete. Furthermore, there may be breakthroughs of new pharmaceutical technologies which may become superior to our PRINT technology that may result in the loss of our commercial advantage. Our future success will, in part, depend on our ability to, among others:

- develop or license new technologies that address the changing needs of the medical community; and
- respond to technological advances and changing industry standards and practices in a cost-effective and timely manner.

Developing technology entails significant technical and business risks and substantial costs. We cannot assure you that we will be able to utilize new technologies effectively or that we will be able to adapt our existing technologies to changing industry standards in a timely or cost-effective manner, or at all. If we are unable to keep up with advancements in technology, our competitive position may suffer and our business and prospects may be materially and adversely affected.

Risks Related to our Business Operations

If we are unable to establish licensing and collaboration arrangements with other pharmaceutical companies on acceptable terms, or at all, we may not be able to develop and commercialize additional product candidates using our PRINT technology.

We have collaborated, and will continue to collaborate, with, among others, pharmaceutical companies such as GSK to expand the applications for our PRINT technology through licensing as well as joint product development arrangements. In addition, if we are able to obtain marketing approval for our product candidates from non-U.S. regulatory authorities, we intend to enter into strategic relationships with international collaborators for the commercialization of such products outside of the United States.

Collaboration and licensing arrangements are complex and time-consuming to negotiate, document, implement and maintain. We may not be successful in our efforts to establish collaboration or other alternative arrangements should we so choose to enter into such arrangements. In addition, the terms of any collaboration or other arrangements that we may enter into may not be favorable to us or may restrict our ability to enter into further collaboration or other arrangements with others. For example, collaboration agreements may contain exclusivity arrangements which limit our ability to work with other pharmaceutical

companies to expand the applications for our PRINT technology, as in the case of our exclusivity arrangements with GSK.

If we are unable to establish licensing and collaboration arrangements or the terms of such agreements we enter into are unfavorable to us or restrict our ability to work with other pharmaceutical companies, we may not be able to expand the applications for our PRINT technology or commercialize our approved products, and our business and prospects may be materially and adversely affected.

Our collaboration and licensing arrangements may not be successful.

Our collaboration and licensing arrangements, as well as any future collaboration and licensing arrangements that we may enter into, may not be successful. The success of our collaboration and licensing arrangements will depend heavily on the efforts and activities of our collaborators, which are not within our control. We may, in the course of our collaboration and licensing arrangements, be subject to numerous risks, including, but not limited to, the following:

- our collaborators, including GSK, may have significant discretion in determining the efforts and resources that they will contribute;
- our collaborators, including GSK, may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial, abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- our collaborators may independently, or in conjunction with others, develop products that compete directly or indirectly with our product candidates;
- we may grant exclusive rights to our collaborators that would restrict us from collaborating with others;
- our collaborators may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and our collaborators, which may cause a delay in or the termination of our research, development or commercialization activities;
- our collaboration and licensing arrangements may be terminated, and if terminated, may result in our need for additional capital to pursue further drug product development or commercialization;
- our collaborators may own or co-own certain intellectual property arising from our collaboration and licensing arrangements with them, which may restrict our ability to develop or commercialize such intellectual property; and
- our collaborators may alter the strategic direction of their business or may undergo a change of control or management, which may affect the success of our collaboration arrangements with them.

We depend on third parties for clinical and commercial supplies, including a single supplier for the active ingredient of LIQ861.

We depend on third-party suppliers for clinical and commercial supplies, including the active pharmaceutical ingredients which are used in our product candidates. These supplies may not always be available to us at the standards we require or on terms acceptable to us, or at all, and we may not be able to locate alternative suppliers in a timely manner, or at all. If we are unable to obtain necessary clinical or commercial supplies, our manufacturing operations and clinical trials and the clinical trials of our collaborators may be delayed or disrupted and our business and prospects may be materially and adversely affected as a result.

For example, we currently rely on a sole supplier, LGM Pharma, LLC, or LGM Pharma, for treprostinil, the active pharmaceutical ingredient of LIQ861. If LGM Pharma is unable to supply treprostinil to us in the quantities we require, or at all, or otherwise defaults on its supply obligations to us, or if it ceases its

relationship with us, we may not be able to obtain alternative supplies of treprostinil from other suppliers on acceptable terms, in a timely manner, or at all. Furthermore, LIQ861 is administered using RS00 Model 8 DPI, a DPI manufactured by Plastiape S.p.A. We purchase treprostinil and our DPI supply pursuant to purchase orders and do not have long-term contracts with either supplier. In the event of any prolonged disruption to our supply of treprostinil or the manufacture and supply of RS00 Model 8 DPI, our ability to develop and commercialize, and the timeline for commercialization of, LIQ861 may be adversely affected.

Our operations are concentrated in Morrisville, North Carolina and interruptions due to natural disasters or other unforeseen events could materially and adversely affect our operations.

All of our current operations are concentrated in Morrisville, North Carolina. A fire, flood, hurricane, earthquake or other disaster or unforeseen event resulting in significant damage to our facilities could significantly disrupt or curtail or require us to cease our operations.

It would be difficult, costly and time-consuming to transfer resources from one facility to another or to repair or replace our facility in the event that it is significantly damaged. In addition, our insurance may not be sufficient to cover all of our losses and may not continue to be available to us on acceptable terms, or at all.

In addition, if one of our suppliers experiences a similar disaster or unforeseen event, we could face significant delays in obtaining our supplies or be required to source for supplies from an alternative supplier and may incur substantial costs as a result. Any significant uninsured loss, prolonged or repeated disruption to operations or inability to operate, experienced by us or by our suppliers could materially and adversely affect our business, financial condition and results of operations.

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 have a material adverse effect on our business.

We are 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. From time to time and in the future, our operations may involve the use of hazardous and flammable materials, including chemicals and biological materials, and may also produce hazardous waste products. Even if we contract with third parties for the disposal of these materials and waste products, we cannot completely eliminate the risk of contamination or injury resulting from these materials. In the event of contamination or injury resulting from the use or disposal of our 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.

We maintain 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, but this insurance may not provide adequate coverage against potential liabilities. However, we do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us.

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

We may be exposed to claims and may not be able to obtain or maintain adequate product liability insurance.

Our business is exposed to the risk of product liability and other liability risks that are inherent in the development, manufacture, clinical testing and marketing of pharmaceutical products. These risks exist

even if a product is approved for commercial sale by the FDA or comparable regulatory authorities in other countries and manufactured in licensed facilities. Our current product candidates, LIQ861 and LIQ865, are designed to affect important bodily functions and processes. Any side effects, manufacturing defects, misuse or abuse associated with our products could result in injury to a patient or even death.

Claims that are successfully brought against us could have a material and adverse effect on our financial condition and results of operations. Further, even if we are successful in defending claims brought against us, our reputation could suffer. Regardless of merit or eventual outcome, product liability claims may also result in, among others:

- a decreased demand for our products;
- a withdrawal or recall of our products from the market;
- a withdrawal of participants from our ongoing clinical trials;
- the distraction of our management's attention from our core business activities to defend such claims;
- additional costs to us; and
- a loss of revenue.

Our insurance may not provide adequate coverage against our potential liabilities. Furthermore, we, our collaborators or our licensees may not be able to obtain or maintain insurance on acceptable terms, or at all. In addition, our collaborators or licensees may not be willing to indemnify us against these types of liabilities and may not themselves be sufficiently insured or have sufficient assets to satisfy any product liability claims. To the extent that they are uninsured or uninsurable, claims or losses that may be suffered by us, our collaborators or our licensees may have a material and adverse effect on our financial condition and results of operations.

We depend on skilled labor, and our business and prospects may be adversely affected if we lose the services of our skilled personnel, including those in senior management, or are unable to attract new skilled personnel.

Our ability to continue our operations and manage our potential future growth depends on our ability to hire and retain suitably skilled and qualified employees, including those in senior management, in the long term. Due to the specialized nature of our work, there is a limited supply of suitable candidates. We compete with other biotechnology and pharmaceutical companies, educational and research institutions and government entities, among others, for research, technical and clinical personnel. In addition, in order to manage our potential future growth effectively, we will need to improve our financial controls and systems and, as necessary, recruit sales, marketing, managerial and finance personnel. If we are unable to attract and retain skilled personnel, including those in senior management, including Neal Fowler, our Chief Executive Officer, and Kevin Gordon, our President and Chief Financial Officer, our business and prospects may be materially and adversely affected.

Our employees and our independent contractors, principal investigators, contract research organizations, or CROs, consultants or commercial collaborators, as well as their respective sub-contractors, if any, may engage in misconduct or fail to comply with certain regulatory standards and requirements, which could expose us to liability and adversely affect our reputation.

Our employees and our independent contractors, principal investigators, CROs, consultants or commercial collaborators, as well as their respective sub-contractors, if any, may engage in fraudulent conduct or other illegal activity, which may include intentional, reckless or negligent conduct that violates, among others, (a) FDA laws and regulations, or those of comparable regulatory authorities in other countries, including those laws that require the reporting of true, complete and accurate information to the FDA, (b) manufacturing standards, (c) healthcare fraud and abuse laws or (d) laws that require the true, complete and accurate reporting of financial information or data. For example, such persons may improperly use or

misrepresent information obtained in the course of our clinical trials, create fraudulent data in our preclinical studies or clinical trials or misappropriate our drug products, which could result in regulatory sanctions being imposed on us and cause serious harm to our reputation. It is not always possible for us to identify or deter misconduct by our employees and third parties, and any precautions we may take to detect or prevent such misconduct may not be effective. Any misconduct or failure by our employees and our independent contractors, principal investigators, CROs, consultants or commercial collaborators, as well as their respective sub-contractors, if any, to comply with the applicable laws or regulations may expose us to governmental investigations, other regulatory action or lawsuits. If any action is instituted against us as a result of the alleged misconduct of our employees or other third parties, regardless of the final outcome, our reputation may be adversely affected and our business may suffer as a result. If we are unsuccessful in defending against any such action, we may also be liable to significant fines or other sanctions, which could have a material and adverse effect on us.

We may acquire businesses, products or product candidates, or form strategic alliances or create joint ventures, in the future, and we may not realize the benefits of such transactions.

We may acquire additional businesses, products or product candidates, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business, although we have no current agreements, commitments or understandings to do so. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of acquiring such businesses if we are unable to successfully integrate them with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing and marketing any new products or product candidates resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expected benefits or enhancing our business. We cannot assure you that, following any such acquisition, strategic alliance or joint venture, we will achieve the expected synergies to justify the transaction.

System failures may disrupt our business operations and delay our product development programs and commercialization activities.

Our systems, including computer systems, and those of our collaborators, contractors and consultants are vulnerable to, among others, unauthorized access, equipment failure and damage from computer viruses as well as cyber hackers. In the event of a material system failure or security breach of, or significant damage to, our systems, our business operations may be disrupted, and our product development programs and commercialization activities may be delayed. For example, failure of or damage to equipment leading to a loss of our clinical trial data could result in delays to the process of obtaining marketing approval for our product candidates, as well as significant and unexpected expenditure to recover or reproduce the lost data. To the extent that any disruption or damage to or security breach of the systems of our collaborators, contractors or consultants results in a loss of our data or applications, or the disclosure of our confidential information, our business may be adversely affected.

Risks Related to the Development and Commercialization of our Product Candidates

The marketing approval processes of the FDA and comparable regulatory authorities in other countries are unpredictable and our product candidates may be subject to multiple rounds of review or may not receive marketing approval.

We have not previously submitted an NDA to the FDA or similar drug approval filings to comparable regulatory authorities in other countries for any product candidate, and we cannot assure you that any of our product candidates will receive marketing approval.

Filing an application and obtaining marketing approval for a pharmaceutical product candidate is an extensive, lengthy, expensive and inherently uncertain process, and regulatory authorities may delay, limit or deny approval of our product candidates for many reasons, including, but not limited to, the following:

- the FDA or comparable regulatory authorities in other countries may refuse to file an NDA or similar drug approval filing if they deem the application to be incomplete;
- the FDA or comparable regulatory authorities in other countries may disagree with the design, scope or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable regulatory authorities in other countries that our product candidate is safe and effective for its proposed indication, or that its clinical and other benefits outweigh its safety risks;
- the results of our clinical trials may not meet the level of statistical significance required by the FDA or comparable regulatory authorities in other countries;
- the FDA or comparable regulatory authorities in other countries may disagree with the number, design, size, conduct or statistical analysis of one or more of our clinical trials;
- the FDA or comparable regulatory authorities in other countries may disagree with our interpretation of data from our preclinical studies or clinical trials;
- the data collected from our clinical trials may not be sufficient to support the submission of an NDA or similar drug approval filing to the FDA or comparable regulatory authorities in other countries;
- the FDA or comparable regulatory authorities in other countries may not approve of our manufacturing processes or facilities or those of our third-party manufacturers, which would be required to be corrected prior to marketing approval;
- the FDA or comparable regulatory authorities in other countries may require development of a costly and extensive risk evaluation and mitigation strategy, or REMS, as a condition of approval;
- the success or further approval of competing products approved in indications similar to those of our product candidates may change the standards for approval of our product candidates in their proposed indications; and
- the approval policies of the FDA or comparable regulatory authorities in other countries may change in a manner that renders our clinical data insufficient for approval.

In addition, the FDA or comparable regulatory authorities in other countries may, in their sole discretion, change their views in respect of regulatory pathways they had previously affirmed or clinical trial protocols they were previously not opposed to. While we have consulted with the FDA on the appropriate regulatory pathway and clinical trial protocols for our product candidates, LIQ861 and LIQ865, we cannot assure you that the FDA will not revise their position significantly at a later date. In the event that this occurs, the clinical development and commercialization of our product candidates may be delayed or even derailed.

Even if we obtain marketing approval, the FDA or comparable regulatory authorities in other countries may approve our product candidates for fewer or more limited indications than what we requested approval for, or may include safety warnings or other restrictions that may negatively impact the commercial viability of our product candidates. Likewise, regulatory authorities may grant approval contingent on the performance of costly post-marketing clinical trials or the conduct of an expensive REMS, which could significantly reduce the potential for commercial success or viability of our product candidates. We also may not be able to find acceptable collaborators to manufacture our approved drug products in commercial quantities and at acceptable prices, or at all.

We may be unable to continually develop a pipeline of product candidates, which could affect our business and prospects.

A key element of our long-term strategy is to continually develop a pipeline of product candidates by developing proprietary innovations to FDA-approved drug products using our PRINT technology. If we are unable to identify off-patent drug products that we can develop proprietary innovations using our PRINT

technology or otherwise expand our product candidate pipeline, whether through licensed or co-development opportunities, and obtain marketing approval for such product candidates within the timeframes that we anticipate, or at all, our business and prospects may be materially and adversely affected.

Our preclinical studies and clinical trials may not be successful and delays to such preclinical studies or clinical trials may cause our costs to increase and significantly impair our ability to commercialize our product candidates.

Before we are able to commercialize our drug products, we are required to undertake extensive preclinical studies and clinical trials to demonstrate that our drug products are safe and effective for their intended uses. However, we cannot assure you that our drug products will, in preclinical studies and clinical trials, demonstrate the safety and efficacy traits necessary to obtain marketing approval. Due to the nature of drug product development, many product candidates, especially those in early stages of development, may be terminated during development. We have not successfully completed the clinical development of any of our product candidates and, accordingly, do not have a track record of successfully bringing product candidates to market. Furthermore, LIQ861 and LIQ865 have, to date, been tested only in relatively small study populations and, accordingly, the results from our earlier clinical trials may be less reliable than results achieved in larger clinical trials.

Preclinical studies and clinical trials may fail due to factors such as flaws in trial design, dose selection and patient enrollment criteria. The results of preclinical studies and early clinical trials may not be indicative of the results of subsequent clinical trials. Product candidates may, in later stages of clinical testing, fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and earlier clinical trials. Moreover, there may be significant variability in safety or efficacy results between different trials of the same product candidate due to factors including, but not limited to, changes in trial protocols, differences in the composition of the patient population, adherence to the dosing regimen and other trial protocols and the rate of drop-out among patients in a clinical trial. If our preclinical studies or clinical trials are not successful and we are unable to bring our product candidates to market as a result, our business and prospects may be materially and adversely affected.

Furthermore, conducting preclinical studies and clinical trials is a costly and time-consuming process. The length of time required to conduct the required studies and trials may vary substantially according to the type, complexity, novelty and intended use of the product candidate. A single clinical trial may take up to several years to complete. Moreover, our preclinical studies and clinical trials may be delayed or halted due to various factors, including, among others:

- delays in raising the funding necessary to initiate or continue a clinical trial;
- delays in manufacturing sufficient quantities of product candidates for clinical trials;
- delays in reaching agreement on acceptable terms with prospective contract research organizations and clinical trial sites;
- delays in obtaining institutional review board approval at clinical trial sites;
- delays in recruiting suitable patients to participate in a clinical trial;
- delays in patients' completion of clinical trials or their post-treatment follow up;
- regulatory authorities' interpretation of our preclinical and clinical data; and
- unforeseen safety issues, including a high and unacceptable severity, or prevalence, of undesirable side effects or adverse events caused by our product candidates or similar drug products or product candidates.

If our preclinical studies or clinical trials are delayed, the commercialization of our product candidates will be delayed and as a result, we may incur substantial additional costs or not be able to recoup our investment in the development of our product candidates, which would have a material and adverse effect on our business.

We are planning to pursue the FDA 505(b)(2) pathway for all of our current product candidates. If we are unable to rely on the 505(b)(2) regulatory pathway to apply for marketing approval of our product candidates in the United States, seeking approval of these product candidates through the 505(b)(1) new drug application, or NDA, pathway would require full reports of investigations of safety and effectiveness, and the process of obtaining marketing approval for our product candidates would likely be significantly longer and more costly.

Our business model is to develop our own drug products in addition to collaborating with, among others, pharmaceutical companies such as GSK to develop drug products. We are currently focused on developing drug products that can be approved under abbreviated regulatory pathways in the United States, such as the 505(b)(2) regulatory pathway, which permits the filing of an NDA where at least some of the information required for approval comes from studies that were not conducted by or for the applicant and for which the applicant has not obtained a right of reference. Section 505(b)(2), if applicable to us, would allow an NDA we submit to the FDA to rely in part on data in the public domain or the FDA's prior conclusions regarding the safety and effectiveness of approved compounds, which could expedite the development program for a product candidate by potentially decreasing the amount of clinical data that we would need to generate in order to obtain FDA approval. We plan to pursue this pathway for our current product candidates. Even if the FDA allows us to rely on the 505(b)(2) regulatory pathway, we cannot assure you that such marketing approval will be obtained in a timely manner, or at all.

The FDA may require us to perform additional clinical trials to support any change from the reference listed drug, which could be time-consuming and substantially delay our receipt of marketing approval. Also, as has been the experience of others in our industry, our competitors may file citizens' petitions with the FDA to contest approval of our NDA, which may delay or even prevent the FDA from approving any NDA that we submit under the 505(b)(2) regulatory pathway. If an FDA decision or action relative to our product candidate, or the FDA's interpretation of Section 505(b)(2) more generally, is successfully challenged, it could result in delays or even prevent the FDA from approving a 505(b)(2) application for our product candidates. Even if we are able to utilize the 505(b)(2) regulatory pathway, a drug approved via this pathway may be subject to the same post-approval limitations, conditions and requirements as any other drug.

In addition, we may face patent infringement lawsuits in relation to our NDAs submitted under the 505(b)(2) regulatory pathway, which may further delay or prevent the review or approval of our product candidates. The pharmaceutical industry is highly competitive, and 505(b)(2) NDAs are subject to special requirements designed to protect the patent rights of sponsors of previously approved drugs that are referenced in a 505(b)(2) NDA. A claim by the applicant that a patent is invalid or will not be infringed is subject to challenge by the patent holder, requirements may give rise to patent litigation and mandatory 30-month delays in approval of a 505(b)(2) application. It is not uncommon for a manufacturer of an approved product to file a citizen petition with the FDA seeking to delay approval of, or impose additional approval requirements for, pending competing products. If successful, such petitions can significantly delay, or even prevent, the approval of the new product. However, even if the FDA ultimately denies such a petition, the FDA may substantially delay approval while it considers and responds to the petition.

If the FDA determines that our product candidates do not qualify for the 505(b)(2) regulatory pathway, we would need to reconsider our plans and might not be able to commercialize our product candidates in a cost-efficient manner, or at all. If we were to pursue approval under the 505(b)(1) NDA pathway, we would be subject to more extensive requirements and risks such as conducting additional clinical trials, providing additional data and information or meeting additional standards for marketing approval. As a result, the time and financial resources required to obtain marketing approval for our product candidates would likely increase substantially and further complications and risks associated with our product candidates may arise. Also, new competing products may reach the market faster than ours, which may materially and adversely affect our competitive position, business and prospects.

Product candidates that the FDA deems to be combination products, such as LIQ861, or that otherwise rely on innovative drug delivery systems, may face additional challenges, risks and delays in the product development and regulatory approval process.

The FDA has indicated that it considers LIQ861, which is delivered by a DPI, to be a drug-device combination product and, accordingly, the DPI will be evaluated as part of our NDA filing. When evaluating products that utilize a specific drug delivery system or device, the FDA will evaluate the characteristics of that delivery system and its functionality, as well as the potential for undesirable interactions between the drug and the delivery system, including the potential to negatively impact the safety or effectiveness of the drug. The FDA review process can be more complicated for combination products, and may result in delays, particularly if novel delivery systems are involved. We rely on third parties for the design and manufacture of the delivery systems for our products, including the DPI for LIQ861, and in some cases for the right to refer to their data on file with the FDA or other regulators. Quality or design concerns with the delivery system, or commercial disputes with these third parties, could delay or prevent regulatory approval and commercialization of our product candidates.

Our product candidates are based on our proprietary, novel technology, PRINT, which makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval.

Our future success depends on the successful development of our PRINT technology and products based on it, including LIQ861 and, to a lesser degree, LIQ865. To our knowledge, no regulatory authority has granted approval to any person or entity, including us, to market and commercialize drugs using our novel delivery system. We may never receive approval to market and commercialize any product candidate that uses PRINT.

We may encounter difficulties in enrolling patients in our clinical trials.

We may not be able to commence or complete clinical trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials.

Patient enrollment may be affected by, among others:

- the severity of the disease under investigation;
- the design of the clinical trial protocol;
- the size and nature of the patient population;
- eligibility criteria for the clinical trial in question;
- the perceived risks and benefits of the product candidate under clinical testing, including a high and unacceptable severity, or prevalence, of undesirable side effects or adverse events caused by our product candidates or similar products or product candidates;
- the existing body of safety and efficacy data in respect of the product candidate under clinical testing;
- the proximity of patients to clinical trial sites; and
- the number and nature of competing therapies and clinical trials.

Any negative results we may report in clinical trials of our product candidates may also make it difficult or impossible to recruit and retain patients in other clinical trials of that same product candidate.

In particular, we will be required to identify and enroll a sufficient number of patients with PAH for the Phase 3 clinical trial of LIQ861. PAH is a rare disease with a relatively small patient population, and our enrollment of clinical trial participants may be slow as a result. Furthermore, we are aware of a number of therapies for PAH that are being developed or that are already available on the market, and we expect to face competition from these investigational drugs or approval drugs for potential subjects in our clinical trials, which may delay enrollment in our planned clinical trials.

Delays or failures in planned patient enrollment or retention may result in increased costs, program delays, or both. We may, as a result of such delays or failures, be unable to carry out our clinical trials as planned or within the timeframe that we expect or at all, and our business and prospects may be materially and adversely affected as a result.

If a competitor obtains orphan drug designation from the FDA for the same drug and same indication as we are seeking for a product candidate, and then obtains approval of that drug for that condition before we do, the resulting FDA exclusivity would significantly delay our ability to commercialize that product candidate.

Under the Orphan Drug Act, the FDA may grant orphan drug designation to drugs intended to treat a rare disease or condition—generally a disease or condition that affects fewer than 200,000 individuals in the United States or that affects more than 200,000 individuals in the United States and for which there is no reasonable expectation that costs of research and development of the drug for the indication can be recovered by sales of the drug in the United States. Orphan drug designation must be requested before submitting an NDA.

After the FDA grants orphan drug designation, the generic identity of the drug and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process. The first applicant to receive FDA approval for a particular active ingredient to treat a particular disease or condition with orphan drug designation is entitled to a seven-year exclusive marketing period in the United States for that product in that indication. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the NDA application user fee.

During the exclusivity period, the FDA may not approve any other applications to market the same drug for the same disease or condition, except in limited circumstances, such as if the second applicant demonstrates the clinical superiority of its product to the product with orphan drug exclusivity through a demonstration of superior safety, superior efficacy or a major contribution to patient care, or if the manufacturer of the product with orphan exclusivity is not able to assure sufficient quantities of the product. "Same drug" means a drug that contains the same identity of the active moiety if it is a drug composed of small molecules, or of the principal molecular structural features if it is composed of macromolecules and is intended for the same use as a previously approved drug, except that if the subsequent drug can be shown to be clinically superior to the first drug, it will not be considered to be the same drug. Drug exclusivity does not prevent the FDA from approving a different drug for the same disease or condition, or the same drug for a different disease or condition.

We have conducted, and may in the future conduct, clinical trials for our product candidates outside the United States and the FDA may not accept data from such trials.

Although the FDA may accept data from clinical trials conducted outside the United States in support of safety and efficacy claims for our product candidates, if not conducted under an IND, this is subject to certain conditions set out in 21 C.F.R. § 312.120. For example, in order for the FDA to accept data from such a foreign clinical trial, the study must have been conducted in accordance with Good Clinical Practice, or GCP, including review and approval by an independent ethics committee and obtaining the informed consent from subjects of the clinical trials. The FDA must also be able to validate the data from the study through an onsite inspection if the agency deems it necessary. In addition, foreign clinical data submitted to support FDA applications should be applicable to the U.S. population and U.S. medical practice. Other factors that may affect the acceptance of foreign clinical data include differences in clinical conditions, study populations or regulatory requirements between the United States and the foreign country.

We conducted the early Phase 1 clinical trial of LIQ865 in Denmark, and not under an IND, and may, in the future, conduct the clinical trials of our product candidates outside the United States. The FDA may not accept such foreign clinical data, and in such event, we may be required to re-conduct the relevant clinical

trials within the United States, which would be costly and time-consuming, and which could have a material and adverse effect on our ability to carry out our business plans.

We rely on third parties to conduct our preclinical studies and clinical trials.

We currently rely on, and plan to continue to rely on, third-party CROs to monitor and manage data for our preclinical studies and clinical trials. However, we are responsible for ensuring that each of our trials is conducted in accordance with the applicable regulatory standards and our reliance on CROs does not relieve us of our regulatory responsibilities.

The CROs on which we rely are required to comply with FDA regulations (and the regulations of comparable regulatory authorities in other countries) regarding GCP. Regulatory authorities enforce GCP standards through periodic inspections. If any of the CROs on which we rely fail to comply with the applicable GCP standards, the clinical data generated in our clinical trials may be deemed unreliable. While we have contractual agreements with these CROs, we have limited influence over their actual performance and cannot control whether or not they devote sufficient time and resources to our preclinical studies and clinical trials. A failure to comply with the applicable regulations in the conduct of the preclinical studies and clinical trials for our product candidates may require us to repeat such studies or trials, which would delay the process of obtaining marketing approval for our product candidates and have a material and adverse effect on our business and prospects.

Some of our CROs have the ability to terminate their respective agreements with us if, among others, it can be reasonably demonstrated that the safety of the patients participating in our clinical trials warrants such termination. If any of our agreements with our CROs is terminated, and if we are not able to enter into agreements with alternative CROs on acceptable terms or in a timely manner, or at all, the clinical development of our product candidates may be delayed and our development expenses could be increased.

Our facilities are subject to extensive and ongoing regulatory requirements and failure to comply with these regulations may result in significant liability.

Our company and our facilities are subject to payment of fees, ongoing review and periodic inspections by the FDA and other regulatory authorities for compliance with quality system regulations, including the FDA's current good manufacturing practices, or cGMP, requirements. These regulations cover all aspects of the manufacturing, testing, quality control and record-keeping of our drug products. Furthermore, the facilities where our product candidates are manufactured may be subject to inspection by the FDA before we can obtain marketing approval and remain subject to periodic inspection even after our product candidates have received marketing approval. Suppliers of components and materials such as active pharmaceutical ingredients, used to manufacture our drug products are also required to comply with the applicable regulatory standards.

The manufacture of pharmaceutical products is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. We and any contract manufacturers that we may engage in the future must comply with cGMP requirements. Manufacturers of pharmaceutical products often encounter difficulties in production, particularly in scaling up and validating initial production and contamination controls. These problems include difficulties with production costs and yields, quality control, including stability of the product, quality assurance testing, operator error, shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. Furthermore, if microbial, viral or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

Compliance with these regulatory standards often requires significant expense and effort. If we or our suppliers are unable to comply with the applicable regulatory standards or take satisfactory corrective steps

in response to adverse results of an inspection, this could result in enforcement action, including, among others, the issue of a public warning letter, a shutdown of or restrictions on our or our suppliers' manufacturing operations, delays in approving our drug products and refusal to permit the import or export of our drug products. Any adverse regulatory action taken against us could subject us to significant liability and harm our business and prospects.

Our current pipeline product candidates, LIQ861 and LIQ865, require extensive clinical data analysis, regulatory review and additional testing. Clinical trials and data analysis can be very expensive, time-consuming and difficult to design and implement. If we are unsuccessful in obtaining regulatory approval for LIQ861 or LIQ865, or any of our product candidates do not provide positive results, we may be required to delay or abandon development of such product, which would have a material adverse impact on our business.

Continuing product development requires additional and extensive clinical testing. Human clinical trials are very expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. The clinical trial process is also time-consuming. We cannot provide any assurance or certainty regarding when we might receive regulatory approval for LIQ861 or LIQ865. Furthermore, failure can occur at any stage of the process, and we could encounter problems that cause us to abandon an NDA filed with the FDA or repeat clinical trials. The commencement and completion of clinical trials for any current or future development product candidate may be delayed by several factors, including:

- unforeseen safety issues;
- determination of dosing issues;
- lack of effectiveness during clinical trials;
- slower than expected rates of patient recruitment;
- inability to monitor patients adequately during or after treatment; and
- inability or unwillingness of medical investigators to follow our clinical protocols.

In addition, the FDA or an independent institutional review board, or IRB, may suspend our clinical trials at any time if it appears that we are exposing participants to unacceptable health risks or if the FDA finds deficiencies in our IND submissions or the conduct of these trials. Therefore, we cannot provide any assurance or predict with certainty the schedule for future clinical trials. In the event we do not ultimately receive regulatory approval for LIQ861 and LIQ865, we may be required to terminate development of our only product candidates.

Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial potential or result in significant negative consequences following any potential marketing approval.

If our product candidates are associated with undesirable side effects or have characteristics that are unexpected, we may need to abandon our development or limit development 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. Any serious adverse or undesirable side effects identified during the development of our product candidates, could interrupt, delay or halt clinical trials and could result in the denial of regulatory approval by the FDA or other regulatory authorities for any or all targeted indications, and in turn prevent us from commercializing our product candidates and generating revenues from their sale. In addition, if any of our product candidates receive regulatory approval and we or others later identify undesirable adverse effects caused by the product, we could face one or more of the following consequences:

- regulatory authorities may require the addition of labeling statements, such as a boxed warning or a contraindication, or other safety labeling changes;
- regulatory authorities may require a REMS;

- regulatory authorities may withdraw their approval of the product;
- regulatory authorities may seize the product;
- we may be required to change the way that the product is administered, or conduct additional clinical trials or we may need to recall the product;
- we may be subject to litigation or product liability claims fines, injunctions or criminal penalties; and
- our reputation may suffer.

Even if we obtain marketing approval for our product candidates in the United States, we or our collaborators may not obtain marketing approval for the same product candidates elsewhere.

We may enter into strategic collaboration arrangements with third parties to commercialize our product candidates outside of the United States. In order to market any product candidate outside of the United States, we or our collaborators will be required to comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy. Clinical trials conducted in one country may not be recognized or accepted by regulatory authorities in other countries, and obtaining marketing approval in one country does not mean that marketing approval will be obtained in any other country. Approval processes vary among countries and additional product testing and validation, or additional administrative review periods, may be required from one country to the next.

Seeking marketing approval in countries other than the United States could be costly and time-consuming, especially if additional preclinical studies or clinical trials are required to be conducted. We currently do not have any product candidates approved for sale in any jurisdiction, including non-U.S. markets, and we do not have the experience in obtaining marketing approval in non-U.S. markets. We currently also have not identified any collaborators to market our products outside of the United States and cannot assure you that such collaborators, even if identified, will be able to successfully obtain marketing approval for our product candidates outside of the United States. If we or our collaborators fail to obtain marketing approval in non-U.S. markets, or if such approval is delayed, our target market may be reduced, and our ability to realize the full market potential of our products will be adversely affected.

The terms of approvals, ongoing regulations and post-marketing restrictions for our products may limit how we manufacture and market our products, which could materially impair our ability to generate revenue.

Once marketing approval has been granted, an approved product and its manufacturer and marketer are subject to ongoing review and extensive regulation. The FDA closely regulates the post-approval marketing and promotion of drugs to ensure drugs are marketed only for the approved indications and in accordance with the provisions of the approved labeling and regulatory requirements. The FDA imposes stringent restrictions on manufacturers' communications regarding off-label use, and if we do not restrict the marketing of our products only to their approved indications, we may be subject to enforcement action for off-label marketing. We and any potential collaborators we may have in the future, must therefore comply with requirements concerning advertising and promotion for any of our products for which we or our collaborators obtain marketing approval. Thus, if either of our current product candidates receive marketing approval, the accompanying label may limit the approved use of our product, which could limit sales of the product.

In addition, manufacturers of approved products and those manufacturers' facilities are required to comply with extensive FDA requirements, such as ensuring that quality control and manufacturing procedures conform to cGMP applicable to drug manufacturers, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation and reporting requirements. We, any contract manufacturers we may engage in the future, our future collaborators, licensees and their contract manufacturers will also be subject to other regulatory requirements, including submissions of safety and other post-marketing information and reports, registration and listing requirements, requirements regarding the distribution of samples to clinicians, recordkeeping

and costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the product such as the requirement to implement a risk evaluation and mitigation strategy.

Our products may not achieve market acceptance.

Our business model is to develop our own drug products in addition to collaborating with, among others, pharmaceutical companies such as GSK to develop drug products. We are currently focused on developing drug products that can be approved under abbreviated regulatory pathways in the United States, such as the 505(b)(2) regulatory pathway, which allows us to rely on existing knowledge of the safety and efficacy of the relevant reference listed drugs to support our applications for approval in the United States. While we believe that it will be less difficult for us to convince physicians, patients and other members of the medical community to accept and use our drug products as compared to entirely new drugs, our drug products may nonetheless fail to gain sufficient market acceptance by physicians, patients, other healthcare providers and third-party payors. If any of our drug products fail to achieve sufficient market acceptance, we may not be able to generate sufficient revenue to become profitable. The degree of market acceptance of our drug products, if and when they are approved for commercial sale, will depend on a number of factors, including but not limited to:

- the timing of our receipt of marketing approvals, the terms of such approvals and the countries in which such approvals are obtained;
- the safety, efficacy, reliability and ease of administration of our drug products;
- the prevalence and severity of undesirable side effects and adverse events;
- the extent of the limitations or warnings required by the FDA or comparable regulatory authorities in other countries to be contained in the labeling of our drug products;
- the clinical indications for which our drug products are approved;
- the availability and perceived advantages of alternative therapies;
- any publicity related to our drug products or those of our competitors;
- the quality and price of competing drug products;
- our ability to obtain third-party payor coverage and sufficient reimbursement;
- the willingness of patients to pay out of pocket in the absence of third-party payor coverage; and
- the selling efforts and commitment of our commercialization collaborators.

If our approved drug products fail to receive a sufficient level of market acceptance, our ability to generate revenue from sales of our drug products will be limited, and our business and results of operations may be materially and adversely affected.

The commercial success of our drug products depends on the availability and sufficiency of third-party payor coverage and reimbursement.

Patients in the United States and elsewhere generally rely on third-party payors to reimburse part or all of the costs associated with their prescription drugs. Accordingly, market acceptance of our drug products is dependent on the extent to which third-party coverage and reimbursement is available from government health administration authorities (including in connection with government healthcare programs, such as Medicare and Medicaid in the United States), private healthcare insurers and other healthcare funding organizations.

Significant uncertainty exists as to the coverage and reimbursement status of any drug products for which we may obtain regulatory approval. Coverage decisions may not favor new drug products when more established or lower-cost therapeutic alternatives are already available. Even if we obtain coverage for a given drug product, the associated reimbursement rate may not be adequate to cover our costs, including research, development, intellectual property, manufacture, sale and distribution expenses, or may require

co-payments that patients find unacceptably high. Patients are unlikely to use our products unless reimbursement is adequate to cover all or a significant portion of the cost of our drug products.

Coverage and reimbursement policies for drug products can differ significantly from payor to payor as there is no uniform policy of coverage and reimbursement for drug products among third-party payors in the United States. There may be significant delays in obtaining coverage and reimbursement as the process of determining coverage and reimbursement is often time-consuming and costly which will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage or adequate reimbursement will be obtained. It is difficult to predict at this time what government authorities and third-party payors will decide with respect to coverage and reimbursement for our drug products.

The market for our product candidates will depend significantly on access to third-party payors' drug formularies, or lists of medications for which third-party payors provide coverage and reimbursement. Competition to be included in such formularies often leads to downward pricing pressures. In particular, third-party payors may refuse to include a particular reference listed drug in their formularies or otherwise restrict patient access to a reference listed drug when a less costly generic equivalent or other alternative is available. In particular, given that several therapeutically similar drug products to LIQ861, including oral and parenteral prostacyclins, are available on the market, managed care organizations may minimize the utilization of a new to market product and accordingly, we expect that LIQ861, if and when it is approved, will operate in a highly cost-constrained environment. Similarly, as there are a number of generic and branded therapeutic alternatives to LIQ865 in the post-operative pain market, there is a significant risk that we may not be placed on the formularies of key institutions and/or receive favorable reimbursement for LIQ865, if and when it is approved.

The U.S. government, state legislatures and foreign governmental entities have shown significant interest in implementing cost containment programs to limit the growth of government-paid healthcare costs, including price controls, restrictions on reimbursement and coverage and requirements for substitution of generic products for branded prescription drugs. Adoption of government controls and measures, and tightening of restrictive policies in jurisdictions with existing controls and measures, could exclude or limit our drugs products from coverage and limit payments for pharmaceuticals.

In addition, we expect that the increased emphasis on managed care and cost containment measures in the United States by third-party payors and government authorities to continue and will place pressure on pharmaceutical pricing and coverage. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more drug products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

If we are unable to obtain and maintain sufficient third-party coverage and adequate reimbursement for our drug products, the commercial success of our drug products may be greatly hindered and our financial condition and results of operations may be materially and adversely affected.

Our products may be subject to reduced prices negotiated by certain group purchasing organizations that could adversely impact our product revenue.

Our customers may organize with each other or with third parties, such as distributors, manufacturers or hospitals, to negotiate prices that are lower than we may have been able to obtain from each of them individually. In such event, our ability to generate any product revenue, and consequently, our results of operations may be materially and adversely affected.

We may not be able to build our marketing and sales capabilities or enter into agreements with third parties to market and sell our drug products.

In order to market and sell any of our approved drug products, we will be required to build our marketing and sales capabilities. We cannot assure you that we will be successful in doing so or be able to do so in a cost-effective manner. In addition, we may enter into collaboration arrangements with third parties to market our drug products outside of the United States. We may face significant competition for collaborators. In addition, collaboration arrangements may be time-consuming to negotiate and document. We cannot assure you that we will be able to negotiate collaborations for the marketing and sales of our drug products outside of the United States on acceptable terms, or at all. Even if we do enter into such collaborations, we cannot assure you that our collaborators will be successful in commercializing our products. If we or our collaborators are unable to successfully commercialize our drug products whether in the United States or elsewhere, our business and results of operations may be materially and adversely affected.

The off-label use or misuse of our products may harm our image in the marketplace, result in injuries that lead to costly product liability suits, or result in costly investigations and regulatory agency sanctions under certain circumstances if we are deemed to have engaged in the promotion of these uses, any of which could be costly to our business.

We are developing LIQ861 for the treatment of PAH and LIQ865 for the treatment of local post-operative pain. If our product candidates are cleared by the FDA for these specific indications, we may only promote or market our product candidates for their specifically cleared or approved indications. We will train our marketing and sales force against promoting our product candidates for uses outside of the cleared or approved indications for use, known as "off-label uses." We cannot, however, prevent a physician from using our products off-label, when in the physician's independent professional medical judgment he or she deems it appropriate. There may be increased risk of injury to patients if physicians attempt to use our products for these uses for which they are not approved. Furthermore, the use of our products for indications other than those approved by the FDA may not effectively treat such conditions, which could harm our reputation in the marketplace among physicians and patients.

If the FDA determines that our promotional materials or training constitute promotion of an off-label or other improper use, it could request that we modify our training or promotional materials, or subject us to regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, injunction, seizure, civil fine or criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider our business activities to constitute promotion of an off-label use, which could result in significant penalties, including, but not limited to, criminal, civil or administrative penalties, damages, fines, disgorgement, exclusion from participation in government healthcare programs and the curtailment of our operations.

These regulations or codes may limit our ability to effectively market our products, or we could run afoul of the requirements imposed by these regulations, causing reputational harm and impose potentially substantial costs on us.

Even if we obtain regulatory approval for a product candidate, our products and business will remain subject to ongoing regulatory obligations and review.

If our product candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies and submission of safety, efficacy and other post-market information, including both federal and state requirements in the United States and comparable requirements outside of the United States. Accordingly, we and others with whom we work must continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production and quality control.

Any regulatory approvals that we receive for our product candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product candidate. The FDA may also require a REMS as a condition of approval of our product candidates, which could include requirements for a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. We will also be required to report certain adverse reactions and production problems, if any, to the FDA or other regulatory agencies and to comply with requirements concerning advertising and promotion for our products. 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 label. As such, we may not promote our products for indications or uses for which they do not have FDA or other regulatory agency approval. The holder of an approved NDA must also submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling, or manufacturing process. We could also be asked to conduct post-marketing clinical studies to verify the safety and efficacy of our product candidates in general or in specific patient subsets. An unsuccessful post-marketing study or failure to complete such a clinical study could result in the withdrawal of marketing approval. Furthermore, any new legislation addressing drug safety issues could result in delays in product development or commercialization or increased costs to assure compliance. Foreign regulatory authorities impose similar requirements. If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or disagrees with the promotion, marketing or labeling of a product, such regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If we fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may, among other things:

- issue warning letters asserting that we are in violation of the law;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any of our ongoing clinical trials;
- refuse to approve pending applications or supplements to approved applications submitted by us or our strategic partners;
- restrict the marketing or manufacturing of our products;
- seize or detain products, or require a product recall;
- refuse to permit the import or export of our product candidates; or
- refuse to allow us to enter into government contracts.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue from our product candidates. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our company and our operating results will be adversely affected.

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business, prospects, financial condition and results of operations.

If our product candidates are approved for commercialization outside of the United States, we may be exposed to a number of risks associated with international business operations.

If our product candidates are approved for commercialization outside of the United States, we may market our approved drug products ourselves, or we may enter into agreements with third parties to market the aforesaid drug products outside of the United States. In such event, we may be subject to risks related to international business operations, including, but not limited to:

- varying levels of protection for intellectual property rights;
- changes in tariffs and the imposition of trade barriers;
- economic weakness, including inflation or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws in respect of employees living or traveling abroad;
- foreign tax laws;
- currency fluctuations; and
- business interruptions resulting from geopolitical actions, such as wars and terrorist attacks, among others, or natural disasters, such as fires, floods, earthquakes and hurricanes, among others.

If the FDA or comparable regulatory authorities in other countries approve generic versions of our product candidates, or do not grant our product candidates a sufficient period of market exclusivity before approving their generic versions, our ability to generate revenue may be adversely affected.

Once an NDA is approved, the drug product covered will be listed as a reference listed drug in the FDA's Orange Book. In the United States, manufacturers of drug products may seek approval of generic versions of reference listed drugs through the submission of abbreviated new drug applications, or ANDAs. In support of an ANDA, a generic manufacturer is generally required to show that its product has the same active pharmaceutical ingredient(s), dosage form, strength, route of administration and conditions of use or labelling as the reference listed drug and that the generic version is bioequivalent to the reference listed drug. Generic drug products may be significantly less expensive to bring to market than the reference listed drug, and companies that produce generic drug products are generally able to offer them at lower prices. Thus, following the introduction of a generic drug product, a significant percentage of the sales of any reference listed drug may be lost to the generic drug product.

The FDA will not approve an ANDA for a generic drug product until the applicable period of market exclusivity for the reference listed drug has expired. The applicable period of market exclusivity varies depending on the type of exclusivity granted. A grant of market exclusivity is separate from the existence of patent protection and manufacturers may seek to launch generic versions of our drug products following the expiry of their respective marketing exclusivity periods, even if our drug products are still under patent protection at the relevant time.

Any competition that our product candidates may face, if and when such product candidates are approved for marketing and commercialized, from generic versions could substantially limit our ability to realize a return on our investment in the development of our product candidates and have a material and adverse effect on our business and prospects.

Our drug products may be subject to recalls, withdrawals, seizures or other enforcement actions by the FDA or comparable regulatory authorities in other countries if we fail to comply with regulatory requirements or previously unknown problems with our drug products are discovered after they reach the market.

The FDA or comparable regulatory authorities in other countries may withdraw approval of our drug products if we fail to maintain compliance with regulatory requirements or if problems occur after our drug products reach the market. The discovery of previously unknown problems with a drug product, including adverse events of unanticipated severity or frequency, problems with manufacturing processes or failure to comply with regulatory requirements, including the requirement to promote a drug product only for its approved indications and in accordance with the provisions of its approved label, may result in, among others:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- 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 the product; or
- injunctions or the imposition of civil or criminal penalties.

In the event that our drug products are subject to recalls, withdrawals, seizures or other enforcement actions by the FDA or comparable regulatory authorities, our reputation and demand for our drug products could be materially and adversely affected. In addition, we may incur significant and unexpected expenditure and management attention may be diverted in connection with any such recall, withdrawal, seizure or other enforcement action or any corrective action required to be taken, which could have a material and adverse impact on our business and financial condition.

We may not be able to respond effectively to changing consumer preferences and demand.

Our success depends, in part, on our ability to anticipate and respond to changing consumer trends and preferences in the pharmaceutical industry. We may not be able to respond to these changes in a timely or commercially effective manner or at all. Our failure to accurately predict these trends could negatively impact our inventory levels, sales and reputation. The commercial success of our drug products will depend upon a number of factors, including our ability to, among others:

- anticipate consumers' therapeutic needs;
- innovate, develop and commercialize new drug products in a timely manner;
- competitively price our drug products;
- procure and maintain our drug products in sufficient volumes and in a timely manner; and
- differentiate our drug products from those of our competitors.

If we are unable to introduce new drug products, develop improvements to our existing drug products or maintain the appropriate inventory levels to meet our customers' demand in a timely manner or at all, our business and prospects could be materially and adversely affected.

We may not be able to engage third-party contract manufacturing organizations, or CMOs, to manufacture our approved drug products on a commercial scale to meet commercial demand for our drug products.

We may, in the future, rely on third-party CMOs or enter into manufacturing joint ventures with third parties to manufacture our approved drug products on a commercial scale. However, we cannot assure you that we will be able to contract with such third parties on acceptable terms, if at all, or that such third parties will satisfy our quality standards or meet our supply requirements in a timely manner, if at all. In addition, only a limited number of manufacturers are capable of supplying pharmaceutical products. The manufacturing process for our drug products will be highly regulated, and we will need to contract with manufacturers that can meet the relevant regulatory requirements on an ongoing basis. If the third-party manufacturers with

whom we contract fail to perform their obligations, we may not be able to meet commercial demand for our drug products, which would have a material and adverse impact on our business.

Risks Related to our Intellectual Property

Our commercial success depends largely on our ability to protect our intellectual property.

Our commercial success depends, in large part, on our ability to obtain and maintain patent protection and trade secret protection in the United States and elsewhere in respect of our product candidates and PRINT technology. If we fail to adequately protect our intellectual property rights, our competitors may be able to erode, negate or preempt any competitive advantage we may have. To protect our competitive position, we have filed and will continue to file for patents in the United States and elsewhere in respect of our product candidates and PRINT technology. The process of identifying patentable subject matter and filing a patent application is expensive and time-consuming. We cannot assure you that we will be able to file the necessary or desirable patent applications at a reasonable cost, in a timely manner, or at all. Further, since certain patent applications are confidential until patents are issued, third parties may have filed patent applications for subject matters covered by our pending patent applications without us being aware of such applications, and our patent applications may not have priority over patent applications of others. In addition, we cannot assure you that our pending patent applications will result in patents being obtained. The standards that patent offices in different jurisdictions use to grant patents are not always applied predictably or uniformly and may be changed.

Even if we have been or are able to obtain patent protection for our product candidates or PRINT technology, if the scope of such patent protection is not sufficiently broad, we may not be able to rely on such patent protection to prevent third parties from developing or commercializing our product candidates or technology. The enforceability of patents in the pharmaceutical industry involves complex legal and scientific questions and can be uncertain. Accordingly, we cannot assure you that third parties will not successfully challenge the validity, enforceability or scope of our patents. A successful challenge to our patents may lead to generic versions of our drug products being launched before the expiry of our patents or otherwise limit our ability to stop others from using or commercializing similar or identical products and technology, or the duration of the patent protection of our drug products and technology. If any of our patents are narrowed or invalidated, our business and prospects may be materially and adversely affected. In addition, we cannot assure you that we will be able to detect unauthorized use or take appropriate, adequate and timely actions to enforce our intellectual property rights. If we are unable to adequately protect our intellectual property, our business, competitive position and prospects may be materially and adversely affected.

Even if our patents or patent applications are unchallenged, they may not adequately protect our intellectual property or prevent third parties from designing around our claims. If the patent applications we file or may file do not lead to patents being granted or if the scope of any of our patent applications is challenged, we may face difficulties in developing our product candidates, companies may be dissuaded from collaborating with us, and our ability to commercialize our product candidates may be materially and adversely affected. We are unable to predict which of our patent applications will lead to patents or assure you that any of our patents will not be found invalid or unenforceable or challenged by third parties. The patents of others may prevent the commercialization of product candidates incorporating our technology. In addition, given the amount of time required for the development, clinical testing and regulatory review of new product candidates, the patent protecting our product candidates may expire before or shortly after such product candidates are commercialized, if at all.

Moreover, the issuance of a patent is not conclusive as to the inventorship of the patented subject matter, or its scope, validity or enforceability. We cannot assure you that all of the potentially relevant prior art, that is, any evidence that an invention is already known, relating to our patents and patent applications, has

been found. If such prior art exists, it may be used to invalidate a patent or may prevent a patent from being issued.

In addition, we, our collaborators or our licensees may fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. As a result, we may miss potential opportunities to strengthen our patent position.

If we are unable to protect our trade secrets, the value of our PRINT technology and product candidates may be negatively impacted, which would have a material and adverse effect on our competitive position and prospects.

In addition to patent protection, we rely on trade secret protection to protect certain aspects of our intellectual property. While we require parties who have access to any portion of our trade secrets, such as our employees, consultants, advisers, CROs, CMOs, collaborators and other third parties, to enter into non-disclosure and confidentiality agreements with us, we cannot assure you that these parties will not disclose our proprietary information, including our trade secrets, in breach of their contractual obligations. Enforcing a claim that a party has illegally disclosed or misappropriated a trade secret is difficult, costly and time-consuming, and we may not be successful in doing so. If the steps we have taken to protect our trade secrets are deemed by the adjudicating court to be inadequate, we may not be able to obtain adequate recourse against a party for misappropriating our trade secrets.

Trade secrets can be difficult to protect as they may, over time, be independently discovered by our competitors or otherwise become known despite our trade secret protection. If any of our trade secrets were to be lawfully obtained or independently developed by our competitors, we would have no right to prevent such competitors, or those to whom they communicate such technology or information, from using that technology or information to compete with us. Such competitors could attempt to replicate some or all of the competitive advantages we derive from our development efforts, willfully infringe our intellectual property rights, design around our protected technology or develop their own competitive technologies that fall outside of our intellectual property rights.

If our trade secrets were to be disclosed to or independently developed by our competitors, our competitors may be able to exploit our PRINT technology to develop competing product candidates, and the value of our PRINT technology and our product candidates may be negatively impacted. This would have a material and adverse effect on our competitive position and prospects.

We rely on licenses to intellectual property that are owned by third parties.

We have entered and may, in the future, enter into license agreements with third parties to license the rights to use their technologies in our research, development and commercialization activities. License agreements generally impose various diligence, milestone payments, royalty, insurance and other obligations on us, and if we fail to comply with these obligations, our licensors may have the right to terminate these license agreements. Termination of these license agreements or the reduction or elimination of our licensed rights or the exclusivity of our licensed rights may have an adverse impact on, among others, our ability to develop and commercialize our product candidates. We cannot assure you that we will be able to negotiate new or reinstated licenses on commercially acceptable terms, or at all.

In addition, we license certain patent rights for our PRINT technology from The University of North Carolina at Chapel Hill, or UNC, under the UNC Amended and Restated License Agreement, dated as of December 15, 2008, as amended, or the UNC license. Under the UNC License, UNC has the right to terminate our license if we materially breach the agreement and fail to cure such breach within the stipulated time. In the event that UNC terminates our license and we have a product that relies on that license, it may bring a claim against us, and if they are successful, we may be required to compensate UNC for the unauthorized use of their patent rights through the payment of royalties.

Also, the agreements under which we license patent rights may not give us control over patent prosecution or maintenance, so that we may not be able to control which claims or arguments are presented and may not be able to secure, maintain or successfully enforce necessary or desirable patent protection from those patent rights. We do not have primary control over patent prosecution and maintenance for certain of the patents we license, and therefore cannot assure you that these patents and applications will be prosecuted or maintained in a manner consistent with the best interests of our business. We also cannot assure you that patent prosecution and maintenance activities by our licensors, if any, will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents.

Pursuant to the terms of some of our license agreements with third parties, some of our third-party licensors have the right, but not the obligation, in certain circumstances, to control the enforcement of our licensed patents or defense of any claims asserting the invalidity of these patents. Even if we are permitted to pursue such enforcement or defense, we will require the cooperation of our licensors, and we cannot assure you that we will receive such cooperation on commercially acceptable terms, or at all. We also cannot assure you that our licensors will allocate sufficient resources or prioritize their or our enforcement of these patents or defense of these claims to protect our interests in the licensed patents. If we cannot obtain patent protection, or enforce existing or future patents against third parties, our competitive position, business and prospects may be materially and adversely affected.

Further, licenses to intellectual property may not always be available to us on commercially acceptable terms, or at all. In the event that the licenses we rely on are not available to us on commercially acceptable terms, or at all, our ability to commercialize our PRINT technology or product candidates, and our business and prospects, may be materially and adversely affected.

We may become involved in litigation to protect our intellectual property or enforce our intellectual property rights, which could be expensive, time-consuming and may not be successful.

Competitors may infringe our patents or misappropriate or otherwise violate our intellectual property rights. To counter infringement or unauthorized use, we may engage in litigation to, among others, enforce or defend our intellectual property rights, determine the validity or scope of our intellectual property rights and those of third parties, and protect our trade secrets. Such actions may be time-consuming and costly and may divert our management's attention from our core business and reduce the resources available for our clinical development, manufacturing and marketing activities, and consequently have a material and adverse effect on our business and prospects, regardless of the outcome.

In addition, in an infringement proceeding, a court may decide that a patent owned by, or licensed to, us is invalid or unenforceable, or may refuse to stop the other party from using the technology in question on the ground that our patents do not cover such technology. An adverse result in any litigation proceeding could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that our confidential information may be compromised by disclosure.

We may be subject to claims that our employees or consultants have wrongfully used or disclosed to us alleged trade secrets of their former employers or other clients.

As is common in our industry, a number of our employees, including our Chief Executive Officer and a number of our executive officers, were formerly employed by other biotechnology or pharmaceutical companies, including our competitors or potential competitors, among others, and may have entered into proprietary rights, non-disclosure and non-competition agreements or similar agreements, in connection with such previous employment. Moreover, we engage the services of scientific advisers and consultants to assist us in the development of our products, many of whom were previously employed at or may have previously been or are currently providing consulting or advisory services to, other biotechnology or pharmaceutical

companies, and who may have also entered into proprietary rights, non-disclosure and non-competition (or similar) agreements with such other companies.

While we require that our employees, scientific advisers and consultants do not use the proprietary information or know-how of others in their work for us, we cannot assure you that we will not be subject to claims that we or these employees, scientific advisers or consultants have inadvertently or otherwise used or disclosed the trade secrets or proprietary information of their former employers or former or present clients in their work for us, especially where such former employers or former or present clients are our competitors or potential competitors. Claims brought against us could cause us to incur unexpected and substantial costs, as well as divert our management's attention from our core business and reduce the resources available for our clinical development, manufacturing and marketing activities. Consequently, our business may be materially and adversely affected.

We may be subject to claims from third parties that our products infringe their intellectual property rights.

The pharmaceutical industry has experienced rapid technological change and obsolescence in the past, and our competitors have strong incentives to stop or delay any introduction of new drug products or related technologies by, among others, establishing intellectual property rights over their drug products or technologies and aggressively enforcing these rights against potential new entrants into the market. We expect that we and other industry participants will be increasingly subject to infringement claims as the number of competitors and drug products grows.

Our commercial success depends in large part upon our ability to develop, manufacture, market and sell our drug products or product candidates without infringing on the patents or other proprietary rights of third parties. It is not always clear to industry participants, including us, what the scope of a patent covers. Due to the large number of patents in issue and patent applications filed in our industry, there is a risk that third parties will claim that our products or technologies infringe their intellectual property rights.

Claims for infringement of intellectual property which are brought against us, whether with or without merit, and which are generally uninsurable, could result in time-consuming and costly litigation, diverting our management's attention from our core business and reducing the resources available for our drug product development, manufacturing and marketing activities, and consequently have a material and adverse effect on our business and prospects, regardless of the outcome. Moreover, such proceedings could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not being issued. We also may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Uncertainties resulting from the initiation and continuation of litigation or other proceedings could also have a material and adverse effect on our ability to compete in the market. Third parties making claims against us could obtain injunctive or other equitable relief against us, which could prevent us from further developing or commercializing our product candidates.

In particular, we may be required to include a certification of patent invalidity or non-infringement, or a paragraph IV certification, in an NDA submitted under the 505(b)(2) regulatory pathway, to certify that a patent over a reference listed drug is invalid, unenforceable or will not be infringed by the manufacture, use or sale of our product candidate. The holder of such patent may file a patent infringement lawsuit against us after receiving notice of the paragraph IV certification. Any such patent infringement lawsuit, if filed, will trigger a one-time, automatic, 30-month stay of the FDA's ability to approve our application, unless the patent litigation is resolved in our favor or the patent expires before that time. Accordingly, we may invest a significant amount of time and expense in the development of a product candidate only to be subject to significant delay and incur substantial costs in litigation before such product candidate may be commercialized, if at all. Companies that produce reference listed drugs routinely bring claims for patent infringement against applicants under the 505(b)(2) regulatory pathway that are seeking regulatory approval to manufacture and market generic or reformulated forms of their reference listed drugs.

In the event of a successful infringement claim against us, including an infringement claim filed in response to a paragraph IV certification, we may be required to pay damages, cease the development or commercialization of our drug products or product candidates, re-engineer or redevelop our drug products or product candidates or enter into royalty or licensing agreements, any of which could have a material and adverse impact on our business, financial condition and results of operations. Any effort to re-engineer or redevelop our products would require additional monies and time to be expended and may not ultimately be successful.

Infringement claims may be brought against us in the future, and we cannot assure you that we will prevail in any ensuing litigation given the complex technical issues and inherent uncertainties involved in intellectual property litigation. Our competitors may have substantially greater resources than we do and may be able to sustain the costs of such litigation more effectively than we can.

Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time.

Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. While various extensions may be available, the life of a patent, and the protection it affords, is limited. 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.

We intend to seek extensions of patent terms in the United States and, if available, in other countries where we prosecute patents. In the United States, the U.S. Drug Price Competition and Patent Term Restoration Act of 1984, as amended, or the Hatch-Waxman Act, permits patent owners to request a patent term extension, based on regulatory review period for a product, of up to five years beyond the normal expiration of the patent, which is limited to one patent claiming the approved drug product or use in an indication (or any additional indications approved during the period of extension). However, the applicable authorities, including the FDA and the U.S. Patent and Trademark Office, or the USPTO, in the United States, and comparable regulatory authorities in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or grant more limited extensions than we had requested. In such event, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our preclinical and clinical data in their marketing approval applications with the FDA to launch their drug product earlier than might otherwise be the case.

If we fail to comply with various procedural, document submission, fee payment or other requirements imposed by the USPTO or comparable patent agencies in other countries, our patent protection could be reduced or eliminated.

We are required, over the lifetime of an issued patent, to pay periodic maintenance fees to the USPTO and comparable patent agencies in other countries. We are also required by such patent agencies to comply with a number of procedural, documentary, fee payment and other conditions during the patent application process. While an inadvertent lapse can, in many cases, be cured by payment of a late fee or other means in accordance with the applicable rules, there are situations in which non-compliance can result in abandonment or lapse of a patent or patent application, resulting in the partial or complete loss of patent rights in the relevant jurisdiction. Such situations include, but are not limited to:

- a failure to respond to official actions within the prescribed time limits;
- the non-payment of fees; and
- a failure to properly legalize and submit formal documents.

If we or our licensors, which control the prosecution and maintenance of patents which we license, fail to maintain the patents or patent applications covering our product candidates or technology, such rights

would be reduced or eliminated and, consequently, our competitive position, business and prospects may be materially and adversely affected.

Changes in patent laws or interpretations of patent laws in the United States or elsewhere may diminish the value of our intellectual property or narrow the scope of protection of our patents.

In September 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law, and many of the substantive changes became effective in March 2013. The Leahy-Smith Act includes a number of significant changes to U.S. patent law, including changing the United States patent system from a "first to invent" system to a "first inventor to file" system, expanding the definition of prior art and developing a post-grant review system.

The provisions under the Leahy-Smith Act may affect the way patent applications will be prosecuted and may also affect patent litigation. It may also weaken our ability to obtain patent protection in the United States for those applications filed after March 16, 2013.

Further, the post-grant review and inter partes review proceedings established under the Leahy-Smith Act have been used by certain parties to cause a cancellation of selected or all claims in relation to the issued patents of their competitors. For a patent with an effective filing date of March 16, 2013 or later, a petition for post-grant review can be filed by a third party in a nine-month window from issuance of the patent. A petition for inter partes review can be filed after the nine-month period for filing a post-grant review petition has expired for a patent with an effective filing date of March 16, 2013 or later. Post-grant review proceedings can be brought on any ground of invalidity, whereas inter partes review proceedings can only raise an invalidity challenge based on published prior art and patents. These adversarial actions at the USPTO review patent claims without the presumption of validity afforded to U.S. patents in lawsuits in U.S. federal courts, and use a lower burden of proof than that used in civil actions in the U.S. federal courts. Therefore, it is generally considered easier for a competitor or third party to have a U.S. patent invalidated in a USPTO post-grant review or inter partes review proceeding than invalidated in a litigation in a U.S. federal court. We cannot assure you that we, our licensors or our collaborators will be successful in defending any challenge by a third party in a USPTO proceeding.

In addition, recent court rulings in the United States have narrowed the scope of patent protection available and weakened the rights of patent owners, particularly in the pharmaceutical industry. In 2012, the Supreme Court of the United States, or the Supreme Court, issued a decision in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.* invalidating patent claims directed to a process of measuring a metabolic product in a patient to optimize a drug dosage for the patient. In 2013, the Supreme Court issued its decision in Association for *Molecular Pathology v. Myriad Genetics, Inc.* invalidating patent claims directed to the breast cancer susceptibility genes BRCA1 and BRCA2. In 2017, the Supreme Court issued its decision in *TC Heartland v. Kraft Food Group Brands*, holding that patentees can only sue alleged infringers in their state of incorporation. These rulings deviated from precedents and, accordingly, have created uncertainty with regard to our ability to obtain patents in the future as well as the value of such patents, once obtained. Depending on future actions by Congress, the U.S. courts, the USPTO and the relevant law-making bodies in other countries, the laws and regulations governing patents could change in unpredictable ways that would affect our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

We may not be able to enforce our intellectual property rights throughout the world.

Filing, prosecuting, enforcing and defending patents on our PRINT technology and our product candidates throughout the world may be prohibitively expensive and may not be financially or commercially feasible. In countries where we have not obtained patent protection, our competitors may be able to use our proprietary technologies to develop competing product candidates.

Also, the legal systems of non-U.S. jurisdictions may not protect intellectual property rights to the same extent or in the same manner as the laws of the United States, and we may face significant difficulty in enforcing our intellectual property rights in these jurisdictions. The legal systems of certain developing countries may not favor the enforcement of patents and other intellectual property rights. We may therefore face difficulty in stopping the infringement or misappropriation of our patents or other intellectual property rights in those countries.

We need to protect our trademark, trade name and service mark rights to prevent competitors from taking advantage of our goodwill.

We believe that the protection of our trademark, trade name and service mark rights, such as Liquidia, the Liquidia logo and PRINT, is an important factor in product recognition, protecting our brand, maintaining goodwill and maintaining or increasing market share. We may expend substantial cost and effort in an attempt to register new trademarks, trade names and service marks and maintain and enforce our trademark, trade name and service mark rights. If we do not adequately protect our rights in our trademarks, trade names and service marks from infringement, any goodwill that we have developed in those trademarks could be lost or impaired.

Third parties may claim that the sale or promotion of our products, when and if approved, may infringe on the trademark, trade name and service mark rights of others. Trademark, trade name and service mark infringement problems occur frequently in connection with the sale and marketing of pharmaceutical products. If we become involved in any dispute regarding our trademark, trade name and service mark rights, regardless of whether we prevail, we could be required to engage in costly, distracting and time-consuming litigation that could harm our business. If the trademarks, trade names and service marks we use are found to infringe upon the trademarks, trade names or service marks of another company, we could be liable for damages and be forced to stop using those trademarks, trade names or service marks, and as result, we could lose all the goodwill that has been developed in those trademarks, trade names or service marks.

Risks Related to Healthcare Regulation

We are subject to various laws and regulations, such as healthcare fraud and abuse laws, false claim laws and health information privacy and security laws, among others, and failure to comply with these laws and regulations may have an adverse effect on our business.

Healthcare providers, physicians and third-party payors often play a primary role in the recommendation and prescription of any drug products for which we may obtain marketing approval. Our current and future arrangements with healthcare providers, physicians, third-party payors and customers, and our sales, marketing and educational activities, may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations (at the federal and state level) that may constrain our business or financial arrangements and relationships through which we market, sell and distribute our drug products for which we obtain marketing approval.

In addition, we may be subject to transparency laws and patient privacy regulation by both the federal government and the states in which we conduct our business. The laws that may affect our ability to operate include, but are not limited to, the following:

- the Anti-Kickback Statute, which prohibits, persons and entities including pharmaceutical manufacturers from, among other things, knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for or the purchase, lease, order or recommendation of an item or service for which payment may be made, in whole or in part, under federal healthcare programs such as the Medicare and Medicaid programs. This statute has been interpreted broadly to apply to, among other things, arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers and formulary managers on the other

hand. The term "remuneration" expressly includes kickbacks, bribes or rebates and also has been broadly interpreted to include anything of value, including, for example, gifts, discounts, waivers of payment, ownership interest and providing anything at less than its fair market value. There are a number of statutory exceptions and regulatory safe harbors protecting certain common activities from prosecution or other regulatory sanctions, however, the exceptions and safe harbors are drawn narrowly, and practices that do not fit squarely within an exception or safe harbor may be subject to scrutiny. The failure to meet all of the requirements of a particular applicable statutory exception or safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Our practices may not meet all of the criteria for safe harbor protection from federal Anti-Kickback Statute liability in all cases. A person or entity does not need to have actual knowledge of the federal Anti-Kickback Statute or specific intent to violate it to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act. The U.S. Patient Protection and Affordable Health Care Act of 2010, as amended, or the ACA, amended the False Claims Act to provide that a claim that includes items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim;

- the federal civil and criminal false claims laws and civil monetary penalty laws, including the False Claims Act, which prohibits individuals or entities from, among other things, knowingly presenting, or causing to be presented, claims for payment to, or approval by, the federal government that are false, fictitious or fraudulent or knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim to avoid, decrease or conceal an obligation to pay money to the federal government. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes "any request or demand" for money or property presented to the federal government. Although we do not submit claims directly to payors, manufacturers can be held liable under these laws if they are deemed to "cause" the submission of false or fraudulent claims by, for example, providing inaccurate billing or coding information to customers, promoting a product off-label, marketing products of sub-standard quality, or, as noted above, paying a kickback that results in a claim for items or services. In addition, our activities relating to the reporting of wholesaler or estimated retail prices for our products, the reporting of prices used to calculate Medicaid rebate information and other information affecting federal, state and third-party reimbursement for our products, and the sale and marketing of our products, are subject to scrutiny under this law. For example, several pharmaceutical and other healthcare companies have faced enforcement actions under these laws for allegedly inflating drug prices they report to pricing services, which in turn were used by the government to set Medicare and Medicaid reimbursement rates, and for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. The False Claims Act also permits a private individual acting as a "whistleblower" to bring actions on behalf of the federal government alleging violations of the False Claims Act and to share in any monetary recovery. In addition, federal Anti-Kickback Statute violations and certain marketing practices, including off-label promotion, may also implicate the False Claims Act. Although the False Claims Act is a civil statute, conduct that results in a False Claims Act violation may also implicate various federal criminal statutes;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services.

Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, including the Final Omnibus Rule published on January 25, 2013, impose, among other things, obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information held by certain healthcare providers, health plans and healthcare clearinghouses, known as covered entities, and business associates. Among other things, HITECH made certain aspects of HIPAA's rules (notably the Security Rule) directly applicable to business associates — independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal court to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. The Department of Health and Human Services Office of Civil Rights, or the OCR, has increased its focus on compliance and continues to train state attorneys general for enforcement purposes. The OCR has recently increased both its efforts to audit HIPAA compliance and its level of enforcement, with one recent penalty exceeding $5 million;

- the federal physician payment transparency requirements, sometimes referred to as the "Physician Payments Sunshine Act," created under the ACA which requires applicable manufacturers of covered drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the State Children's Health Insurance Program (with certain exceptions) to annually report to the U.S. Department of Health and Human Services, information related to certain payments or other transfers of value made or distributed to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;

- according to the U.S. Federal Trade Commission, or the FTC, failing to take appropriate steps to keep consumers' personal information secure constitutes unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act, or the FTCA. The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Medical data is considered sensitive data that merits stronger safeguards. The FTC's guidance for appropriately securing consumers' personal information is similar to what is required by the HIPAA Security Rule;

- analogous state laws and regulations, such as state anti-kickback and false claims laws, which may apply to items or services reimbursed by any third-party payor, including commercial 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 pricing and marketing information, including, among other things, information related to payments to physicians and other healthcare providers or marketing expenditures, state and local laws that require the registration of pharmaceutical sales representatives, and state laws governing the privacy and security of health information and the use of prescriber-identifiable data in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts; and

- price reporting laws that require us to calculate and report complex pricing metrics to government programs, where such reported prices may be used in the calculation of reimbursements or discounts on our drug products. Participation in such programs and compliance with their requirements may subject us to increased infrastructure costs and potentially limit our ability to price our drug products.

Further, we are subject to a number of environmental and health and safety laws and regulations, including those governing laboratory processes and the handling, use, storage, treatment and disposal of hazardous materials and waste.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available under such laws, it is possible that certain business activities could be subject to challenge under one or more of such laws. The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Federal and state enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Ensuring that business arrangements with third parties comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert management's attention from the business.

If our operations are found to be in violation of any of the laws or regulations described above or any other laws or government regulations that apply to us, we may be subject to penalties, including, but not limited to, criminal, civil and administrative penalties, damages, fines, disgorgement, individual imprisonment, possible exclusion from participation in Medicare, Medicaid or other government healthcare programs, injunctions, private qui tam actions brought by individual whistleblowers in the name of the government and the curtailment or restructuring of our operations as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, any of which could adversely affect our ability to operate our business and our results of operations.

Legislative or regulatory reform of the healthcare system in our target markets may affect our operations and profitability.

In recent years, there have been numerous initiatives on the federal and state levels in the United States for comprehensive reforms affecting the payment for, the availability of and reimbursement for healthcare services. There have been a number of federal and state proposals during the last few years regarding the pricing of pharmaceutical and biopharmaceutical products, limiting coverage and reimbursement for drugs and other medical products, government control and other changes to the healthcare system in the United States. For example, the ACA and the Health Care and Education Reconciliation Act of 2010, which amends the ACA, collectively, the U.S. Health Reform Laws, were signed into law in the United States in March 2010.

Among the provisions of the ACA of importance to the pharmaceutical industry are the following:

- the Medicaid Drug Rebate Program requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the Secretary of the Department of Health and Human Services as a condition of Medicare Part B and Medicaid coverage of the manufacturer's outpatient drugs furnished to Medicaid patients. Effective in 2010, the ACA made several changes to the Medicaid Drug Rebate Program, including increasing pharmaceutical manufacturers' rebate liability by raising the minimum basic Medicaid rebate on most branded prescription drugs from 15.1% of average manufacturer price, or AMP, to 23.1% of AMP, establishing new methodologies by which AMP is calculated and rebates owed by manufacturers under the Medicaid Drug Rebate Program are collected for drugs that are inhaled, infused, instilled, implanted or injected, adding a new rebate calculation for "line extensions" (i.e., new formulations, such as extended release formulations) of solid oral dosage forms of branded products, expanding the universe of Medicaid utilization subject to drug rebates to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations, and expanding the population potentially eligible for Medicaid drug benefits;

- the expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals beginning in April 2010 and by adding new mandatory eligibility categories for certain individuals with income at or below 133.0% of the federal poverty level beginning in 2014, thereby potentially increasing both the volume of sales and manufacturers' Medicaid rebate liability;

- in order for a pharmaceutical product to receive federal reimbursement under the Medicare Part B and Medicaid programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. The required 340B discount on a given product is calculated based on the AMP and Medicaid rebate amounts reported by the manufacturer. Effective in 2010, the ACA expanded the types of entities eligible to receive discounted 340B pricing, although, under the current state of the law, with the exception of children's hospitals, these newly eligible entities will not be eligible to receive discounted 340B pricing on orphan drugs when used for the orphan indication. In addition, as 340B drug pricing is determined based on AMP and Medicaid rebate data, the revisions to the Medicaid rebate formula and AMP definition described above could cause the required 340B discount to increase. Recent proposed guidance from the U.S. Department of Health and Human Services Health Resources and Services Administration, if adopted in its current form, may affect manufacturers' rights and liabilities in conducting audits and resolving disputes under the 340B program;

- the ACA imposed a requirement on manufacturers of branded drugs to provide a 50% (and 70% commencing on January 1, 2019) discount off the negotiated price of branded drugs dispensed to Medicare Part D patients in the coverage gap (i.e., the donut hole);

- the ACA imposed an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs, apportioned among these entities according to their market share in certain government healthcare programs, although this fee would not apply to sales of certain products approved exclusively for orphan indications;

- the ACA implemented the Physician Payments Sunshine Act;

- the ACA requires annual reporting of drug samples that manufacturers and distributors provide to physicians;

- the ACA expanded healthcare fraud and abuse laws in the United States, including the False Claims Act and the Anti-Kickback Statute, new government investigative powers and enhanced penalties for non-compliance;

- the ACA established a licensing framework for follow-on biologics;

- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in and conduct comparative clinical effectiveness research, along with the funding for such research. The research conducted by the Patient-Centered Outcomes Research Institute may affect the market for certain pharmaceutical products by influencing decisions relating to coverage and reimbursement rates; and

- the ACA established the Center for Medicare Innovation at the Centers for Medicare & Medicaid Center to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending. Funding has been allocated to support the mission of the Center for Medicare and Medicaid Innovation from 2011 to 2019.

Some of the provisions of the ACA have yet to be implemented, and there have been judicial and Congressional challenges to certain aspects of the ACA, as well as recent efforts by the Trump administration to repeal or replace certain aspects of the ACA. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have been signed into law. The Tax Cuts and Jobs Act of 2017, or the TCJA, includes a provision repealing, effective January 1, 2019, the tax-based shared

responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate". Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the ACA, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole".

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2.0% per fiscal year, which went into effect in 2013, and due to subsequent legislative amendments to the statute, including the BBA, will remain in effect through 2027 unless additional Congressional action is taken. In January 2013, then-President Barack Obama signed into law the American Taxpayer Relief Act of 2012, or the ATRA, which, among others, delayed for another two months the budget cuts mandated by these sequestration provisions of the Budget Control Act of 2011. The ATRA also reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material and adverse effect on our customers and accordingly, our financial operations.

Further, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

We are unable to predict the future course of federal or state healthcare legislation in the United States directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. The U.S. Health Reform Laws and any further changes in the law or regulatory framework that reduce our revenue or increase our costs could also have a material and adverse effect on our business, financial condition and results of operations.

Healthcare laws and regulations may affect the pricing of our drug products and may affect our profitability.

In certain countries, the government may provide healthcare at a subsidized cost to consumers and regulate prices, patient eligibility or third-party payor reimbursement policies to control the cost of drug products. Such a system may lead to inconsistent pricing of our drug products from one country to another. The availability of our drug products at lower prices in certain countries may undermine our sales in other countries where our drug products are more expensive. In addition, certain countries may set prices by reference to the prices of our drug products in other countries. Our inability to secure adequate prices in a particular country may adversely affect our ability to obtain an acceptable price for our drug products in

existing and potential markets. If we are unable to obtain a price for our drug products that provides an appropriate return on our investment, our profitability may be materially and adversely affected.

Risks Related to this Offering and Our Common Stock

No active trading market for our common stock exists or may develop, and you may not be able to resell your common stock at or above the initial public offering price.

Prior to this offering, there has been no public market for our common stock and, although we have applied to have our common stock listed on The Nasdaq Global Market, an active trading market for our shares may never develop or be sustained following this offering. The initial price to public for our common stock will be determined through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of the common stock after the offering. The lack of an active market may impair your ability to sell your shares at the time you wish to sell them or at a price that you consider reasonable, may reduce the market value of your shares and may impair your ability to raise capital. If you purchase shares of our common stock in this offering, you may not be able to resell those shares at or above the initial public offering price.

Future sales of our common stock or securities convertible into our common stock in the public market could cause our stock price to fall.

Our stock price could decline as a result of sales of a large number of shares of our common stock or securities convertible into our common stock after this offering or the perception that these sales could occur. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

Upon completion of this offering, shares of our common stock will be outstanding (shares of common stock will be outstanding assuming exercise in full of the underwriters' option to purchase additional shares). All shares of common stock expected to be sold in this offering will be freely tradable without restriction or further registration under the Securities Act of 1933, as amended, or the Securities Act, unless held by our "affiliates," as that term is defined in Rule 144 under the Securities Act, or Rule 144. The resale of the remaining shares, or % of our outstanding shares after the completion of this offering, is currently prohibited or otherwise restricted as a result of securities law provisions, market standoff agreements entered into by our stockholders with us or lock-up agreements entered into by our stockholders with the underwriters; however, subject to applicable securities law restrictions these shares will be able to be sold in the public market beginning 180 days after the date of this prospectus. Shares issued upon the exercise of stock options outstanding under our equity incentive plans or pursuant to future awards granted under those plans will become available for sale in the public market to the extent permitted by the provisions of applicable vesting schedules, any applicable market stand-off and lock-up agreements, and Rule 144 and Rule 701 under the Securities Act, or Rule 701. For more information see the section of this prospectus captioned "Shares Eligible for Future Sale."

Upon completion of this offering, the holders of approximately shares, or %, of our common stock, will have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We also intend to register the offer and sale of all shares of common stock that we may issue under our equity compensation plans. Once we register the offer and sale of shares for the holders of registration rights and shares to be issued under our equity incentive plans, they can be freely sold in the public market upon issuance or resale (as applicable), subject to the lock-up agreements described in the section of this prospectus captioned "Underwriting."

In the future, we may issue additional shares of common stock or other equity or debt securities convertible into common stock in connection with a financing, acquisition, litigation settlement, employee arrangements or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and could cause our stock price to decline.

The incurrence of indebtedness could result in increased fixed payment obligations, and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights, limitations on declaring dividends and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through collaborations, strategic alliances or licensing arrangements with third parties, and we could be required to do so at an earlier stage than otherwise would be desirable. In connection with any such collaborations, strategic alliances or licensing arrangements, we may be required to relinquish valuable rights to our intellectual property, future revenue streams, research programs or product candidates, grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves, or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects.

Our management has broad discretion in using the net proceeds from this offering and may not use them effectively.

We expect to use the net proceeds of this offering to complete our ongoing Phase 3 clinical trial of LIQ861, advance LIQ865 through our ongoing Phase 1 trial in the United States and our planned Phase 2-enabling toxicology studies, fund operations supporting the development of LIQ861 and LIQ865 and repay approximately $2.3 million of outstanding indebtedness. Our management will have broad discretion in the application of the balance of the net proceeds and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our equity. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, diminish available cash flows available to service our debt, cause the value of our equity to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities, which may not yield favorable returns.

We expect that the market price of our common stock may be volatile, and you may lose all or part of your investment.

The trading prices of the securities of pharmaceutical and biotechnology companies have been highly volatile. The trading price of our common stock following this offering may be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, these factors include:

- § the results of our or our competitors' clinical trials;
- § adverse results or delays in the planned clinical trials of our product candidates or any future clinical trials we may conduct, or changes in the development status of our product candidates;
- § any delay in our regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings, including without limitation the FDA's issuance of a "refusal to file" letter or a request for additional information;
- § regulatory or legal developments in the United States and other countries, especially changes in laws or regulations applicable to our products and product candidates, including clinical trial requirements for approvals;
- § our inability to obtain or delays in obtaining adequate product supply for any approved product or inability to do so at acceptable prices;

- failure to commercialize our product candidates or if the size and growth of the markets we intend to target fail to meet expectations;
- additions or departures of key scientific or management personnel;
- unanticipated serious safety concerns related to the use of our product candidates;
- introductions or announcements of new products offered by us or significant acquisitions, strategic collaborations, joint ventures or capital commitments by us, our collaborators or our competitors and the timing of such introductions or announcements;
- the introduction by our competitors of new products or technologies, or the success of our competitors' products or technologies;
- our ability or inability to effectively manage our growth;
- changes in the structure of healthcare payment systems;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- publication of research reports about us or our industry, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- market conditions in the pharmaceutical and biotechnology sectors or the economy generally;
- our ability or inability to raise additional capital through the issuance of equity or debt or collaboration arrangements and the terms on which we raise it;
- trading volume of our common stock;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- period-to-period fluctuations in our quarterly results of operations or those of our competitors;
- discrepancies between our actual operating results and the estimates or projections of investors or securities analysts;
- fluctuations in the share price and trading volumes of other publicly traded companies engaged in similar business activities as us;
- market conditions in the pharmaceutical industry and in general;
- research and reports published by securities and industry analysts on our company or other companies engaged in similar business activities as us;
- safety concerns in relation to the use of any of our product candidates or approved products; and/or
- our involvement in significant lawsuits, including patent or stockholder litigation.

The stock market in general, and market prices for the securities of pharmaceutical companies like ours in particular, have from time to time experienced volatility that often has been unrelated to the operating performance of the underlying companies. These broad market and industry fluctuations may adversely affect the market price of our common stock, regardless of our operating performance. Stock prices of many pharmaceutical companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In several recent situations when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders were to bring a lawsuit against us, the defense and disposition of the lawsuit could be costly and divert the time and attention of our management and harm our operating results.

As a new investor, you will immediately experience substantial dilution as a result of this offering. Furthermore, future sales and issuances of equity securities, convertible securities or other securities could result in additional dilution of the percentage ownership of holders of our common stock.

The purchasers of shares of our common stock in this offering will experience immediate and substantial dilution of $ per share, based on the assumed initial public offering price of $ per share.

This dilution represents the amount by which the per share purchase price of our common stock offered in this offering exceeds the pro forma as adjusted net tangible book value per share of our common stock immediately following this offering. In addition, you may also experience additional dilution upon future equity issuances, including any other convertible debt or equity securities we may issue in the future, the exercise of stock options to purchase common stock granted to our employees, consultants and directors, including options to purchase common stock granted under our stock option and equity incentive plans, or the issuance of common stock in settlement of previously issued awards under our stock option and equity incentive plans that may vest in the future. See "Dilution."

We expect that significant additional capital will be needed in the future to continue our planned operations. To raise capital, we may sell equity securities, convertible securities or other securities in one or more transactions at prices and in a manner we determine from time to time. If we sell equity securities, convertible securities or other securities in more than one transaction, investors in this offering may be materially diluted by subsequent sales. Such sales would also likely result in material dilution to our existing equity holders, and new investors could gain rights, preferences and privileges senior to those of holders of our existing equity securities.

Our principal stockholders and management own a significant percentage of our stock and will be able to exercise significant influence over matters subject to stockholder approval.

Our executive officers, directors and principal stockholders, together with their respective affiliates, beneficially owned 61.2% of our capital stock as of April 1, 2018 and, upon completion of this offering, that same group will beneficially own % of our capital stock, of which % will be beneficially owned by our executive officers (assuming no exercise of the underwriters' option to purchase additional shares). Accordingly, after this offering, our executive officers, directors and principal stockholders will be able to determine the composition of the Board, retain the voting power to approve all matters requiring stockholder approval, including mergers and other business combinations, and continue to have significant influence over our operations. This concentration of ownership could have the effect of delaying or preventing a change in our control or otherwise discouraging a potential acquirer from attempting to obtain control of us that you may believe are in your best interests as one of our stockholders. This in turn could have a material adverse effect on our stock price and may prevent attempts by our stockholders to replace or remove the Board or management.

If securities or industry analysts do not publish research reports about our business, or if they issue an adverse opinion about our business, our stock price and trading volume could decline.

The trading market for our common stock may be influenced by the research and reports that industry or securities analysts publish about us or our business. We do not currently have, and may never obtain research coverage by securities and industry analysts. If no or few analysts commence research coverage of us, or one or more of the analysts who cover us issues an adverse opinion about our company, our stock price would likely decline. If one or more of these analysts ceases research coverage of us or fails to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, stockholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common stock.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. Inferior internal controls could also cause investors to lose

confidence in our reported financial information, which could have a negative effect on the trading price of our common stock. In addition, any future testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, or the subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement.

We will be required, pursuant to Section 404 of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting as early as the fiscal year ending December 31, 2018. However, for as long as we are an "emerging growth company" under the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. We could be an emerging growth company for up to five years. An independent assessment of the effectiveness of our internal controls could detect problems that our management's assessment might not. Undetected material weaknesses in our internal controls could lead to financial statement restatements and require us to incur the expense of remediation.

We will incur increased costs by being a public company.

As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company, including costs associated with public company reporting requirements. We also anticipate that we will incur costs associated with relatively recently adopted corporate governance requirements, including requirements of the U.S. Securities and Exchange Commission and the Nasdaq Stock Market LLC, or Nasdaq. We expect these rules and regulations to increase our legal and financial compliance costs and to make some activities more time-consuming and costly. We also expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and retain qualified individuals to serve on our Board or as executive officers. We are currently evaluating and monitoring developments with respect to these rules, and we cannot predict or estimate the amount of additional costs we may incur or the timing of such costs.

When we cease to be an "emerging growth company" and when our independent registered public accounting firm is required to undertake an assessment of our internal control over financial reporting, the cost of our compliance with Section 404 of the Sarbanes-Oxley Act will correspondingly increase. Moreover, if we are not able to comply with the requirements of Section 404 applicable to us in a timely manner, or if we or our independent registered public accounting firm identifies deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by the SEC or other regulatory authorities, which would require additional financial and management resources.

We are an "emerging growth company," as defined in the JOBS Act, and as a result of the reduced disclosure and governance requirements applicable to emerging growth companies, our common stock may be less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We cannot predict if investors will find our common stock less attractive because 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. We will take advantage of these reporting exemptions until we are no longer an "emerging growth company." We will remain an "emerging growth company" until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more, (ii) the last day of 2023, (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us difficult, limit attempts by our stockholders to replace or remove our current management and adversely affect our stock price.

Provisions of our amended and restated certificate of incorporation and amended and restated bylaws to be effective upon consummation of this offering may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our stock. Among other things, the certificate of incorporation and bylaws will:

- permit the Board to issue up to shares of preferred stock, with any rights, preferences and privileges as they may designate;
- provide that the authorized number of directors may be changed only by resolution of our Board;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and may not be taken by written consent;
- creating a staggered board of directors such that all members of our Board are not elected at one time;
- allowing the authorized number of our directors to be changed only by resolution of our Board;
- allowing for the issuance of authorized but unissued shares of our capital stock without any further vote or action by our stockholders; and
- establishing advance notice requirements for nominations for election to the Board or for proposing matters that can be acted upon at stockholders' meetings.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, or the DGCL, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any stockholder owning in excess of 15% of our outstanding stock for a period of three years following the date on which the stockholder obtained such 15% equity interest in us. See the section of this prospectus captioned "Description of Capital Stock — Anti-Takeover Effects of Provisions of our Certificate of Incorporation and Bylaws and Delaware Law" for additional information.

The terms of our authorized preferred stock selected by our Board at any point could decrease the amount of earnings and assets available for distribution to holders of our common stock or adversely affect the rights and powers, including voting rights, of holders of our common stock without any further vote or action by the stockholders. As a result, the rights of holders of our common stock will be subject to, and may be adversely affected by, the rights of the holders of any preferred stock that may be issued by us in the future, which could have the effect of decreasing the market price of our common stock.

Any provision of our certificate of incorporation or bylaws or Delaware corporate law that has the effect of delaying or deterring a change in control could limit opportunities for our stockholders to receive a premium for their shares of common stock, and could also affect the price that investors are willing to pay for our common stock.

Because we do not anticipate paying any cash dividends on our common stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our equity securities. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of existing or any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our equity securities will likely be your sole source of gain for the foreseeable future.

Our ability to use our net operating loss carry forwards and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, if a corporation undergoes an "ownership change", generally defined as a greater than 50.0% change (by value) in its equity ownership over a three year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes, such as research tax credits, to offset its post-change income may be limited. With this offering as well as other past transactions and any ownership changes that we may experience in the future as a result of subsequent shifts in ownership of our shares of common stock, we may trigger an "ownership change" limitation. Should this occur, and if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us.

The recently passed Tax Cuts and Jobs Act, or the TCJA, could adversely affect our business and financial condition.

On December 22, 2017, President Trump signed into law the TCJA which significantly reforms the Code. The TCJA, among other things, contains significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limitation of the tax deduction for interest expense to 30% of adjusted earnings (except for certain small businesses), limitation of the deduction for net operating losses generated after December 31, 2017 to 80% of current year taxable income and elimination of net operating loss carrybacks, immediate deductions for certain new investments instead of deductions for depreciation expense over time and modifying or repealing many business deductions and credits. Federal net operating losses arising in taxable years ending after December 31, 2017 will be carried forward indefinitely pursuant to the TCJA. We continue to examine the impact this tax reform legislation may have on our business. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the TCJA is uncertain and our business and financial condition could be adversely affected. The impact of this tax reform on holders of our common stock is also uncertain and could be adverse. We urge our stockholders, including purchasers of common stock in this offering, to consult with their legal and tax advisors with respect to such legislation and the potential tax consequences of investing in our common stock.

Our amended and restated certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our amended and restated certificate of incorporation provides that, to the fullest extent permitted by law, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for: (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to us or our stockholders; (iii) any action asserting a claim against us arising pursuant to any provision of the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws; or (d) any action asserting a claim against us governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have received notice of and consented to the foregoing provisions. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds more favorable for disputes with us or our directors or officers, which may discourage such lawsuits against us and our directors or officers. Alternatively, if a court were to find this choice of forum provision inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition, prospects or results of operations.

CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This prospectus contains forward-looking statements. All statements other than statements of historical facts contained in this prospectus may be forward-looking statements. The forward-looking statements are contained principally in the sections entitled "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business," but are also contained elsewhere in this prospectus. In some cases, you can identify forward-looking statements by terms such as "may," "might," "will," "should," "expects," "plans," "anticipates," "could," "would," "intends," "targets," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar expressions. Forward-looking statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- our plans to develop and commercialize our product candidates;
- our planned clinical trials for our product candidates;
- the timing of the availability of data from our clinical trials;
- the timing of our planned regulatory filings;
- the timing of and our ability to obtain and maintain regulatory approvals for our product candidates;
- the clinical utility of our product candidates and their potential advantages compared to other treatments;
- our commercialization, marketing and distribution capabilities and strategy;
- our ability to establish and maintain arrangements for the manufacture of our product candidates and the sufficiency of our current manufacturing facilities to produce commercial quantities of our product candidates;
- our ability to establish and maintain collaborations;
- our estimates regarding the market opportunities for our product candidates;
- our intellectual property position and the duration of our patent rights;
- our estimates regarding future expenses, capital requirements and needs for additional financing; and
- our expected use of proceeds from this offering and the period over which such proceeds, together with cash, will be sufficient to meet our operating needs.

You should refer to the "Risk Factors" section of this prospectus for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. The forward-looking statements in this prospectus are only predictions, and we may not actually achieve the plans, intentions or expectations included in our forward-looking statements. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements.

These forward-looking statements speak only as of the date of this prospectus. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained in this prospectus after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

USE OF PROCEEDS

We estimate that the net proceeds to us from our issuance and sale of shares of our common stock in this offering will be $ million, assuming an initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover 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 $ million.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share would increase or decrease the net proceeds to us from this offering by $ million (or $ million if the underwriters exercise their option to purchase additional shares), assuming that the number of shares offered by us, as set forth on the cover of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million in the number of shares of common stock offered by us at the assumed initial public offering price of $ per share would increase or decrease the net proceeds to us from this offering by $ million, after deducting estimated underwriting discounts and commissions.

We currently estimate that we will use the net proceeds from this offering, together with our existing cash, as follows:

- approximately $ to $ million to complete our ongoing Phase 3 clinical trial of LIQ861;
- approximately $ to $ million to advance LIQ865 through our ongoing Phase 1 trial in the United States and our planned Phase 2-enabling toxicology studies;
- approximately $ to $ million to fund operations supporting the development of LIQ861 and LIQ865;
- approximately $2.3 million to repay in full the outstanding promissory note issued to UNC, which has a maturity date of June 30, 2018 and bears interest at a rate equal to one-year LIBOR plus 3%, compounded annually; and
- the remainder for working capital and general corporate purposes.

This expected use of the net proceeds from this offering and our existing 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 and actual results of operations, as well as any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

We may also use a portion of the remaining net proceeds to in-license, acquire or invest in complementary businesses, technologies, products or assets, although we have no current agreements, commitments or understandings to do so.

As of December 31, 2017, we had cash of $3.4 million. In February 2018, we received aggregate gross proceeds of $25.6 million from the issuance of shares of Series D preferred stock and a related rights offering. Based on our planned use of the net proceeds from this offering and our existing cash and current revenue forecasts, we estimate that such funds will be sufficient to enable us to support research and development needs and to fund our operating expenses and capital expenditure requirements until at least . 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 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 currently expect to retain all future earnings, if any, for use in the operation and expansion of our business. We have never declared nor paid any dividends on our common stock and do not anticipate paying cash dividends to holders of our common stock in the foreseeable future. In addition, our loan agreement with our commercial lender prohibits our ability to pay dividends without the lender's prior written consent, with certain exceptions. See "Risk Factors — Because we do not anticipate paying any cash dividends on our common stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain."

CAPITALIZATION

The following table sets forth our cash and our capitalization as of December 31, 2017:

- on an actual basis;
- on a pro forma basis to give effect to:
  - our issuance of 42,863,825 shares of Series D preferred stock in February 2018 and our receipt of $25.6 million in aggregate proceeds therefrom and the related rights offering;
  - our issuance of 48,283,657 shares of Series D preferred stock in February 2018 upon the conversion of outstanding convertible notes in the aggregate amount of $28.9 million;
  - the conversion of all of our outstanding shares of preferred stock, including the Series D preferred stock issued in February 2018, into an aggregate of shares of our common stock, which will occur automatically upon the closing of this offering; and
  - the filing and effectiveness of our amended and restated certificate of incorporation upon the closing of this offering; and
- on a pro forma as adjusted basis to give further effect to our issuance and sale of shares of our common stock in this offering at an assumed initial offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and our use of approximately $2.3 million of the proceeds therefrom to repay debt as described in "Use of Proceeds."

You should read the information in this "Capitalization" section in conjunction 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" and "Use of Proceeds' sections and other financial information contained in this prospectus.

	As of December 31, 2017		
	Actual	Pro forma	Pro forma as adjusted
	(in thousands, except share and per share data)		
Cash	$ 3,419	$	$
Long-term debt, including current portion	$ 21,165	$	$
Capital leases, including current portion	980		
Stockholders' deficit:			
Convertible preferred stock, $0.001 par value; 116,531,993 shares authorized, 42,964,956 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	43		
Common stock, $0.001 par value; 175,330,664 shares authorized, 9,584,892 shares issued and outstanding, actual; shares authorized, shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted	10		
Preferred stock, $0.001 par value; no shares authorized, issued or outstanding, actual; shares authorized, no shares issued or outstanding, pro forma and pro forma as adjusted	—		
Additional paid-in capital	79,721		
Accumulated deficit	(113,413)		
Total stockholders' (deficit) equity	(33,692)		
Total capitalization	$ (11,547)	$	$

Our cash and our capitalization following the completion of this offering will depend on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover of this prospectus, would increase or decrease the pro forma as adjusted amount of each of cash, additional paid-in capital, total stockholders' equity and total capitalization by $ million, assuming that the number of shares offered by us, as set forth on the cover of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase or decrease of 1.0 million in the number of shares we are offering at the assumed initial public offering price of $ per share would increase or decrease the pro forma as adjusted amount of each of cash, additional paid-in capital, total stockholders' equity and total capitalization by $ million.

The table above does not include:

- 11,245,985 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2017, with a weighted average exercise price of $0.27 per share;
- shares of common stock issuable upon the exercise of stock options granted after December 31, 2017, with a weighted average exercise price of $ per share;
- 2,146,767 shares of common stock issuable upon the vesting of restricted stock units granted after December 31, 2017 to Kevin Gordon, our President and Chief Financial Officer;

- 4,699,565 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2017, with a weighted average exercise price of $0.09 per share;
- an aggregate of shares of common stock issuable upon the exercise of stock options to be granted to certain of our officers and directors on the date of execution of the underwriting agreement under the 2018 Plan, assuming we sell shares in this offering;
- shares of common stock issuable upon the vesting of restricted stock units to be granted to Mr. Gordon on the date of execution of the underwriting agreement pursuant to his employment agreement, assuming we sell shares in this offering;
- an additional 10,158,368 shares of common stock reserved for issuance under the Liquidia Technologies, Inc. Stock Option Plan, as amended, or the 2004 Plan, as of December 31, 2017, which shares will no longer be reserved following this offering;
- an additional 1,087,617 shares of common stock reserved for issuance under the Liquidia Technologies, Inc. 2016 Equity Incentive Plan, as amended, or the 2016 Plan, as of December 31, 2017, which shares will no longer be reserved following this offering; and
- an additional shares of common stock that will be made available for future issuance under the 2018 Plan upon the effectiveness of the registration statement of which this prospectus forms a part.

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 initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering. Net tangible book value per share represents our total tangible assets less our total liabilities, divided by the number of shares of common stock then issued and outstanding.

Our net tangible book value as of December 31, 2017 was $(33.7) million, or $(3.56) per share of common stock.

On a pro forma basis, after giving effect to (i) our issuance of Series D preferred stock in February 2018 for aggregate gross proceeds of $25.6 million and upon the conversion of outstanding convertible notes in the aggregate amount of $28.9 million, and (ii) the conversion of all of our preferred stock outstanding, including the Series D preferred stock issued in February 2018, as of December 31, 2017 into an aggregate of ordinary shares upon the closing of this offering, our pro forma net tangible book value as of December 31, 2017 would have been $ million, or $ per share of common stock.

After giving effect to the issuance and sale by us of shares of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, and our use of approximately $2.3 million of the proceeds therefrom to repay debt as described in "Use of Proceeds," our pro forma as adjusted net tangible book value as of December 31, 2017 would have been $ million, or $ per share. This amount represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to our existing stockholders and an immediate dilution in pro forma as adjusted net tangible book value of $ per share to new investors purchasing common stock in this offering at the assumed initial public offering price. We determine dilution by subtracting the pro forma as adjusted net tangible book value per share of common stock after this offering from the amount of cash that a new investor paid for a share of common stock.

The following table illustrates this dilution to new investors on a per share basis:

Assumed initial public offering price per share		$
Historical net tangible book value per share as of December 31, 2017	$ (3.56)	
Increase in net tangible book value per share attributable to the pro forma adjustments described above		
Pro forma net tangible book value per share before giving effect to this offering		
Increase in pro forma net tangible book value per share attributable to this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new investors in this offering		$

The pro forma as adjusted information discussed above is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing. A $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover of this prospectus, would increase or decrease the pro forma as adjusted net tangible book value after this offering by $ million, the pro forma as adjusted net tangible book value per share by $, and dilution per share to new investors purchasing shares in

this offering by $, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions. We may also increase or decrease the number of shares we are offering. An increase of 1.0 million in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase the pro forma as adjusted net tangible book value per share after this offering by $ and decrease the dilution per share to new investors participating in this offering by $, assuming no change in the assumed initial public offering price and after deducting estimated underwriting discounts and commissions. A decrease of 1.0 million in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the pro forma as adjusted net tangible book value per share after this offering by $ and increase the dilution per share to new investors participating in this offering by $, assuming no change in the assumed initial public offering price and after deducting estimated underwriting discounts and commissions.

If the underwriters exercise their option in full to purchase additional shares of common stock in this offering, the pro forma as adjusted net tangible book value per share after the offering would be $, the increase in the pro forma net tangible book value per share to existing stockholders would be $ and the dilution per share to new investors purchasing shares in this offering would be $.

If any shares are issued upon exercise of outstanding options, or if additional options or other equity awards are granted and exercised or become vested, or if other issuances of common stock are made, you will experience further dilution.

The following table summarizes as of December 31, 2017, on the pro forma as adjusted basis described above, the number of our shares of common stock purchased from us and the total consideration and the average price per share paid to us by existing stockholders and by new investors purchasing our common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the estimated price range set forth on the cover of this prospectus, before deducting underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders		%	$	%	$
New investors					
Total		100.0%	$	%	

A $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover of this prospectus, would increase or decrease the total consideration paid by new investors in this offering by $ million and, in the case of an increase, would increase the percentage of total consideration paid by new investors by percentage points and, in the case of a decrease, would decrease the percentage of total consideration paid by new investors by percentage points, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. An increase or decrease of 1.0 million in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase or decrease the total consideration paid by new investors by $ million and, in the case of an increase, would increase the percentage of total consideration paid by new investors by percentage points and, in the case of a decrease, would decrease the percentage of total

consideration paid by new investors by percentage points, assuming no change in the assumed initial public offering price per share.

The table above assumes no exercise of the underwriters' option to purchase additional shares in this offering. If the underwriters exercise their option to purchase additional shares of common stock in full, the number of shares of common stock held by existing stockholders would decrease to % of the total number of shares of common stock outstanding after this offering, and the number of shares held by new investors would increase to % of the total number of shares of common stock outstanding after this offering.

The number of shares purchased from us by existing stockholders is based on shares of common stock outstanding as of December 31, 2017, after giving effect to the automatic conversion of all of our outstanding preferred shares into shares of common stock upon the closing of this offering, and excludes:

- 11,245,985 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2017, with a weighted average exercise price of $0.27 per share;
- shares of common stock issuable upon the exercise of stock options granted after December 31, 2017, with a weighted average exercise price of $ per share;
- 2,146,767 shares of common stock issuable upon the vesting of restricted stock units granted after December 31, 2017 to Kevin Gordon, our President and Chief Financial Officer;
- 4,699,565 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2017, with a weighted average exercise price of $0.09 per share;
- an aggregate of shares of common stock issuable upon the exercise of stock options to be granted to certain of our officers and directors on the date of execution of the underwriting agreement under the 2018 Plan, assuming we sell shares in this offering;
- shares of common stock issuable upon the vesting of restricted stock units to be granted to Mr. Gordon on the date of execution of the underwriting agreement pursuant to his employment agreement, assuming we sell shares in this offering;
- an additional 10,158,368 shares of common stock reserved for issuance under the Liquidia Technologies, Inc. Stock Option Plan, as amended, or the 2004 Plan, as of December 31, 2017, which shares will no longer be reserved following this offering;
- an additional 1,087,617 shares of common stock reserved for issuance under the Liquidia Technologies, Inc. 2016 Equity Incentive Plan, as amended, or the 2016 Plan, as of December 31, 2017, which shares will no longer be reserved following this offering; and
- an additional shares of common stock that will be made available for future issuance under the 2018 Plan upon the effectiveness of the registration statement of which this prospectus forms a part.

SELECTED FINANCIAL DATA

The selected statements of operations data for the years ended December 31, 2016 and 2017 and the balance sheet data as of December 31, 2016 and 2017 are derived from our audited financial statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in any future period.

The following selected financial data should be read with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus. The selected financial data in this section are not intended to replace the financial statements and are qualified in their entirety by the financial statements and related notes included elsewhere in this prospectus.

	Year ended December 31,	
	2016	2017
Statement of operations data:		
Revenues	$ 13,216,989	$ 7,258,123
Costs and expenses:		
Cost of sales	918,778	319,759
Research and development	23,319,886	24,753,876
General and administrative	4,841,128	10,212,774
Total costs and expenses	29,079,792	35,286,409
Loss from operations	(15,862,803)	(28,028,286)
Other income (expense):		
Interest income	14,906	268
Interest expense	(85,865)	(13,010,475)
Derivative and warrant fair value adjustment	—	11,884,253
Total other income (expense), net	(70,959)	(1,125,954)
Net loss	(15,933,762)	(29,154,240)
Other comprehensive loss	—	—
Comprehensive loss	$ (15,933,762)	$ (29,154,240)
Net loss per share, basic and diluted	$ (2.16)	$ (3.08)
Weighted average shares outstanding, basic and diluted	7,361,596	9,475,083
Pro forma net loss per share, basic and diluted (unaudited)		$
Pro forma weighted-average common shares outstanding, basic and diluted (unaudited)		$

	As of December 31,	
	2016	2017
Balance Sheet Data:		
Cash	$ 1,438,712	$ 3,418,979
Total assets	8,486,533	14,843,602
Total debt	8,113,660	21,165,131
Capital stock and additional paid-in capital	66,068,868	79,721,075
Accumulated deficit	(84,259,071)	(113,413,311)
Total stockholders' deficit	(18,245,203)	(33,692,236)

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 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. As a result of many factors, including those factors set forth in the "Risk Factors" section of this prospectus, our actual results could differ materially from the results described in, or implied by, the forward-looking statements contained in the following discussion and analysis. See "Cautionary Note Regarding Forward-Looking Statements."

Overview

We are a late-stage clinical biopharmaceutical company focused on the development and commercialization of human therapeutics using our proprietary PRINT technology to transform the lives of patients. PRINT is a particle engineering platform that enables precise production of uniform drug particles designed to improve the safety, efficacy and performance of a wide range of therapies. We are currently focused on the development of two product candidates for which we hold worldwide commercial rights: LIQ861 for the treatment of pulmonary arterial hypertension, or PAH, and LIQ865 for the treatment of local post-operative pain. Our lead product candidate, LIQ861, is being evaluated in a Phase 3 clinical trial as a potential treatment for PAH. LIQ861 is an inhaled dry powder formulation of treprostinil that is administered using a convenient, disposable dry powder inhaler, or DPI. Treprostinil is a synthetic analog of prostacyclin, a vasoactive mediator essential to normal lung function, is deficient in patients with PAH. We believe that LIQ861 has the potential to improve the therapeutic profile of existing formulations of treprostinil by enhancing deep-lung delivery and achieving higher dose levels than current inhaled therapies. We have completed one, and are currently conducting a second, Phase 1 clinical trial of our second product candidate, LIQ865, for the treatment for local post-operative pain. LIQ865 is our proprietary injectable, sustained-release formulation of bupivacaine, a non-opioid pain medicine. We have designed LIQ865 to be administered as a single treatment for the management of local post-operative pain for three to five days after a procedure, which we believe, if approved, has the potential to provide significantly longer post-operative pain relief compared to currently marketed formulations of bupivacaine. We expect to initiate Phase 2-enabling toxicology studies in the second half of 2018.

In addition to developing our two current product candidates, we license our PRINT technology to leading pharmaceutical companies seeking to develop their own potential drug and biologic therapies. We believe that our PRINT technology can be applied to a wide range of therapeutic areas, molecule types and routes of administration. We are currently focused on developing product candidates that we believe are eligible to be approved under the 505(b)(2) regulatory pathway, which can be capital efficient and potentially enable a shorter time to approval, as it allows us to rely in part on existing knowledge of the safety and efficacy of the relevant reference listed drugs to support our applications for approval in the United States. If any of our product candidates are approved, we intend to manufacture them using in-house capabilities. Where appropriate, we will rely on third-party CMOs to produce, package and distribute our approved drug products on a commercial scale.

We have not generated any revenue to date from the sale of pharmaceutical products, and we have historically financed our operations in large part with an aggregate of $116.6 million of gross proceeds from sales of our convertible preferred stock, convertible promissory notes, $10.0 million in term loans from a bank and a $2.1 million loan from UNC. We do not expect to generate significant product revenue unless and until we obtain marketing approval for and commercialize LIQ861, LIQ865 or one of our other future product candidates.

Since our inception, we have incurred significant operating losses. Our net loss was $15.9 million and $29.2 million for the years ended December 31, 2016 and 2017, respectively, and as of December 31, 2017, we had an accumulated deficit of $113.4 million. We expect to incur significant expenses and operating losses for the foreseeable future as we advance our product candidates through clinical trials, and seek regulatory approval and pursue commercialization of any approved product candidate. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. In addition, we may incur expenses in connection with the in-license or acquisition of additional product candidates. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company, including significant legal, accounting, investor relations and other expenses that we did not incur as a private company.

As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through the sale of equity, debt financings or other capital sources, including potential collaborations with other companies or other strategic transactions. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as, and when, needed, we may have to significantly delay, scale back or discontinue the development and commercialization of one or more of our product candidates or delay our pursuit of potential in-licenses or acquisitions.

As of December 31, 2017, we had cash of $3.4 million. In February 2018, we received proceeds of $25.6 million from the sale of our Series D preferred stock and related rights offering. We believe that the anticipated net proceeds from this offering, together with our existing cash, will enable us to fund our operating expenses and capital expenditure requirements until at least . We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect. See " — Liquidity and Capital Resources."

Our Collaborations

Our only revenue, which has been derived from collaborating and licensing our proprietary PRINT technology to pharmaceutical companies, amounted to $13.2 million and $7.3 million for the years ended December 31, 2016 and 2017, respectively. GSK accounted for $11.8 million and $6.1 million, for the years ended December 31, 2016 and 2017, respectively, or 90% and 84%, respectively, of our total revenue. Our collaborators make up-front fees or technology access payments, pay us to achieve clinical milestones, pay us fees to develop their drug products through research and development services like particle formulation and manufacturing and will pay us royalties upon ultimate commercial sales of the related products.

GSK

We have actively collaborated with GSK on the use of our PRINT technology in respiratory disease since 2012.

In June 2012, we entered into a Vaccines Collaboration and Option Agreement with GSK, or the GSK VCO Agreement, to collaborate on research regarding the application of our PRINT technology to specified inhaled therapies. In March 2015, GSK made a one-time payment of $5.0 million to extend the agreement for 13 months through April 30, 2016, and such payment was amortized into revenue over that extension period. We and GSK mutually agreed to terminate this agreement in April 2016, and we will not recognize any further revenues under this agreement. Revenues from research and development services under the GSK VCO Agreement amounted to $1.3 million and $0 for the years ended December 31, 2016 and 2017, respectively.

In June 2012, we also entered into an Inhaled Collaboration and Option Agreement with GSK, or the GSK ICO Agreement, under which we granted GSK exclusive options and licenses to further develop and commercialize inhaled therapies using our PRINT technology. In September 2015, GSK exercised its option

to obtain an exclusive, worldwide license to certain of our know-how and patents relating to our PRINT technology, for the purpose of, among others, conducting preclinical studies of inhaled therapeutics developed, manufactured or otherwise produced using our PRINT technology. In consideration for GSK's exercise of this option, we received a non-refundable up-front payment of $15.0 million, which amount is being amortized into revenue over a period of five years from September 2015 based on the estimated development period. Under the terms of the GSK ICO Agreement, we are also entitled to certain milestone payments aggregating up to $158 million upon the achievement of specified milestone events, and tiered royalties on the worldwide sales of the licensed products at percentages in the mid-single digits. In February 2016, we received a $3.0 million payment from GSK upon the achievement of a clinical development milestone. We recognized the full amount of this payment as revenue in the year ended December 31, 2016. Revenues from research and development services under the GSK ICO Agreement amounted to $2.9 million and $3.1 million for the years ended December 31, 2016 and 2017, respectively.

In December 2017, GSK informed us of its modified plans under the GSK ICO Agreement that reduced its requirements and budget for our research and development support in 2018. As a result, we expect revenues from research and development services under the GSK ICO Agreement to be less than $250,000 during 2018. In response, in January 2018, we reduced our research and development workforce accordingly, and we anticipate that we will incur approximately $400,000 in expense relating to the workforce reduction.

We also entered into other engagements with GSK under the GSK ICO Agreement, primarily for platform research services. As of April 1, 2018, GSK is conducting a Phase 1 clinical trial of an inhaled COPD product candidate that is formulated as an inhaled dry powder using the PRINT technology.

G&W Laboratories

In June 2016, we entered into a development and license agreement with G&W Labs, or the G&W Labs Agreement, to develop multiple products for topical delivery in dermatology using our PRINT technology. We received the first non-refundable up-front fee of $1.0 million under this agreement in June 2016, which amount is being amortized into revenue over a period of five years, which we expect to correspond with the collaboration term. We began performing research and development services under this agreement in July 2016, and such work is not completed as of the date of this prospectus.

Gates Foundation

In 2011, we entered into a collaboration agreement with the Bill & Melinda Gates Foundation, primarily for research services related to developing vaccines targeted at developing markets. We received an up-front fee of $1.0 million under this agreement, which we recognized as revenue through December 2017. As of the date of this prospectus, we are not performing any services under this collaboration agreement and do not expect to recognize any further revenue under the agreement.

Components of Statements of Operations

Revenue

Our revenue is primarily derived from collaborating and licensing our proprietary PRINT technology to pharmaceutical companies. In the future, we also expect to derive our revenue from our own pharmaceutical products. We report financial information in the following two business segments:

Pharmaceutical Products. We utilize our proprietary PRINT technology to develop novel product candidates, such as LIQ861 and LIQ865. We have not commenced the commercialization of any pharmaceutical products and have not recognized any product revenues to date for this business segment. We intend to commercialize LIQ861 independently in the United States and to evaluate our commercialization and development plans for LIQ865. Outside of the United States, we intend to pursue the regulatory approval and commercialization of LIQ861 and LIQ865 with leading pharmaceutical companies with regional expertise. Revenues from these licensing arrangements

would be recognized in this segment. In addition, if LIQ861 or LIQ865 is approved for marketing, we expect to recognize any revenues from sales of that product in this segment.

Partnering and Licensing. We also utilize our proprietary PRINT technology to enable the development of product candidates by other pharmaceutical companies. We perform research and development services for third parties in the areas of particle formulation and manufacturing and charge market billing rates. We typically receive up-front fees or technology access payments, as well as milestone payments for each phase of clinical achievement. If any of these drug products achieve commercialization, we also expect to be eligible to receive royalties from sales of those drug products. For the years ended December 31, 2016 and 2017, all of our revenue from our license and collaboration agreements described above was part of our Partnering and Licensing segment.

For the years ended December 31, 2016 and 2017, the majority of our revenue from collaborating and licensing our proprietary PRINT technology to pharmaceutical companies was derived under two separate agreements with GSK, which we refer to as the GSK VCO Agreement and the GSK ICO Agreement. These two arrangements with GSK accounted for $11.8 million and $6.1 million in revenue for the years ended December 31, 2016 and 2017, respectively, representing 90% and 84% of our total revenue for the years ended December 31, 2016 and 2017, respectively. This revenue comprised billings for research and development services, milestone payments and amortization of deferred revenue from up-front payments.

Cost of Sales

Cost of sales consists of the amortization of license fees owed to UNC upon our receipt of licensing revenues. See "Business — Our Collaboration and Licensing Agreements — The University of North Carolina at Chapel Hill" for further details. The amortization period is the same as the period over which the related revenue is recognized.

Research and Development Expenses

Research and development expense consists of expenses incurred in connection with the development of our product candidates. We expense research and development costs as incurred. These expenses include:

- expenses incurred under agreements with CROs, as well as investigative sites and consultants that conduct our clinical trials and preclinical studies;
- manufacturing scale-up expenses and the cost of acquiring and manufacturing preclinical and clinical trial materials and commercial materials, including manufacturing validation batches;
- outsourced professional scientific development services;
- employee-related expenses, which include salaries, benefits and stock-based compensation for personnel in research and development functions;
- expenses relating to regulatory activities, including filing fees paid to regulatory agencies;
- laboratory materials and supplies used to support our research activities; and
- allocated expenses for utilities and other facility-related costs.

Research and development activities are central to our business model. Product candidates in later 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 later-stage clinical trials. We expect our research and development expenses to increase significantly over the next several years as we increase personnel costs, including stock-based compensation, conduct our ongoing Phase 3 clinical trial of LIQ861, continue the development of LIQ865 and conduct other clinical trials and prepare regulatory filings for our product candidates.

The successful development of our product candidates is highly uncertain. At this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the remainder of the development of, or when, if ever, material net cash inflows may commence from any of our product candidates. This uncertainty is due to the numerous risks and uncertainties associated with the

duration and cost of clinical trials, which vary significantly over the life of a project as a result of many factors, including:

- the number of clinical sites included in the trials;
- the length of time required to enroll suitable patients;
- the number of patients that ultimately participate in the trials;
- the number of doses patients receive;
- the duration of patient follow-up; and
- the results of our clinical trials.

Our expenditures are subject to additional uncertainties, including the terms and timing of regulatory approvals, and the expense of filing, prosecuting, defending and enforcing any patent claims or other intellectual property rights. We may never succeed in achieving regulatory approval for any of our product candidates. We may obtain unexpected results from our clinical trials. We may elect to discontinue, delay or modify clinical trials of some product candidates or focus on others. A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the FDA or other regulatory authorities were to require us to conduct clinical trials beyond those that we currently anticipate, 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 on the completion of clinical development. Drug commercialization will take several years and millions of dollars in development costs.

General and Administrative Expenses

General and administrative expenses consist principally of salaries and related costs for personnel in executive, administrative, finance and legal functions, including stock-based compensation, travel expenses and recruiting expenses. Other general and administrative expenses include facility related costs, patent filing and prosecution costs and professional fees for marketing, legal, auditing and tax services and insurance costs.

We anticipate that our general and administrative expenses will increase as a result of increased personnel costs, including stock-based compensation, expanded infrastructure and higher consulting, legal and tax-related services associated with maintaining compliance with stock exchange listing and SEC requirements, accounting and investor relations costs, and director and officer insurance premiums associated with being a public company. We anticipate the additional costs for these services will increase our general and administrative expenses by approximately $1.5 million to $2.0 million on an annual basis. Additionally, if and when we believe a regulatory approval of a product candidate appears likely, we anticipate an increase in payroll and expense as a result of our preparation for commercial operations, especially as it relates to the sales and marketing of our product candidate.

Results of Operations

Years ended December 31, 2016 and 2017

The following table summarizes our results of operations:

	Year ended December 31,	
	2016	2017
	(in thousands)	
Revenues	$ 13,217	$ 7,258
Costs and expenses:		
Cost of sales	919	320
Research and development	23,320	24,754
General and administrative	4,841	10,212
Total costs and expenses	29,080	35,286
Loss from operations	(15,863)	(28,028)
Other income (expense):		
Interest income	15	—
Interest expense	(86)	(13,010)
Derivative and warrant fair value adjustments	—	11,884
Total other income (expense)	(71)	(1,126)
Net loss	$ (15,934)	$ (29,154)

Revenues

Revenues were $7.3 million for the year ended December 31, 2017, compared to $13.2 million for the year ended December 31, 2016. The decrease of $6.0 million, or 45%, was due to a decrease of $3.0 million in non-refundable milestone payments recognized as revenue in 2016 from the GSK ICO Agreement and a decrease of $2.9 million related to revenue recognized in 2016 from the GSK VCO Agreement which was terminated in April 2016. Our revenues of $7.3 million in the year ended December 31, 2017 consisted primarily of $6.1 million attributable to the GSK ICO Agreement. Under the GSK ICO Agreement, we received an up-front payment of $15.0 million in 2015. We are amortizing this payment into revenue over a five-year period, resulting in revenues of $3.0 million during the year ended December 31, 2017. In addition, we performed research and development services under this agreement and recognized revenues of $3.1 million for such services during the year ended December 31, 2017. In addition to GSK, in June 2016, we entered into the G&W Labs Agreement under which we received an up-front payment of $1.0 million. We are amortizing this payment into revenue over a five-year period, resulting in revenue of $0.2 million during the year ended December 31, 2017. In addition, we performed research and development services under this agreement and recognized revenues of $0.2 million and $0 for such services during the years ended December 31, 2016 and 2017, respectively. In addition, in February 2011, we entered into a collaboration agreement with the Bill & Melinda Gates Foundation, primarily for research services related to developing vaccines targeted at developing markets under which we received an up-front payment of $1.0 million. We are amortizing this payment into revenue over a 6.75 year period, resulting in revenue of $0.2 million and $0.2 million during the years ended December 31, 2016 and 2017, respectively. In addition, we performed research and development services under various collaboration agreements with other companies and recognized revenue of $0.9 million and $0.8 million for such services during the years ended December 31, 2016 and 2017, respectively.

Cost of Sales

Our cost of sales was $0.3 million for the year ended December 31, 2017, compared to $0.9 million for the year ended December 31, 2016. The decrease of $0.6 million, or 65%, was due to a $0.3 million license fee paid to UNC in 2016 related to the $3.0 million non-refundable milestone payment from the GSK ICO Agreement, and a $0.3 million license fee amortization in 2016 related to the GSK VCO Agreement, neither of which recurred in 2017. Cost of sales represents sub-licensing fees paid to UNC resulting from our recognition of licensing revenue from intellectual property that we in-licensed from UNC. This amount was attributable to our Partnering and Licensing segment.

Research and Development Expenses

Our research and development expenses were $24.8 million for the year ended December 31, 2017, compared to $23.3 million for the year ended December 31, 2016. The increase of $1.5 million, or 6%, was due to the completion of a Phase 1 study and preparation of a Phase 3 study of LIQ861, in addition to the completion of one Phase 1 study and ongoing work on a second Phase 1 study for LIQ865. Research and development expenses consisted of $5.0 million from the Partnering and Licensing segment, $13.6 million from the Pharmaceutical Products segment, of which $8.4 million and $5.2 million were attributable to our ongoing development of LIQ861 and LIQ865, respectively, and $6.2 million from general research and development that was not directly related to a particular segment.

General and Administrative Expenses

Our general and administrative expenses were $10.2 million for the year ended December 31, 2017, compared to $4.8 million for the year ended December 31, 2016. The increase of $5.4 million, or 111%, was due to transaction costs related to our deferred potential initial public offering on a foreign exchange contemplated during 2017, and increases in staff and consultants. General and administrative expense are mainly the result of personnel expenses, including stock-based compensation, as well as legal and consulting fees and tax expense.

Loss from Operations

We recorded a loss from operations of $28.0 million in the year ended December 31, 2017, compared to $15.9 million for the year ended December 31, 2016. The increase of $12.1 million, or 77%, was primarily due to a decrease in revenues and an increase in general and administrative expenses during the year ended December 31, 2017.

Other Income (Expense)

Interest income was less than $1,000 for the year ended December 31, 2017 compared to $14,900 for the year ended December 31, 2016. The decrease of $14,600 was due to lower average balances in interest-bearing accounts during the year ended December 31, 2017.

Interest expense was $13.0 million for the year ended December 31, 2017, compared to $0.1 million for the year ended December 31, 2016. During 2017, we had higher levels of debt including convertible notes of $27.4 million, bank borrowings of $9.1 million, an amount owed to UNC of $2.3 million, and existing capital lease obligations of $0.9 million. The increase in interest expense of $12.9 million was primarily due to amortization of discount on convertible notes of $9.8 million, the expensing of debt issuance costs to interest expense of $1.4 million and the recognition of accrued interest on the convertible notes, bank borrowings and capital lease obligations of $1.8 million.

Derivative and warrant fair value adjustments were $11.9 million for the year ended December 31, 2017, compared to $0 for the year ended December 31, 2016. This increase was due to decreases in the fair value of derivatives and warrants of $9.9 million and $2.0 million, respectively, for the year ended December 31, 2017. Derivatives and warrants were issued in conjunction with convertible note financings during the year ended December 31, 2017. The decreases in the fair value of derivatives and warrants were primarily due to the impact of the Series D financing that closed in February 2018, the terms of which were known at December 31, 2017, which implied lower fair values for the derivatives and warrants than previously estimated.

Liquidity and Capital Resources

Overview

We have financed our growth and operations through a combination of funds generated from our licensing revenues, the issuance of convertible preferred stock and common stock, capital leases, bank borrowings and the issuance of convertible notes. Our principal uses of cash have been for working capital requirements and capital expenditures. We monitor our net operating cash flow and maintain a level of cash deemed adequate by our management for working capital purposes.

As of December 31, 2017, we had a stockholders' deficit of $33.7 million and negative working capital (defined as current assets less current liabilities) of $25.0 million. Our cash balance was $3.4 million as of December 31, 2017.

Sources of Liquidity

We have financed a portion of our working capital through debt instruments. We maintain a $10.0 million term loan facility with PWB for working capital purposes. As of April 1, 2018, we have fully utilized our facility with PWB. The facility is secured by all of our assets other than intellectual property. We may not encumber our intellectual property without the consent of PWB. The outstanding principal amount under the loan facility bears interest at 5.0% per annum. Of the current amount outstanding, the loan matures with respect to $3.0 million in January 2020, with the remainder being due and payable in October 2020. Our credit facility with PWB contains restrictions that limit our flexibility in operating our business. We may not, among other things, without the prior written consent of PWB, (a) pay any dividends or make any other distribution or payment on account of or in redemption, retirement or purchase of any capital stock except in certain prescribed circumstances, (b) create, incur, assume, guarantee or be or remain liable with respect to any indebtedness except certain permitted indebtedness or prepay any indebtedness, (c) replace or suffer the departure of our Chief Executive Officer or Chief Financial Officer without delivering written notification to PWB within 10 days of such change or (d) suffer a change on our Board which results in the failure of at least one partner of either NEA or Canaan or their respective affiliates to serve as a voting member. We have, in the past, breached multiple covenants in our loan and security agreement related to cash levels, reporting requirements and required periodic deliverables to PWB. PWB has provided waivers in relation to all such prior breaches. Furthermore, pursuant to our credit facility with PWB, we are required at all times to maintain a balance of cash at PWB of at least $8.0 million. The credit facility also contains a covenant related to the observation of materially adverse data in our Phase 3 clinical trial of LIQ861 on or before December 31, 2018.

During the year ended December 31, 2017, we had outstanding a promissory note to UNC. As of December 31, 2016 and 2017, the outstanding balance of this note payable was $2.2 million and $2.3 million, respectively. The note is unsecured and bears interest at a rate equal to one-year LIBOR plus 3%, compounded annually. The UNC Note is due and payable in full on June 30, 2018.

In a series of closings from January 9, 2017 to November 29, 2017, we issued and sold an aggregate of $27.4 million underlying a total of 27 unsecured subordinated convertible promissory notes, each accruing simple interest at a rate of 8.0% per annum.

In February 2018, we issued and sold an aggregate of 91,147,482 shares of Series D preferred stock at a price per share equal to $0.59808. Of the 31 investors that participated in this offering, 10 investors purchased an aggregate of 42,863,825 shares of Series D preferred stock for an aggregate purchase price of $25.6 million and 26 holders of outstanding convertible notes in the aggregate amount of $28.9 million converted their notes into an aggregate of 48,283,657 shares of Series D preferred stock.

The total amount of outstanding principal and accrued interest on our unsecured subordinated convertible promissory notes was $28.6 million as of December 31, 2017. On February 2, 2018, the outstanding principal and accrued interest underlying each of the notes converted into shares of Series D preferred stock. Upon the closing of this offering, the shares of outstanding preferred stock will convert automatically into shares of common stock.

Cash Flows

The following table summarizes our sources and uses of cash for the periods indicated:

	Year ended December 31,	
	2016	2017
	(in thousands)	
Net cash provided by (used in):		
Operating activities	$ (13,947)	$ (24,290)
Investing activities	(2,885)	(2,544)
Financing activities	6,110	28,814
Net (decrease) increase in cash	$ (10,722)	$ 1,980

Operating Activities

Net cash used in operating activities increased $10.3 million, from $13.9 million for the year ended December 31, 2016 to $24.3 million for the year ended December 31, 2017. The increase was mainly due to the increase in net loss. The primary drivers of operating cash requirements were our research and development and general and administrative activities in each period. For the year ended December 31, 2017, net cash used in operating activities was $24.3 million, which comprised mainly operating cash outflows before working capital changes of $24.7 million, and net working capital inflows of $0.4 million.

Investing Activities

Net cash used in investing activities decreased $0.4 million, from $2.9 million for the year ended December 31, 2016 to $2.5 million for the year ended December 31, 2017. The decrease was due to decreased purchases of property, plant and equipment.

Financing activities

Net cash provided by financing activities increased $22.7 million, from $6.1 million for the year ended December 31, 2016 to $28.8 million for the year ended December 31, 2017. For the year ended December 31, 2017, net cash provided by financing activities of $28.8 million was primarily due to proceeds from long-term debt of $31.4 million comprised of $4.0 million related to debt with PWB and convertible notes of $27.4 million, which was offset by $1.4 million in debt issuance costs. In addition, we received proceeds from the exercise of stock options and warrants of $0.1 million. The aggregate proceeds from financing activities were partially offset by principal payments on debt of $1.3 million.

Funding Requirements

We plan to focus in the near term on the development, regulatory approval and potential commercialization of LIQ861 and LIQ865. We anticipate we will incur net losses for the next several years as we complete clinical development of these product candidates and continue research and development of additional product candidates. In addition, we plan to continue to invest in discovery efforts to explore additional product candidates, potentially build commercial capabilities and expand our corporate infrastructure. We may not be able to complete the development and initiate commercialization of these programs if, among other things, our clinical trials are not successful or if the FDA does not approve our product candidates arising out of our current clinical trials when we expect, or at all.

Our primary uses of capital are, and we expect will continue to be, compensation and related expenses, clinical costs, external research and development services, laboratory and related supplies, legal and other regulatory expenses and administrative and overhead costs. Our future funding requirements will be heavily determined by the resources needed to support development of our product candidates.

Following this offering, we will be a publicly traded company and will incur significant legal, accounting and other expenses that we were not required to incur as a private company. In addition, the Sarbanes-Oxley Act, as well as rules adopted by the SEC and Nasdaq, requires public companies to implement specified corporate governance practices that are currently inapplicable to us as a private company. We expect these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

We believe that the anticipated net proceeds from this offering, together with our existing cash, will enable us to fund our operating expenses and capital expenditure requirements until at least , including the completion of our ongoing Phase 3 clinical trial for LIQ861 and the initiation of our Phase 2-enabling toxicology studies in 2018 for LIQ865. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect. We expect that we will require additional capital to commercialize our product candidates, if we receive regulatory approval, and to pursue in-licenses or acquisitions of other product candidates. If we receive regulatory approval for LIQ861 or LIQ865, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing and distribution, depending on where we choose to commercialize. Additional funds may not be available on a timely basis, on favorable terms, or at all, and such funds, if raised, may not be sufficient to enable us to continue to implement our long-term business strategy. If we are unable to raise sufficient additional capital, we may need to substantially curtail our planned operations and the pursuit of our growth strategy.

We may raise additional capital through the sale of equity or convertible debt securities. In such an event, your ownership will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a holder of our common stock.

Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical drugs, we are unable to estimate the exact amount of our working capital requirements. Our future funding requirements will depend on many factors, including:

- the number and characteristics of the product candidates we pursue;
- the scope, progress, results and costs of researching and developing our product candidates, and conducting preclinical studies and clinical trials;
- the timing of, and the costs involved in, obtaining regulatory approvals for our product candidates;
- the cost of manufacturing our product candidates and any product we successfully commercialize;
- our ability to establish and maintain strategic collaborations, licensing or other arrangements and the financial terms of such agreements;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims, including litigation costs and the outcome of such litigation; and
- the timing, receipt and amount of sales of, or milestone payments related to or royalties on, our current or future product candidates, if any.

See "Risk Factors" for additional risks associated with our substantial capital requirements.

Critical Accounting Policies and Significant Judgments and Estimates

This 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 generally accepted accounting principles in the United States, or GAAP. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities 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 long-lived assets, derivatives, stock-based compensation and accrued expenses. 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 value 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 more detail in the notes to our consolidated financial statements appearing elsewhere in this prospectus, we believe the following accounting policies to be the most critical to the judgments and estimates used in the preparation of our financial statements.

Going Concern

Our operations have consisted primarily of developing our technology, developing products, prosecuting our intellectual property and securing financing. We have incurred recurring losses and cash flows from operations, have an accumulated deficit and have debt maturing within twelve months. The accompanying financial statements have been prepared on a basis which assumes that we will continue as a going concern. We have incurred losses and cash outflows from operations since our inception. We expect to continue to incur losses in the foreseeable future and will require additional financial resources to continue to advance our products and intellectual property, in addition to repaying our maturing debt obligations. These circumstances raise substantial doubt about our ability to continue as a going concern. Management's plans with regard to this matter include continuing attempts to obtain additional financing from our current investors and new investors to sustain our operations or to pursue other financing alternatives. However, there is no assurance that we will be successful in obtaining sufficient financing on terms acceptable to us and our failure to obtain sufficient funds on acceptable terms, when needed, could have a material adverse effect on our business, results of operations and financial condition. If sufficient financings do not occur, this may necessitate other actions by us. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Revenue Recognition

Our revenues are generated through license, collaboration and other similar research and development agreements. These agreements include up-front fees, payments for achievement of specified development, regulatory and sales milestones and provision for billing for research and development services like particle formulations and manufacturing, all of which comprise our revenues. In addition, such agreements provide for royalties on product sales after commercial launch of the related products. We record any amounts received in advance of services performed as deferred revenue and recognize them as revenue over the estimated period of our substantive performance obligations.

We follow the revenue-recognition guidance established by Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 605, Revenue Recognition, or ASC 605. In determining the accounting for collaboration agreements, we follow the related guidance. Guidance is provided on whether an arrangement that involves multiple revenue-generating activities or deliverables should be divided into separate units of accounting for revenue-recognition purposes and, if division is required, how the arrangement consideration should be allocated among the separate units of accounting. If the arrangement constitutes separate units of accounting according to the separation criteria of the guidance, a revenue-recognition policy must be determined for each unit. If the arrangement constitutes a single unit of accounting, the revenue-recognition policy must be determined for the entire arrangement.

Collaboration research and development revenue is recognized when research is performed and related expenses are incurred. Non-refundable up-front fees, which may include, for example, an initial payment upon effectiveness of the contractual relationship or a payment to secure a right for a future license, are recorded as deferred revenue and recognized into revenue on a straight-line basis over the estimated period of our substantive performance obligations. If we do not have substantive performance obligations, we recognize non-refundable up-front fees into revenue over the estimated development period.

Revenue for non-refundable payments based on the achievement of milestone events under collaboration agreements are recognized in accordance with ASC 605-28-50-2(e). Milestone events under our collaboration agreements may include research, development, regulatory or commercialization events. A milestone payment is recognized as revenue when the applicable event is achieved, if the event meets the

definition of a milestone and the milestone is determined to be substantive. A milestone event is an event having all of the following characteristics: (1) there is substantive uncertainty regarding achievement of the milestone event at the inception of the arrangement; (2) the event can only be achieved based, in whole or in part, on either our performance or a specific outcome resulting from our performance; and (3) if achieved, the event would result in an additional payment due to us. We also treat events that can only be achieved based, in whole or in part, on either a third party's performance or a specific outcome resulting from a third party's performance, as milestone events if the criteria of the guidance are otherwise satisfied.

A milestone is considered substantive if it meets all of the following criteria: (1) the payment is commensurate with either our performance to achieve the milestone or with the enhancement of the value of the delivered item; (2) the payment relates solely to past performance; and (3) the payment is reasonable relative to all of the deliverables and payment terms within the arrangement. If any of these conditions is not met, the milestone payment is deferred and recognized on a straight-line basis over a period determined as discussed above.

Grant payments are recognized as grant revenue when we perform the work and incur reimbursable costs in accordance with the objectives of the award.

In May 2014, the FASB issued Accounting Standards Update, or ASU, 2014-09, *Revenue from Contracts with Customers*, or ASU 2014-09. The FASB issued ASU 2014-09 to clarify the principles for recognizing revenue and to develop a common revenue standard for GAAP. The standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes the most current revenue recognition guidance. This guidance was originally effective for annual periods and interim periods within those annual periods beginning after December 15, 2016 and early adoption was not permitted. In August 2015, the FASB issued ASU 2015-14, *Revenue from Contracts with Customers (Topic 606) — Deferral of the Effective Date*, or ASU 2015-14, which deferred the effective date of the guidance in ASU 2014-09 by one year to December 15, 2017 for interim and annual reporting periods beginning after that date and permitted early adoption of the standard, but not before the original effective date of December 15, 2016. This standard will be effective for us for the year ending December 31, 2018. In 2016, the FASB clarified the implementation guidance on principal versus agent, identifying performance obligations, licensing, narrow-scope improvements, practical expedients, and to expedite improvements to 2014-09 by issuing ASU 2016-08, *Revenue from Contracts with Customers (Topic 606) — Principal versus Agent Considerations*, or ASU 2016-08, ASU 2016-10, *Revenue from Contracts with Customers (Topic 606) — Identifying Performance Obligations and Licensing*, or ASU 2016-10, ASU 2016-12, *Revenue from Contracts with Customers (Topic 606) — Narrow-Scope Improvements and Practical Expedients*, or ASU 2016-12, and ASU 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contacts with Customers*, or ASU 2016-20. We will adopt this standard as of January 1, 2018 and will apply the modified retrospective method. Under this adoption method, we will record a cumulative adjustment to retained earnings at January 1, 2018 and apply the provisions of the ASU prospectively. We believe this ASU will have an impact on, but not limited to, how we identify performance obligations for our collaborative agreements and account for non-refundable milestones and up-front payments. This ASU will also require new comprehensive disclosures about contracts with customers, including the significant judgments we have made when applying the ASU. We have engaged a third party specialist to assist in determining the impact and application of the ASU and management is in the process of assessing the results. We will finalize our accounting assessment and quantitative impact of the adoption during the first quarter of fiscal year 2018, as required.

Stock-Based Compensation

We account for stock-based compensation under ASC Topic 718, Compensation — Stock Compensation, or ASC 718. Determining the amount of stock-based compensation to be recorded requires us to determine estimates of fair values of stock options as of the grant date.

We account for stock-based compensation by measuring and recognizing compensation expense for all stock-based payments made to employees and directors based on estimated grant date fair values. We use

the straight-line method to allocate compensation cost to reporting periods over each optionee's requisite service period, which is generally the vesting period. We estimate the fair value of our stock-based awards to employees and directors using the Black-Scholes option-pricing model, or the Black-Scholes Model. The Black-Scholes Model requires the input of subjective assumptions, including the expected stock price volatility, the calculation of expected term and the fair value of the underlying common stock on the date of grant, among other inputs. The risk-free interest rate was determined with the implied yield currently available for zero-coupon U.S. government issues with a remaining term approximating the expected life of the options.

All stock-based awards granted to non-employees are accounted for at their fair value in accordance with ASC 505, Accounting for Equity Instruments that are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services, or ASC 505, under which compensation expense is generally recognized over the vesting period of the award.

As there has been no public market for our common stock to date, the estimated fair value of our common stock has been determined by our board of directors, or our Board, as of the date of each option grant, with input from management, considering our most recently available third-party valuations of common stock and our Board's assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. These third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation. Our common stock valuations were prepared using the hybrid method, which used market approaches and, in the November 8, 2016 and February 2, 2018 valuations, initial public offering pre-money valuation estimates provided by management, to estimate our enterprise value. The hybrid method is a probability-weighed expected return method, or PWERM, where the equity value in one or more of the scenarios is calculated using an option-pricing method, or OPM. The OPM treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company's securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceeded the value of the preferred stock liquidation preferences at the time of the liquidity event, such as a strategic sale or a merger. The PWERM is a scenario-based methodology that estimates the fair value of common stock based upon an analysis of future values for the company, assuming various outcomes. The common stock value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of stock. The future value of the common stock under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate, a discount for lack of marketability is applied to each indication, and probability weighted to arrive at an indication of value for the common stock. Third-party valuations were performed at various dates by CapVal-American Business Appraisers, LLC, which resulted in valuations of our common stock of $0.35 per share as of November 8, 2015, $1.21 as of November 8, 2016, and $0.553 per share as of February 2, 2018. In addition to considering the results of these third-party valuations, our board of directors considered various objective and subjective factors to determine the fair value of our common stock as of each grant date, which may be a date later than the most recent third-party valuation date, including:

- the prices at which we sold shares of preferred stock and the superior rights and preferences of the preferred stock relative to our common stock at the time of each grant;
- the progress of our research and development programs, including the status of preclinical studies and planned clinical trials for our product candidates;
- our stage of development and commercialization and our business strategy;
- external market conditions affecting the pharmaceutical and biotechnology industries, and trends within the biotechnology industry;
- our financial position, including cash on hand, and our historical and forecasted performance and operating results;

- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as an initial public offering or a sale of our company in light of prevailing market conditions; and
- the analysis of initial public offerings and the market performance of similar companies in the biopharmaceutical industry.

The assumptions underlying these valuations represent management's best estimates, which involve inherent uncertainties and the application of management judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our stock-based compensation expense could be materially different.

Options Granted

The following table sets forth by grant date the number of shares subject to options granted between January 1, 2016 and the date of this prospectus, the per share exercise price of the options and the fair value of common stock per share on each grant date:

Grant Date	Number of Shares Subject to Options Granted	Per Share Exercise Price of Options	Fair Value of Common Stock Per Share on Grant Date
February 10, 2016	645,139	$ 0.35	$ 0.35
August 10, 2016	465,617	$ 0.35	$ 0.35
August 30, 2016	235,000	$ 0.35	$ 0.35
December 7, 2016	150,000	$ 1.21	$ 1.21
March 15, 2017	219,000	$ 1.21	$ 1.21
May 31, 2017	18,000	$ 1.21	$ 1.21
March 7, 2018(1)	13,645,767	$ 0.55	$ 0.55
March 27, 2018	25,000	$ 0.55	$ 0.55

(1) We also issued 2,146,767 restricted stock units on March 7, 2018 to Kevin Gordon, our new President and Chief Financial Officer.

For stock awards after the completion of this offering, our Board intends to determine the fair value of each share of underlying common stock based on the closing price of our common stock as reported on the date of grant.

The intrinsic value of all outstanding options as of the date of this prospectus was $ million based on the estimated fair value of our common stock of $ per share, which is the assumed initial public offering price per share of our common stock based on the midpoint of the estimated price range set forth on the cover of this prospectus.

If factors change and we employ different assumptions, stock-based compensation expense may differ significantly from what we have recorded in the past. If there are any modifications or cancellations of the underlying unvested securities, we may be required to accelerate, increase or cancel any remaining unearned stock-based compensation expense. To the extent that our assumptions are incorrect, the amount of stock-based compensation recorded will change.

Convertible Instruments

We have utilized various types of financing to fund our business needs, including convertible debt and convertible preferred stock, in some cases with corresponding warrants. We considered guidance within FASB ASC 470-20, *Debt with Conversion and Other Options*, or ASC 470-20, ASC 480, *Distinguishing Liabilities from Equity*, or ASC 480, and ASC 815, *Derivatives and Hedging*, or ASC 815, when accounting for the issuance of convertible securities. Additionally, we review the instruments to determine whether they

are freestanding or contain an embedded derivative and, if so, whether they should be classified in permanent equity, mezzanine equity or as a liability at each reporting period until the amount is settled and reclassified into equity.

When multiple instruments are issued in a single transaction, we allocate total proceeds from the transaction among the individual freestanding instruments identified. The allocation is made after identifying all the freestanding instruments and the subsequent measurement basis for those instruments. The subsequent measurement basis determines how the proceeds are allocated. Generally, proceeds are allocated based on one of the following methods:

- Fair value method—The instrument being analyzed is allocated a portion of the proceeds equal to its fair value, with the remaining proceeds allocated to the other instruments as appropriate.
- Relative fair value method—The instrument being analyzed is allocated a portion of the proceeds based on the proportion of its fair value to the sum of the fair values of all the instruments covered in the allocation.
- Residual value method—The instrument being analyzed is allocated the remaining proceeds after an allocation is made to all other instruments covered in the allocation.

Generally, when there are multiple instruments issued in a single transaction that have different subsequent measurement bases, the proceeds from the transaction are first allocated to the instrument that is subsequently measured at fair value (i.e., instruments accounted for as a derivative liabilities) at its issuance date fair value, with the residual proceeds allocated to the instrument not subsequently measured at fair value. In the event both instruments in the transaction are not subsequently measured at fair value (i.e., equity-classified instruments), the proceeds from the transaction are allocated to the freestanding instruments based on their respective fair values, using the relative fair value method.

After the proceeds are allocated to the freestanding instruments, resulting in an initial discount on the host contract, those instruments are further evaluated for embedded features (i.e., conversion options) that require bifurcation and separate accounting as a derivative financial instrument pursuant to ASC 815. Embedded derivatives are initially and subsequently measured at fair value. Under ASC 815, a portion of the proceeds received upon the issuance of the hybrid contract is allocated to the fair value of the derivative.

We account for convertible instruments in which it is determined that the embedded conversion options should not be bifurcated from their host instruments in accordance with ASC 470-20. Under ASC 470-20, we record, when necessary, discounts to convertible notes or convertible preferred stock for the intrinsic value of conversion options embedded in the convertible instruments based upon the differences between the fair value of the underlying common stock at the commitment date of the transaction and the effective conversion price embedded in the convertible instrument, unless limited by the proceeds allocated to such instrument.

Warrant Liabilities

We have classified warrants to purchase shares of Series C-1 preferred stock as liabilities on our balance sheets as these warrants were free-standing financial instruments that will require us to issue convertible securities upon exercise. The warrants were initially recorded at fair value on date of grant, and they will be subsequently remeasured to fair value at each reporting period. Changes in fair value of the warrants are recognized as a component of other income (expense) in our statements of operations and comprehensive loss. We will continue to adjust the liabilities for changes in fair value at each reporting period until the warrant liabilities are settled. Following the completion of this offering and the conversion of preferred stock into common stock, we will no longer include the warrant liabilities on the balance sheet or recognize changes in their fair value in the statements of operations and comprehensive loss since they will then be exercisable into shares of common stock.

We used the Black-Scholes option pricing model, which incorporates assumptions and estimates, to value the preferred stock warrants. We assessed these assumptions and estimates on a quarterly basis as

additional information impacting the assumptions was obtained. Estimates and assumptions impacting the fair value measurement included the fair value per share of the underlying Series C-1 preferred stock, the remaining contractual term of the warrant, the risk-free interest rate, the expected dividend yield and the expected volatility of the price of the underlying preferred stock. We determined the fair value per share of the underlying preferred stock by taking into consideration the most recent sales of our convertible preferred stock, results obtained from third-party valuations and additional factors that were deemed relevant. We estimated our expected stock volatility based on the historical volatility of publicly traded peer companies for a term equal to the remaining contractual term of the warrant. The risk-free interest rate was determined by reference to the U.S. Treasury yield curve for time periods approximately equal to the remaining contractual term of the warrant. Expected dividend yield was based on the fact that we have never paid cash dividends and do not expect to pay any cash dividends in the foreseeable future.

Embedded Derivatives

Embedded derivatives that are required to be bifurcated from the underlying instrument are accounted for and valued as a separate financial instrument. In conjunction with our convertible instruments, embedded derivatives exist associated with the future consummation of a qualified financing event, as defined, and a subsequent discounted conversion of the instrument to capital stock. The embedded derivatives are bifurcated and classified as derivative liabilities on the balance sheets and separately adjusted to their fair values at the end of each reporting period. Changes in fair values of the derivative liabilities are recognized as a component of other income (expense) in the statements of operations and comprehensive loss.

Issuance Costs Related to Equity and Debt

We allocate issuance costs between the individual freestanding instruments identified on the same basis as proceeds were allocated. Issuance costs associated with the issuance of stock or equity contracts (i.e., equity-classified warrants and convertible preferred stock) are recorded as a charge against the gross proceeds of the offering. Any issuance costs associated with the issuance of liability-classified warrants are expensed as incurred. Issuance costs associated with the issuance of debt (i.e., convertible debt) are recorded as a direct reduction of the carrying amount of the debt liability, but limited to the notional value of the debt. We account for debt as liabilities measured at amortized cost and amortizes the resulting debt discount to interest expense using the straight-line method over the expected term of the notes pursuant to ASC 835, *Interest* (ASC 835). To the extent that the reduction from issuance costs of the carrying amount of the debt liability would reduce the carrying amount below zero, such excess is recorded as interest expense.

Income Taxes

We file U.S. Federal income tax returns and North Carolina State tax returns. Our deferred tax assets primarily consist of Federal and State tax net operating losses and tax credit carryforwards and are recorded using enacted tax rates expected to be in effect in the years in which these temporary differences are expected to be utilized. As of December 31, 2017, we had Federal net operating loss carryforwards of $96.9 million that begin to expire in 2027 for Federal purposes and $97.9 million that begin to expire in 2022 for State purposes. The utilization of the credit carryforwards to reduce future income taxes will depend on our ability to generate sufficient taxable income prior to the expiration of the carryforwards. We may be subject to the net operating loss utilization provisions of Section 382 of the Code. The effect of an ownership change would be the imposition of an annual limitation on the use of net operating loss carryforwards attributable to periods before the change. The amount of the annual limitation depends upon our value immediately before the ownership change, changes to our capital during a specified period prior to the change and the Federal published interest rate. Our management estimates and records a valuation allowance against deferred tax assets when realization of the tax benefit is uncertain. A valuation allowance is recorded, if necessary, to reduce net deferred taxes to their realizable values if our management does not believe it is more likely than not that the net deferred tax assets will be realized.

On December 22, 2017, the Tax Cuts and Jobs Act, or the TCJA, was enacted into law. This new law includes significant changes to the U.S. corporate income tax system, including a permanent reduction in the corporate income tax rate from 35% to 21%, limitations on the deductibility of interest expense and

executive compensation and the transition of U.S. international taxation from a worldwide tax system to a territorial tax system. The TCJA also limits interest expense deductions to 30% of taxable income before interest, depreciation and amortization from 2018 to 2021 and then taxable income before interest thereafter. The TCJA permits disallowed interest expense to be carried forward for five years. We have calculated our best estimate of the impact of the TCJA in our year-end income tax provision in accordance with our understanding of the TCJA and guidance available at the time. The overall impact of the TCJA resulted in a decrease to the deferred tax assets and a corresponding decrease to the valuation allowance of $14.1 million. Using the guidance issued by the SEC staff in Staff Accounting Bulletin No. 118, we expect to complete the accounting for the TCJA when our 2017 U.S. federal income tax return is filed in 2018.

Research and Development Expenses

When preparing our financial statements, we are required to estimate our research and development expenses. This process involves reviewing open contracts and communicating with our 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. Payments under some of the contracts we have with parties depend on factors, such as successful enrollment of certain numbers of patients, site initiation and the completion of clinical trial milestones. When accruing clinical expenses, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If possible, we obtain information regarding unbilled services directly from our service providers. However, we may be required to estimate the cost of these services based only on information available to us. If we underestimate or overestimate the cost associated with a trial or service at a given point in time, adjustments to research and development expenses may be necessary in future periods. Historically, our estimated research and development expenses have approximated actual expenses incurred.

Fair Value of Financial Instruments

The carrying values of cash, accounts receivable, accounts payable and related party receivables at December 31, 2017 approximated their fair value due to the short maturity of these instruments.

Our valuation of financial instruments is based on a three-tiered approach, which requires that fair value measurements be classified and disclosed in one of three tiers. The fair value hierarchy defines a three-level valuation hierarchy for disclosure of fair value measurements as follows:

- Level 1 — Quoted prices in active markets for identical assets or liabilities;
- Level 2 — Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly; and
- Level 3 — Unobservable inputs for the asset and liability used to measure fair value, to the extent that observable inputs are not available.

The categorization of a financial instrument within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

JOBS Act

As an "emerging growth company" under the JOBS Act, we 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 to "opt out" of this provision and, as a result, we will comply with new or revised accounting standards when they are required to be adopted by public companies that are not emerging growth companies.

Subject to certain conditions, as an emerging growth company, we intend to rely on certain of these exemptions, including without limitation:

- 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;
- no advisory votes on executive compensation or golden parachute arrangements; and
- exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

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 on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (ii) the last day of 2023; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock.

Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2017.

	Payments Due by Period (in thousands)				
	Less than 1 Year	1-3 Years	3-5 Years	More Than 5 Years	Total
Long-term debt obligations[1]	$ 33,180	$ 5,577	$ —	$ —	$ 38,757
Operating lease obligations[2]	968	2,019	2,128	4,159	9,274
Capital lease obligations[3]	489	530	—	—	1,019
Purchase obligations[4]	8,093	1,745	—	—	9,838
Total	$ 42,730	$ 9,871	$ 2,128	$ 4,159	$ 58,888

(1) Consists of our (i) $9.1 million balance under our loan facility with PWB, (ii) $2.3 million promissory note issued to UNC, and (iii) $27.4 million of convertible notes, which were converted into Series D preferred stock in February 2018.

(2) Consists of obligations under (i) two multi-year, non-cancelable building leases for our facilities in Morrisville, North Carolina, which expire on October 31, 2026, (ii) our agreement with Chasm Technologies, Inc. for services related to our manufacturing facilities, and (iii) copier equipment under a lease which expires in 2019.

(3) Consists of (i) leases for specialized lab equipment and (ii) an agreement with a commercial manufacturer to build a PRINT particle fabrication line.

(4) Consists of other contracts entered into in the normal course of business with CROs, clinical trial sites and manufacturing organizations and with vendors for preclinical studies, research suppliers and other services and products for operating purposes. These contracts generally provide for termination by either party after a notice period.

We have two leases for our facilities in Morrisville, North Carolina. In January 2017, the leases were amended to extend the term through October 31, 2026. Our contractual commitments under the leases as of December 31, 2017 total $9.3 million.

We have drawn down an aggregate of $10.0 million from our loan agreement with PWB as of December 31, 2017. Our contractual commitments under the LSA as of December 31, 2017 consist of an aggregate of $9.1 million in repayment obligations, inclusive of related interest amounts. See "—Liquidity and Capital Resources—Sources of Liquidity" for additional information regarding the LSA.

This table does not include any potential milestone or royalty payments we may be required to make under the UNC License because the amount and timing of when those payments will actually be made is uncertain and the payments are contingent upon the initiation and completion of future activities.

Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risks related to changes in foreign currency exchange rates and interest rates.

We contract with suppliers in foreign countries. As such, we have exposure to adverse changes in exchange rates of foreign currencies, principally the Euro, associated with our foreign transactions. We believe this exposure to be immaterial. We currently do not hedge against this exposure to fluctuations in exchange rates.

Our exposure to market risk also relates to interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. As of December 31, 2017, excluding capital leases and excluding convertible notes that were converted into Series D preferred stock in February 2018, our aggregate outstanding indebtedness was $11.3 million, which bears interest at rates varying from 3.75% to 5.0% or LIBOR plus 3.0%. Due to the short-term duration of our indebtedness, an immediate one percentage point change in interest rates would not have a material effect on our financial position or results of operations.

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 in the rules and regulations of the SEC.

BUSINESS

Overview

We are a late-stage clinical biopharmaceutical company focused on the development and commercialization of human therapeutics using our proprietary PRINT® technology to transform the lives of patients. PRINT is a particle engineering platform that enables precise production of uniform drug particles designed to improve the safety, efficacy and performance of a wide range of therapies. We are currently focused on the development of two product candidates for which we hold worldwide commercial rights: LIQ861 for the treatment of pulmonary arterial hypertension, or PAH, and LIQ865 for the treatment of local post-operative pain. Our lead product candidate, LIQ861, is being evaluated in a Phase 3 trial. LIQ861 is an inhaled dry powder formulation of treprostinil designed to improve the therapeutic profile of treprostinil by enhancing deep-lung delivery and achieving higher dose levels than current inhaled therapies. We have applied our PRINT technology to enable us to deliver LIQ861 through a convenient, disposable dry powder inhaler, or DPI. Our second product candidate, LIQ865, currently being evaluated in a Phase 1 trial, is designed to deliver sustained-release particles of bupivacaine, a non-opioid anesthetic, to treat local post-operative pain for three to five days through a single administration. In addition to developing our two product candidates, we collaborate, and intend to collaborate, with leading pharmaceutical companies to develop their own product candidates across a wide range of therapeutic areas, molecule types and routes of administration, leveraging our PRINT technology.

Our lead product candidate, LIQ861, is an inhaled, dry powder formulation of treprostinil designed for enhancing deep-lung delivery using a convenient DPI for the treatment of PAH, a chronic, progressive disease caused by the hardening and narrowing of the pulmonary arteries that can lead to right heart failure and eventually death. Treprostinil is a synthetic analog of prostacyclin, a vasoactive mediator essential to normal lung function that is deficient in patients with PAH. PAH is a rare disease, with an estimated prevalence in the United States expected to be between 25,000 and 30,000 patients by 2020. Decision Resources Group, an independent industry research firm, estimated that in 2016 more than 50% of patients with PAH in the United States were prescribed treprostinil across its three routes of administration (oral, inhaled and parenteral infusion), generating revenue that represented about one-third of the approximately $3.7 billion U.S. market for PAH drug therapies. The inhaled route of administration, in which medication is inhaled directly into the lungs, helps minimize the off-tissue adverse side effects of systemic delivery by delivering the drug directly where it is needed. Tyvaso® (treprostinil, inhaled solution), marketed by United Therapeutics Corporation in the United States, is the standard of care among the inhaled therapies, with more than 80% of inhaled prostacyclin sales in the United States. Current inhaled therapies, including Tyvaso, are delivered by a nebulizer, a device that converts a liquid formulation into mist, and require between four and nine doses per day. Nebulizers require regular care and maintenance, including daily cleaning and access to additional parts and supplies, such as distilled water and a power source, all of which compromise the portability of the device and the quality of life of patients.

We believe LIQ861, if approved, will be the first-to-market inhaled dry powder treprostinil that can be delivered using a convenient, palm-sized, disposable DPI. We believe LIQ861 can overcome the limitations of current inhaled therapies and has the potential to maximize the therapeutic benefits of treprostinil in treating PAH by safely delivering higher doses into the lungs. Based on our *in vitro* studies we believe that the precise size, trefoil-like shape and uniformity of each LIQ861 particle may provide deep-lung delivery of treprostinil and may reduce deposition in the upper airway where irritation and pain have been observed with nebulized treprostinil. In March 2017, we completed a Phase 1 trial of LIQ861 in 57 healthy volunteers in which LIQ861 was well-tolerated at all doses tested up to 150 mcg, which we estimate is equivalent to approximately twice the maximum recommended dosage of Tyvaso, and showed a proportional dose-response in pharmacokinetics. We estimate that the 75 mcg dose of LIQ861, delivered in one to two breaths, is approximately equivalent to the maximum recommended dosage of Tyvaso (54 mcg, delivered in nine breaths). After consultation with the U.S. Food and Drug Administration, or the FDA, we advanced

from this Phase 1 trial into our current single, pivotal Phase 3 trial, known as INSPIRE, or Investigation of the Safety and Pharmacology of Dry Powder Inhalation of Treprostinil. We will seek approval of LIQ861 under the 505(b)(2) pathway, which would allow us to rely in part on the FDA's previous findings of efficacy and safety of Tyvaso and the active ingredient treprostinil, which has been approved in four different products administered through the continuous infusion (parenteral), inhaled and oral routes. In January 2018, we announced the initiation of INSPIRE evaluating LIQ861 for the treatment of PAH in the United States. If approved, we believe LIQ861 will have the potential to increase the number of patients using the inhaled route of treatment for PAH by providing the benefits of inhaled prostacyclin therapy earlier in a patient's disease progression as well as delaying the burden of starting continuously infused products.

Our second product candidate, LIQ865, is an injectable, sustained-release formulation of bupivacaine for the management of local post-operative pain for three to five days after a procedure. We believe LIQ865, if approved, has the potential to provide significantly longer local post-operative pain relief compared to currently marketed formulations of bupivacaine. We estimate that there were over 40 million surgeries in our target market, which consists of orthopedic and soft tissue surgeries, performed in the United States in 2016. According to IMS Health, an independent market research firm, the global market for local anesthetics was approximately $776 million in 2016. Despite current pain-management protocols, post-operative pain is still undermanaged, with studies showing that approximately 50% of patients self-report inadequate pain relief. Post-operative pain management is becoming more important as surgeries increase in volume and complexity and hospitals seek treatments that support faster recovery and time to discharge. Concurrently, the risk of opioid abuse and diversion has led physicians, payors and the U.S. federal government to prioritize pain management strategies that minimize reliance on opioids. Local anesthetics, such as bupivacaine, provide a well-established, non-opioid option for post-operative pain management, but their duration of efficacy has been limited to eight hours or less. The FDA has approved one long-acting local anesthetic, liposomal bupivacaine, but pain relief typically lasts only 24 to 36 hours, according to physicians, and its use in combination with other local anesthetics can result in an unsafe release of drug. In LIQ865, we have engineered the size and composition of the LIQ865 PRINT particles to release bupivacaine over three to five days through a single administration. We have completed one Phase 1 clinical trial of LIQ865 in Denmark and a second Phase 1 trial is ongoing in the United States. We expect to initiate Phase 2-enabling toxicology studies in the second half of 2018.

Both LIQ861 and LIQ865 are being developed using our proprietary PRINT particle engineering technology, which allows us to engineer and manufacture highly uniform drug particles with independent control over their size, three-dimensional geometric shape and chemical composition. By controlling these physical and chemical parameters of particles, PRINT enables us to target and design desirable pharmacological benefits into product candidates, including prolonged duration of drug release, increased drug loading, a more convenient method of administration, novel combination products, enhanced storage and stability and the potential to reduce adverse side effects. We have scaled PRINT manufacturing to meet the demands of clinical development and, we believe, commercial production. Our approach enables us to design and produce custom micro- and nano-particles containing existing or new small molecule drugs or biologics. For example, we have engineered LIQ861 so that each particle has an ideal aerodynamic size and shape for deep-lung delivery. Our PRINT particle engineering technology also allows us to design the chemical composition of particles to control drug release ranging from minutes, days, weeks or months as needed to meet a target profile, such as LIQ865's three to five day release of bupivacaine.

Initially, our internal pipeline is focused on the development of improved and differentiated drug products containing FDA-approved active pharmaceutical ingredients, or APIs, with established efficacy and safety profiles, which we believe are eligible for the 505(b)(2) regulatory pathway to seek marketing approval in the United States. The 505(b)(2) regulatory pathway can be capital efficient and potentially enable a shorter time to approval. We intend to seek marketing approval in the United States for LIQ861 and LIQ865 under the 505(b)(2) regulatory pathway, which would allow us to rely in part on existing knowledge of the safety and efficacy of the reference listed drugs. The FDA has indicated that it considers LIQ861, which is

delivered by a DPI, to be a drug-device combination product and, accordingly, the DPI will be evaluated as part of our new drug application, or NDA, filing.

In addition to building our own internal pipeline, we collaborate with leading pharmaceutical companies to develop their own product candidates, leveraging our PRINT technology across a wide range of therapeutic areas, molecule types and routes of administration. Through our collaboration arrangements with established pharmaceutical leaders, such as GlaxoSmithKline plc and its subsidiaries, collectively, GSK, we apply PRINT technology to novel molecules. If our product candidates receive marketing approval, we plan to commercialize them in the United States by establishing our own sales force and commercial infrastructure. Outside of the United States, we intend to pursue the regulatory approval and commercialization of our product candidates with leading pharmaceutical companies with regional expertise. We intend to manufacture our product candidates using in-house capabilities. Where appropriate, we will rely on contract manufacturing organizations, or CMOs, to produce, package and distribute our approved drug products on a commercial scale.

Product Pipeline

The following table summarizes key information about clinical-stage product candidates being developed using PRINT technology.

Product	Indication	Formulation & Route	Phase 1	Phase 2	Phase 3	Next Key Milestone	Worldwide Commercial Rights
LIQ861[1]	PAH	Dry powder inhalation				Interim safety data 1H:19	Liquidia
LIQ865	Local, post-operative pain	Sustained-release injectable				Ph2-enabling studies 2H:18	Liquidia
CCI15106	COPD[2]	Dry powder inhalation					GSK

1. After consultation with the FDA, we advanced from a Phase 1 trial directly to a single, pivotal Phase 3 trial and will seek approval under the 505(b)(2) pathway
2. COPD is chronic obstructive pulmonary disease

Our Strategy

Our goal is to develop and commercialize medicines with improved and differentiated product profiles based on our PRINT particle engineering technology. To achieve this goal, we intend to execute the following key elements of our business strategy:

- ***Complete the pivotal, safety and pharmacology Phase 3 trial for our lead product candidate, LIQ861, in PAH.*** We initiated INSPIRE, a single, open-label Phase 3 trial, in 100 patients with PAH. We believe, based on feedback from the FDA, that this will support the NDA filing for our novel inhaled dry powder inhaled formulation of treprostinil to treat PAH. We expect to release interim safety data from INSPIRE in the first half of 2019.

- ***Advance our local post-operative pain product candidate, LIQ865, through Phase 2-enabling toxicology studies.*** We have completed one Phase 1 clinical trial of LIQ865, our novel long-acting formulation of bupivacaine, in Denmark and we are conducting a second Phase 1 clinical trial in the United States. We expect to initiate Phase 2-enabling toxicology studies in the second half of 2018.

- ***Secure regulatory approval and commercialize our internal product candidates independently in the United States and with leading pharmaceutical companies globally.*** We hold worldwide commercialization rights to LIQ861 and LIQ865. Subject to receiving marketing approval which we intend to pursue in the United States via the 505(b)(2) regulatory pathway, we intend to independently pursue the commercialization of LIQ861 in the United States by establishing targeted sales and marketing teams. After reviewing the results of our Phase 2-enabling toxicology studies for LIQ865, and subject to the availability of sufficient funding, we will develop and commercialize LIQ865 independently, if it is ultimately approved, or seek to license this product candidate to one or more third parties. Outside of the United States, we intend to pursue the regulatory approval and commercialization of LIQ861 and LIQ865 with leading pharmaceutical companies with regional expertise.

- ***Expand our internal pipeline leveraging our PRINT technology.*** We intend to continue targeting diseases where we believe our PRINT technology can improve the efficacy, safety and patient experience of current treatments that have been impaired by suboptimal drug product formulation and delivery. We plan to focus initially on the development of improved and differentiated drug products containing FDA-approved APIs with proven efficacy and safety profiles eligible to use the 505(b)(2) regulatory pathway. In addition, we may expand our clinical development of LIQ861 and LIQ865, where appropriate, into broader indications or new applications.

- ***Pursue strategic collaborations to maximize the value of products enabled by PRINT technology.*** In addition to advancing our own internal product candidates, we intend to continue collaborating with leading pharmaceutical companies to develop their own product candidates across a wide range of therapeutic areas, molecule types and routes of administration, leveraging our PRINT technology. Our collaborations help advance new PRINT capabilities, while adding to our intellectual property portfolio.

Our Competitive Strengths

We believe that we have several key strengths that have contributed to the development of our business and that will help us to realize our goal of becoming a biopharmaceutical company across research, development and commercialization activities. Our competitive strengths include:

- ***Our PRINT technology gives us the capability to overcome the constraints of conventional formulation and production methods and can be applied broadly across therapeutic areas, molecule types and routes of administration.*** Our PRINT technology allows us to precisely engineer drug particles in a wide variety of compositions, sizes and shapes and achieve a high level of control over the physical and chemical characteristics of drug particles, as compared to conventional formulation and production methods. PRINT particles can be designed to address specific pharmacological or therapeutic objectives, such as enhancing the route of administration, improving solubility, enhancing stability or extending therapeutic effects. Using our PRINT technology, we are able to engineer, among others, small molecule and biologic particles, single agent drug and combination drug particles and vaccine particles to improve efficacy, safety and convenience for patients. Our internal pipeline strategy is currently focused on developing proprietary innovations to currently approved drug products in order to minimize development risks and increase speed to market.

In particular, we have designed LIQ861 to maximize the therapeutic benefits of treprostinil in treating PAH by safely delivering higher doses into the lungs using a convenient, palm-sized, disposable DPI. We believe that this may lead to a more attractive product profile with a more convenient method of administering the drug, as compared to the existing inhaled therapies that are currently available. We have also designed LIQ865 with the intention of providing patients with local post-operative analgesia for three to five days. We believe this would provide a longer period of pain relief than the existing local-acting pain drugs that are available, which could be a positive feature in light of interest in reducing the patient's reliance on opioids and non-steroidal anti-inflammatory drugs, or NSAIDs, for local post-operative pain management.

Our PRINT technology is broadly applicable — across therapeutic areas, molecule types and routes of administration — providing us with opportunities for future drug product development.

- ***We have scaled operations with rapid and cost-effective transition to clinical development and commercial production***. We believe our research and development operations and PRINT technology allow us to transition rapidly and cost-effectively from laboratory to clinical development and ultimately commercial-scale manufacture of drug particles. Utilizing well-established techniques from other roll-to-roll manufacturing processes, we have scaled PRINT technology to support the quality and quantity needs for clinical and, we believe, commercial production of our product candidates. The physical equipment for the PRINT technology requires a relatively small footprint, low capital investment and minimal operating costs. We believe our manufacturing facilities comply with the FDA's current good manufacturing practices, or cGMP, requirements.

- ***We have a strong proprietary position through a combination of patents, trade secrets, proprietary know-how and licensing arrangements.*** We protect our PRINT technology and the resulting engineered particles through a combination of patents, trade secrets, proprietary know-how and licensing arrangements. We have an active patent strategy that covers major geographic markets, including the United States, Europe and Japan. As of April 1, 2018, our patent portfolio, which includes patents and patent applications we own or co-own, as well as patents and patent applications we have licensed from third parties, such as the University of North Carolina at Chapel Hill, or UNC, comprises 81 issued patents and 43 pending patent applications worldwide. As we develop new product candidates, either independently or with collaborators, we will seek additional patent protection.

- ***We have strong capabilities in pharmaceutical research and clinical development.*** Our research and development team includes 27 employees, led by our senior management, and has extensive experience in clinical development and pharmaceutical research and development activities in our specific areas of research interest.

- ***We have a seasoned management team.*** Our team includes industry veterans with significant experience in drug discovery, development and commercialization. Members of our leadership team have worked across different segments of the pharmaceutical industry, including branded and generic pharmaceuticals, medical devices and manufacturing services. Prior to joining us, our Chief Executive Officer and director, Neal Fowler, served as president of Centocor, Inc., a subsidiary of Johnson & Johnson that is focused on the development and commercialization of biomedicines used to treat chronic inflammatory diseases. Additionally, our President and Chief Financial Officer, Kevin Gordon, previously served as executive vice president and chief operating officer and chief financial officer of Quintiles Transnational Holdings Inc. (now named IQVIA Holdings Inc.), a global biopharmaceutical services provider, and our Chief Operations Officer, Robert Lippe, previously served as executive vice president of operations and chief operations officer at Alexza Pharmaceuticals, Inc. Furthermore, our Senior Vice President, Product Development, Dr. Robert Roscigno, previously served as the executive vice president of GeNO, LLC, where he led the clinical development team working on a novel nitric oxide delivery system, and before that he served as the president and chief operating officer of Lung Rx, Inc., where he was part of the team responsible for bringing Tyvaso through Phase 3 development, and he previously served in multiple leadership positions at United Therapeutics Corporation and its subsidiaries, contributing to the successful development and worldwide commercialization of Remodulin™, which is treprostinil administered through subcutaneous or intravenous infusion, for the treatment of PAH. We believe that their experience enables us to evaluate opportunities and build collaboration arrangements that match the breadth of the potential applications for our PRINT technology.

Our Product Candidates

LIQ861

Our lead product candidate, LIQ861, is an inhaled dry powder formulation of treprostinil designed using our PRINT technology to enhance deep-lung delivery using a convenient DPI for the treatment of PAH. We believe LIQ861 can overcome the limitations of current inhaled therapies and has the potential to maximize the therapeutic benefits of treprostinil in treating PAH by safely delivering higher doses into the lungs. If approved, we believe LIQ861 will have the potential to increase the number of patients using the inhaled route of treatment for PAH by providing the benefits of inhaled prostacyclin therapy earlier in a patient's disease progression as well as delaying the burden of starting continuously infused products.

Background on PAH

PAH is a chronic, progressive disease caused by the hardening and narrowing of pulmonary arteries that can lead to right heart failure and eventually death. Prostacyclin is a vasoactive mediator essential to normal lung function that is deficient in patients with PAH. With PAH, the elevated pressure in the pulmonary arteries strains the right side of the heart as it pumps blood to the lungs. The extra stress causes the heart to enlarge and become less flexible, compromising its ability to push blood out of the heart through the lungs and into the rest of the body. PAH initially presents as exertional dyspnea, lethargy and fatigue and may be confused with other disease states with similar symptoms. PAH often goes undiagnosed or misdiagnosed until symptoms become severe, with the mean time from onset of symptoms to correct diagnosis being more than two years in the United States. As PAH progresses and right ventricular failure develops, exertional chest pain, or angina, exertional syncope and peripheral edema may develop. Following confirmation of diagnosis based on hemodynamic parameters, treatment is recommended to lower pulmonary pressures and treat the symptoms of PAH.

PAH is part of a larger classification of pulmonary hypertension, or PH, which is divided into five groups based on the criteria of the World Health Organization, or WHO, as defined at the 5th World Symposium on Pulmonary Hypertension in Nice, France. WHO Group I is comprised of individuals with PAH.

PAH is a rare disease, with an estimated prevalence in the United States expected to be between 25,000 and 30,000 patients by 2020. Today, the mean age of diagnosis is 50 years according to both French and U.S. registries, with more women being diagnosed with PAH than men. Patients may have idiopathic PAH, in which no underlying cause can be determined, or a heritable form of the disease. A large number of PAH patients also have associated comorbidities such as congenital heart disease, HIV, connective tissue diseases like scleroderma, liver diseases, systemic hypertension, obesity, clinical depression, non-PAH related obstructive airways, sleep apnea and diabetes.

Due to delayed diagnosis, many patients already have an advanced form of PAH, requiring aggressive treatment combining multiple classes of therapy. The severity of PAH may be classified according to the heart failure guidelines of the New York Heart Association, or NYHA, based on how much patients are limited during physical activity and described by the American Heart Association as follows:

- NYHA Class I — No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation or dyspnea, which is shortness of breath.
- NYHA Class II — Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitation or dyspnea.
- NYHA Class III — Marked limitation of physical activity. Comfortable at rest. Less than ordinary activity causes fatigue, palpitation or dyspnea.
- NYHA Class IV — Unable to carry on any physical activity without discomfort. Symptoms of heart failure at rest. If any physical activity is undertaken, discomfort increases.

As reported by Decision Resources Group, net revenue in the U.S. market for PAH drug therapies in 2016 was estimated to be $3.7 billion. Of such amount, $2.0 billion was generated from patients in NYHA

Class III, $1.2 billion was generated from patients in NYHA Class II and an aggregate of $0.5 billion was generated from patients in NYHA Classes I and IV.

As the disease progresses, these symptoms cause significant negative impact on the quality of life of patients, limiting their ability to do common daily activities, including work, travel and previous hobbies. Patients also describe the emotional toll of PAH, including fear, frustration, embarrassment and stigma. The burden of care associated with currently available treatments can add further logistical and emotional burden to the patients.

Current Therapies and Their Limitations

There is currently no cure for PAH. The goals of existing treatments are to alleviate symptoms, maintain or improve NYHA functional class, delay disease progression and improve quality of life. Inhaled therapies are generally prescribed for, but not limited to, patients in NYHA Class II and Class III. Approved drugs target three distinct molecular pathways that have been implicated in the disease process: the prostacyclin pathway, the nitric oxide pathway and the endothelin pathway. Drugs targeting each of these pathways are used alone or in combination with each other to treat patients with PAH. Prostacyclin deficiency in the lung is a central dysfunction in PAH, but can be supplemented with prostacyclin analogs. Prostacyclin deficiency can also be managed with a recently approved selective IP prostacyclin receptor agonist, selexipag. Nitric oxide deficiency can be treated with phosphodiesterase-5, or PDE5, inhibitors, which target a specific enzyme, increasing vasodilation. Endothelin overexpression in PAH patients causes vasoconstriction of pulmonary vasculature, but can be treated with endothelin receptor antagonists, or ERAs. Many physicians start their PAH patients on oral PDE5 inhibitors, oral ERAs or both. Drugs targeted to the prostacyclin pathway are usually added to these oral therapies, but can be used alone.

Drugs targeting the prostacyclin pathway are central to PAH therapy. Prostacyclin is essential to normal lung function. In healthy people, prostacyclin, which is a vasoactive mediator, is continually released by lungs into arterial circulation to bind different receptors for different effects to regulate vessel tone, including direct vasodilation of pulmonary arteries, inhibition of the proliferation of smooth muscle cells within arteries and inhibition of platelet aggregation. To supplement the deficiency of prostacyclin in patients with PAH, several prostacyclin analogs have been developed including epoprostenol, which is administered intravenously; treprostinil, which can be administered intravenously, subcutaneously or in nebulized or oral formulations; and iloprost, which can be administered intravenously or in nebulized form. A new class of drugs called selective IP prostacyclin receptor agonists help stimulate some of the mechanisms that would otherwise be promoted by prostacyclin or an analog. Selexipag is an oral drug and the only approved molecule in this new class.

The goal of treatment targeting the prostacyclin pathway is to maximize a patient's exposure to the highest tolerable level of drug. Prostacyclin analogs, like treprostinil, have been developed for continuous infusion, either intravenously or subcutaneously, inhalation using a nebulizer and oral administration in the form of tablets. The maximal efficacy benefit of any one drug in the prostacyclin pathway is partially limited by its specific safety profile. Drugs treating the prostacyclin pathway, including oral treprostinil and IP prostacyclin receptor agonists such as selexipag, are limited by side effects from binding of the drug to receptors in non-targeted tissues, such as the gut and nerves, which can cause diarrhea, nausea and jaw pain. Nebulized solutions can have side effects including cough and upper airway irritation and pain caused by their topical irritant properties, which limits the amount of drug that can be given to the patient. As the disease progresses, patients will require continuous prostacyclin infusion to maximize drug exposure. Infusion pumps present unique risks related to infusion site pain and the risk of blood stream infections, and increase significant limitations on the quality of life of patients.

Delivering prostacyclin analogs locally to the lungs by inhalation has been effective and generates fewer systemic side effects. Inhalation of prostacyclin analogs supplements the endogenous production of prostacyclin where it is normally synthesized, near the targeted pulmonary arteries. As a result, inhalation of prostacyclin analogs helps avoid adverse events related to off-target tissues and takes advantage of binding

key prostacyclin receptors that are preferentially expressed in the lung. The only inhaled prostacyclin analogs approved by the FDA are Tyvaso and Ventavis, which both require nebulizers.

Decision Resources Group reported that more than 80% of PAH patients on inhaled therapy in the United States used Tyvaso in 2016. In 2016, Tyvaso and Ventavis generated $405 million and $73 million, respectively, in total sales in the United States. Tyvaso is approved in the United States and Israel but is not approved in Europe and Japan. Tyvaso is indicated for the treatment of PAH to improve exercise ability. The maximum recommended dose of Tyvaso is 54 mcg, delivered four times daily from a proprietary nebulizer, requiring nine breaths for each dose. In a long-term open-label extension study of Tyvaso, patients continued treatment for a mean duration of 2.3 years, with 89% of patients achieving the target dose of 54 mcg, delivered in nine breaths, and 42% achieving a dose of 72 mcg, delivered in 12 breaths.

Ventavis is approved in the United States, Europe and Japan. Ventavis is nebulized six to nine times a day during waking hours, no more than once every two hours, and takes six to ten minutes to administer per use. Ventavis is a synthetic analog of prostacyclin indicated for the treatment of PAH to improve a composite endpoint consisting of exercise tolerance, symptoms and lack of deterioration.

Tyvaso and Ventavis require the use of proprietary nebulizers. Patients must follow specific instructions to set up and operate the device, clean the device daily, locate a power source or use a battery to operate the device, and carry the device and its associated accessories around in a large carrying case, along with distilled water, to administer the treatment throughout the day. As a result, the use of these approved inhaled prostacyclin therapies is typically limited to patients who have not responded to oral medications that target the three pathways. The current medical practice is to administer both an inhaled drug product and the patient's existing oral ERA and/or PDE5 drug product concurrently, instead of withdrawing the administration of the oral drug product upon initiation of the inhaled drug product.

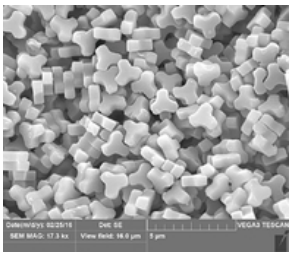
Potential Benefits of Our Approach

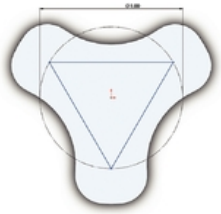
We believe LIQ861 can overcome the limitations of current nebulized therapies and has the potential to maximize the therapeutic benefits of treprostinil in treating PAH by safely delivering higher doses into the lungs using a convenient, palm-sized, disposable DPI. In our Phase 1 trial, LIQ861 was well-tolerated at doses twice as high as the maximum recommended dosage of Tyvaso. These higher doses of inhaled dry powder treprostinil can also be administered in fewer breaths. Each dose of LIQ861 can be administered in one to four breaths, compared to nine breaths for the maximum recommended dosage of Tyvaso. Additionally, we believe LIQ861 may have the potential to improve overall patient adherence and quality of life by offering the convenience of a discrete, palm-sized, disposable DPI. In our market research, patients expressed a preference for a DPI product, noting that it can fit easily into a purse, minimize hassle while traveling and reduce the breaths and time associated with their current nebulized treatments.

The advantages of the LIQ861 product profile are enabled by the PRINT technology. Each LIQ861 particle is designed to enhance delivery and deep-lung penetration. LIQ861 particles are a precise size and highly uniform since particles are formed from mold cavities that exactly match each other. Competing technologies, such as spray-drying, create particles that have a broader variation in shape and size. As a result, particles farther from the mean target size would be too large or too small to reach the intended location in the deep lung.

Inspired by a naturally occurring pollen, LIQ861 PRINT particles have a one micrometer trefoil-shape measured by an inscribed one micrometer circle as shown in the figure below. *In vitro* studies suggest that the uniformity of size and shape allow our inhaled particles to target delivery into the lungs while depositing less in the upper airways. Our independent control of the parameters of drug particles has enabled us to create the first clinically tested formulation that stabilizes treprostinil in an inhaled dry powder formulation.

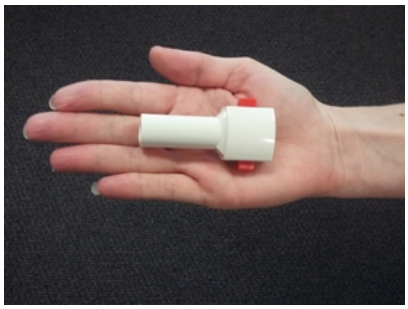
The figures below depict LIQ861, with the figure on the left showing size and shape consistency among particles and the figure on the right showing their trefoil shape:





LIQ861 is administered using RS00 Model 8 DPI, a DPI manufactured by Plastiape, which has been approved in the United States and Europe. This device and its variants have been used in at least eight marketed products globally since 2001, including Novartis's Foradil Aerolizer®, for the treatment of asthma and chronic obstructive pulmonary disease, or COPD.

The picture below shows the DPI used to administer LIQ861:



Clinical Development

In March 2017, we completed a Phase 1 trial of LIQ861 in 57 healthy volunteers. In January 2018, we announced the initiation of INSPIRE, our single, pivotal open-label Phase 3 clinical trial, evaluating LIQ861 for the treatment of PAH in the United States. We expect to announce interim safety data from INSPIRE in the first half of 2019. In the United States, we plan to seek approval of our NDA under the 505(b)(2) regulatory pathway, which would allow us to rely, in part, on the FDA's prior conclusions of efficacy and safety for Tyvaso and the active ingredient treprostinil, which has been approved in four different products administered through the continuous infusion, inhaled and oral routes.

Results of Phase 1 Trial

We conducted a randomized, placebo-controlled, double-blind, Phase 1 trial in 57 healthy volunteer subjects to assess safety, tolerability and pharmacokinetics following a single administration of LIQ861 at doses between 25 mcg and 150 mcg. The subjects were enrolled into six dose cohorts. Within each dose cohort, subjects were randomized to receive LIQ861 or a placebo.

Dose Selection

For the first-in-human study, the initial dose for LIQ861 was chosen based on the indicated dosing for the reference listed drug, Tyvaso. Independent investigations of particle emission using the RS00 Model 8 DPI and simulated inspiration of the bulk powder from a nebulizer led to a projection that a 25 mcg treprostinil capsule for dry powder inhalation would result in approximately similar treprostinil administration as three

breaths of Tyvaso, or 18 mcg of treprostinil, the lowest approved dose through nebulization. The following table shows LIQ861's doses tested along with our estimate of the equivalent Tyvaso dose.

Estimated Treprostinil Dose from LIQ861			Estimated Treprostinil Dose from Tyvaso	
Capsule (fill wt.)	Approx. Emitted Dose	Breaths[1]	Approx. Emitted Dose	Breaths[2]
25 mcg	20 mcg	1-2	18 mcg	3
50 mcg	40 mcg	1-2	36 mcg	6
75 mcg	60 mcg	1-2	54 mcg	9
100 mcg	80 mcg	1-2	Above maximum recommended dose	
125 mcg[1]	100 mcg	2-4	Above maximum recommended dose	
150 mcg[1]	120 mcg	2-4	Above maximum recommended dose	

(1) LIQ861 doses between 25 mcg and 100 mcg are single capsules. LIQ861 doses 125 mcg and 150 mcg are two capsules but if approved, they could be developed as single capsules and therefore only require one to two breaths.

(2) Tyvaso (treprostinil) full prescribing information: initial dosage: 3 breaths (18 mcg); maximum recommended dosage: 9 breaths (54mcg)

Our conclusion from this study is that the 75 mcg dose of LIQ861 is approximately equivalent to the maximum recommended dose of 54 mcg, or nine breaths, of Tyvaso, and the 150 mcg dose of LIQ861 is approximately double the maximum recommended dose of Tyvaso.

Safety and Tolerability

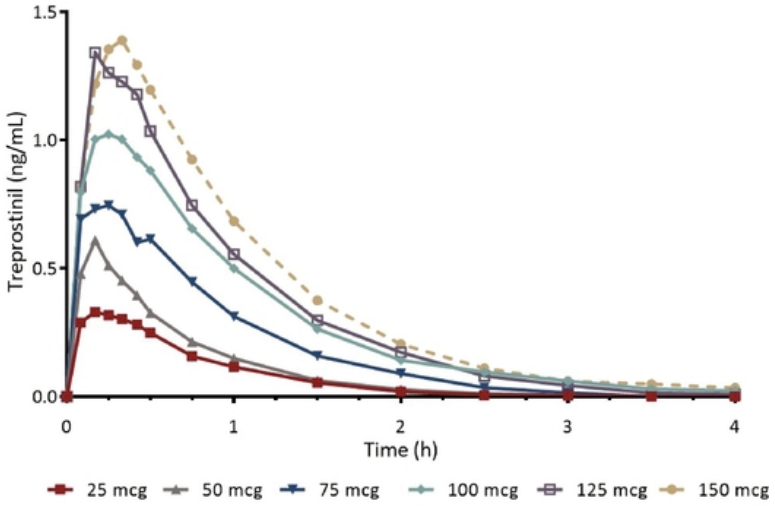
In the clinical trial, we escalated the dosage of LIQ861 progressively from 25 mcg to 150 mcg. There were no dose-limiting toxicities at the highest dose evaluated. We noted no serious adverse events or deaths and all reported treatment-emergent adverse events were mild. The most frequent adverse event reported by subjects on LIQ861 was mild cough and throat irritation.

We did not observe a proportional increase of treatment-emergent adverse events as the doses were escalated from 25 mcg to 100 mcg. No treatment-emergent adverse events were observed in subjects who received the placebo PRINT particles that contained only excipients.

Pharmacokinetics

In the trial, the LIQ861 plasma levels increased proportionally as the dosage of LIQ861 increased, as shown in the graph below. At higher doses, 50% of subjects receiving LIQ861 had measurable treprostinil after four hours, which could indicate the potential to minimize symptoms between dosing cycles.

LIQ861 Mean Concentration Over Time



The pharmacokinetic parameters in the table below were estimated from plasma samples. Nominal elapsed time from dosing was used to estimate all individual pharmacokinetic parameters, including:

- § C_{max} Maximum observed plasma concentration;
- § T_{max} Time of maximum concentration;
- § $T_{1/2}$ Terminal-phase half-life; and
- § AUC_{Inf} Area under the plasma concentration-time curve.

LIQ861 Pharmacokinetic Results

	Treprostinil by Dose (mcg)					
	25	50	75	100	125	150
C_{max} (ng/mL)	0.329	0.572	0.728	1.08	1.19	1.33
T_{max} (h)	0.21	0.18	0.25	0.29	0.24	0.31
$T_{½}$ (h)	0.507	0.434	0.617	0.722	0.523	0.648
AUC_{Inf} (h*ng/mL)	0.285	0.428	0.766	1.22	1.16	1.50

The LIQ861 blood levels, as determined by the area under the curve, which is a pharmacokinetic measurement of drug exposure in blood plasma over time, and the maximum concentration were similar to the data used in connection with the approval of Tyvaso, as reported in the FDA Summary Basis of Approval for Tyvaso. LIQ861 also had half-life in the blood similar to such data. These results suggest that our formulation has not changed the pharmacokinetic profile of inhaled treprostinil.

Results of Non-Clinical Studies

The pharmacology, pharmacokinetics and toxicology of treprostinil are well understood, having previously been characterized to support approval of Remodulin, which is treprostinil administered through subcutaneous or intravenous infusion, Orenitram®, which is treprostinil administered through extended release tablets, and Tyvaso, which is treprostinil inhaled through a proprietary nebulizer. We plan to rely in part on the data used in support of FDA approval of these treatments, in addition to our own toxicity studies, to support the development and approval of LIQ861.

In October 2016, we completed a 14-day, repeat dose, inhalation toxicity study in rats to support the Phase 1 trial. In August 2017, we completed a 26-week toxicology study in rats. In rats, pharmacokinetic profiles at the end of 14 days of LIQ861 treatment were generally similar to inhaled nebulized treprostinil delivered at similar treprostinil dose levels. Following 26 weeks of daily dosing, treprostinil exposure was slightly higher in LIQ861-treated rats. The results from this study support chronic outpatient dosing of LIQ861 in patients with PAH in our Phase 3 trial.

Phase 3 Trial

In January 2018, we announced the initiation of INSPIRE, our single, pivotal Phase 3 trial evaluating LIQ861 at doses between 25 mcg and 150 mcg for the treatment of PAH in the United States. INSPIRE is an open-label trial enrolling at least 100 patients with PAH across multiple sites in the United States. Primary endpoints are long-term safety and tolerability of LIQ861. Patients enrolled will have been on stable doses of Tyvaso for at least three months or will have been taking no more than two approved non-prostacyclin oral PAH therapies. A subset of patients will be enrolled in a one-directional crossover to compare bioavailability and pharmacokinetics of treprostinil as they transition from Tyvaso to LIQ861. We expect to announce interim safety data from INSPIRE in the first half of 2019.

Additional Clinical Trials

We also intend to conduct a clinical trial that explores the hemodynamic effects of LIQ861 in PAH patients. Although the FDA has not requested that we undertake this clinical trial, the data may help assess the effects of LIQ861 on acute and chronic hemodynamic measurements and right heart function. Data from this clinical trial would also add to our understanding of safety, tolerability and pharmacokinetics of LIQ861.

Commercial Opportunity

Decision Resources Group estimated that sales for all major PAH drugs in 2016 were more than $6.0 billion in the United States, France, Germany, Italy, Japan and the United Kingdom. In the United States, products approved to treat PAH through the prostacyclin deficient pathway generated approximately $1.7 billion in sales in 2016, of which the prostacyclin analog treprostinil generated the majority from products formulated for continuous infusion, inhalation using a nebulizer and oral delivery. The U.S. market for inhaled treatments through the prostacyclin deficient pathway was more than $450 million in 2016, of which Tyvaso accounted for more than 80%.

If approved, we believe LIQ861 would be the first inhaled dry powder formulation of treprostinil delivered using a convenient, palm-sized, disposable DPI. The dosing regimens and patient experience for the two approved inhaled therapies compared to the expected product profile of LIQ861 are shown in the following table.

	Ventavis (iloprost) inhalation solution	Tyvaso (treprostinil) inhalation solution	LIQ861 (treprostinil) dry powder for inhalation (expected)
Regulatory status	FDA approved, 2004	FDA approved, 2009	Enrolling Phase 3 study
Method of administration	Proprietary nebulizer	Proprietary nebulizer	Dry powder inhaler
Frequency	6 to 9 times daily	4 times daily	4 times daily
Dose range	2.5 to 5 mcg	18 to 72 mcg; (max recommended is 54 mcg)	25 to 150 mcg
Time or breaths per dose	4 to 10 minutes depending on breathing pattern	9 breaths (54 mcg)	1-2 breaths per capsule, with 1 or 2 capsules per dose
Supplies required	§ Ventavis Inhalation System § Power supply § Distilled water § 2 medication chamber assemblies § Washing basket § Battery charger § I-neb pouch § Carry bag § Power cord for charger § 2 Spare discs	§ Tyvaso Inhalation System § Rechargeable battery § 12V DC adapter § AC wall plug § 16 Medicine cups § Filter membranes § Plugs § Filter shell § Dome assembly with baffle plate § Inhalation piece § Mouthpiece § Water level cup § Carrying case § Distilled water carrier	§ Dry powder inhaler § Carrying pouch § Daily blister pack § Small cleaning brush

Preferred choice within inhaled options. As reported in our market research, physicians and patients expressed a clear preference for the expected product profile of LIQ861 over current nebulized therapies, primarily due to the ease and convenience of administration of LIQ861. Nebulized therapies require more time and breaths than LIQ861, as well as daily and weekly assembly, disassembly and cleaning.

Attractive switch from orals. The ease and range of dosing LIQ861 may be attractive to patients who are in earlier stages of the disease, but poorly managed on oral prostacyclin products. Local delivery of treprostinil to the lung offers fewer systemic side effects. However, we believe some of these patients are hesitant to switch to more burdensome nebulized options.

Delay transition to continuous infusion. We are investigating a wide range of LIQ861 doses in order to maximize patient exposure to treprostinil, a key factor in the efficacy of prostacyclin analogs. In our Phase 1 trial, LIQ861 was well-tolerated at levels that we estimate are twice the maximum recommended dose of Tyvaso. We believe the dose range enabled by LIQ861 would allow patients to titrate to higher levels of

treprostinil and potentially extend the time on inhaled therapy, delaying the eventual transition to continuous infusion.

Expand inhaled options outside the United States. We intend to develop and seek regulatory approval for LIQ861 for markets outside of the United States in order to provide an attractive choice that leverages the benefits of local delivery to the lung. Tyvaso is approved in the United States and Israel but is not approved in Europe and Japan. Ventavis is approved in the United States, Europe and Japan, but its use has been limited due to its delivery regimen. Decision Resources Group estimated that fewer than 10% of PAH patients in the United Kingdom, Germany, France, Italy and Spain, which we collectively refer to herein as the 5EU, use Ventavis. In Japan, Ventavis was approved in May 2016 as the first inhaled PAH treatment. The combined population of PAH patients in the 5EU and Japan was estimated to be more than 25,000 patients in 2016.

Expand beyond WHO Group I patients (PAH). Prostacyclin based therapies have only been approved for WHO Group I patients. However, prostacyclin analogs may have utility in the treatment of PH in other categories, as suggested by current off-label use in WHO Group III, which includes individuals with pulmonary hypertension secondary to lung diseases or hypoxemia, and WHO Group IV, which includes individuals with chronic thromboembolic pulmonary hypertension. Although we have no current plans to study LIQ861 in PH patients outside of WHO Group I, we will continue to monitor the investigations conducted by other companies and independent investigators of prostacyclin analogs, especially Tyvaso. If Tyvaso is approved for additional indications, the path for seeking approval of LIQ861 in the same indications should be made clear and could quickly follow. For example, United Therapeutics Corporation is actively studying Tyvaso in a Phase 3 trial of a subpopulation of WHO Group III subjects with pre-capillary PH with interstitial lung disease, including combined pulmonary fibrosis and emphysema, with an estimated prevalence of 27,500 patients globally in this subpopulation. By 2025, the diagnosed prevalence of all WHO Group III sub-types is expected to grow to over 250,000 patients in the United States, 5EU and Japan. WHO Group IV includes patients diagnosed with chronic thromboembolic pulmonary hypertension, or CTEPH. While considered underdiagnosed and undertreated, the current estimates for diagnosed prevalence of CTEPH in 2015 are between 2,000 and 6,500 patients in the United States and more than 10,000 patients in the 5EU and Japan.

Competition in PAH

If approved, LIQ861 would be one of several prostacyclin based products that can be used to manage a patient's disease. Initially, it would be positioned between the use of oral options and the continuous infusion of prostacyclin analogs.

In the inhaled category, the primary competitor for LIQ861 would be Tyvaso, the nebulized inhaled treprostinil. Tyvaso is administered by a proprietary nebulizer device four times per day. In addition to Tyvaso, LIQ861 would compete with inhaled iloprost, which is marketed as Ventavis in the United States by Actelion Pharmaceuticals Ltd, a subsidiary of Johnson & Johnson, and in Europe by Bayer Schering Pharma AG. Ventavis is administered by a proprietary nebulizer device six to nine times per day.

There would be additional competition from oral products in the prostacyclin pathway, including oral treprostinil, marketed as Orenitram by United Therapeutics Corporation, selexipag, marketed as Uptravi by Actelion Pharmaceuticals Ltd., and ralinepag, being studied in a Phase 3 clinical trial by Arena Pharmaceuticals, Inc. These oral options may be used by a patient earlier in the disease cycle than LIQ861. However, we believe that LIQ861 could offer an attractive option for patients who are in earlier stages of the disease, but poorly managed on oral prostacyclin products.

Continuously infused prostacyclins include epoprostenol, marketed by multiple companies as generic and branded products, and treprostinil, marketed as Remodulin by United Therapeutics Corporation. These options are considered to offer the greatest efficacy and are usually prescribed to patients later in the disease. Infusion pumps present unique risks related to infusion site pain and the risk of blood stream infections, creating major limitations on the quality of life of patients.

We expect our other competitors could include potential new entrants such as MannKind Corporation, who has recently filed an IND and initiated a Phase 1 trial for a treprostinil product that applies a proprietary technology to form microparticles in an inhaled dry powder. We also expect generic equivalents of Tyvaso may eventually enter the market following the expiry or invalidity of Tyvaso's patents, which are currently being challenged by a generics company.

LIQ865

Our second product candidate, LIQ865, which is designed using PRINT technology, is an injectable, sustained-release formulation of bupivacaine for the management of local post-operative pain for three to five days after a procedure, which we believe, if approved, would have the potential to provide significantly longer post-operative pain relief compared to currently marketed formulations of bupivacaine.

Background on Post-Operative Pain

The treatment of post-operative pain typically involves multi-modal therapy including the administration of local anesthetics after surgery. Although local anesthetics provide a well-established, safe and efficacious option for post-operative pain management, the duration of efficacy for conventional local anesthetics, including bupivacaine and lidocaine, is limited, with the pain relief typically lasting for eight hours or less. Because post-operative pain may continue to be severe for several days following the surgery, additional therapies are required. These therapies include morphine and other opioids administered through intravenous systems or orally, as well as various non-opioids, including acetaminophen and NSAIDs, like ibuprofen and ketorolac.

Current Therapies and Their Limitations

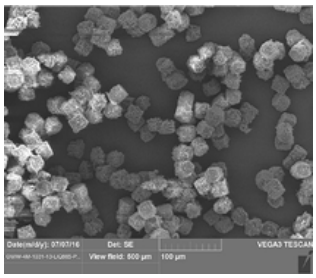
Opioids are the mainstay of post-operative pain management, but they are associated with a variety of unwanted and potentially serious or life-threatening side effects such as sedation, nausea, constipation, cognitive impairment, respiratory depression and death. In addition, opioids may be administered through patient-controlled analgesia systems, which may interfere with or delay patient ambulation and require significant hospital resources to implement and monitor. Furthermore, exposure to opioids for as little as four days can lead to increased risk of chronic opioid use. The risk of opioid abuse and diversion has led physicians, payors and the U.S. federal government to prioritize pain management strategies that minimize the use of opioids.

NSAIDs and other non-opioids for pain relief in the post-operative period are also associated with various undesirable side effects. Bleeding and gastrointestinal and renal complications may result from NSAID use. Acetaminophen can cause liver injury or failure with excessive dosing. As a result, we believe there is demand from healthcare providers and patients for post-operative pain relief therapies that can help prevent these issues.

Local anesthetics such as bupivacaine hydrochloride, or Marcaine, and lidocaine have been safely used for post-operative pain for decades, but have a duration of effect limited to less than eight hours. Approved in 2011, EXPAREL is a long-acting local anesthetic that involves an injection of bupivacaine in a multivesicular liposome carrier at the surgical site and is marketed in the United States by Pacira Pharmaceuticals, Inc. Physicians report that EXPAREL typically provides postsurgical analgesia for only 24 to 36 hours in practice, and market research we conducted suggests that physicians desire longer duration of effect to better manage local post-operative pain. In addition, because the interactions between the liposomal formulation of EXPAREL and co-administered local anesthetics can result in rapid release of bupivacaine, co-administration of other local anesthetics is inadvisable.

Potential Benefits of Our Approach

Using our PRINT technology, we have developed a particle formulation of bupivacaine that, if approved for marketing, will be used to manage local post-operative pain. We engineered the size and composition of LIQ865 particles to slowly release bupivacaine with the goal of providing patients with local pain relief for three to five days through a single administration, which we believe would provide significantly longer post-operative pain relief compared to currently marketed formulations of bupivacaine. The figure below depicts LIQ865, showing size consistency among particles.



LIQ865 is administered as a suspension and is easily injected at the surgical site. Because the molded drug particles are highly stable, we believe the potential for dose dumping, the unintended rapid drug release of bupivacaine from the carrier, would be minimized with LIQ865. In a non-clinical study, co-administration of LIQ865 with lidocaine did not cause early release of bupivacaine or otherwise negatively affect the pharmacokinetic profile of LIQ865. LIQ865 was engineered to be rapidly reconstituted and administered by injection. Unlike other sustained-release formulations, we do not expect LIQ865 will be constrained by a specific ratio of drug to diluting agent so its reconstitution volume can be adjusted based on the volume needs of a particular procedure. Furthermore, because particle-to-particle uniformity in size and composition is key to determining drug release rates, the particle-to-particle and batch-to-batch uniformity of our LIQ865 particles creates consistent release rates.

Results of Non-Clinical Studies

We commissioned an animal efficacy study of two formulations of LIQ865 in a rat perineural sciatic model, which was completed in January 2016. LIQ865 showed an extended pharmacokinetic profile and duration of nerve sensory block and the potential for extended post-operative pain management. Additionally, we evaluated the safety and tolerability of LIQ865 in a rat toxicology study in 2016. The results of this study supported advancing LIQ865 to human clinical trials.

Clinical Development

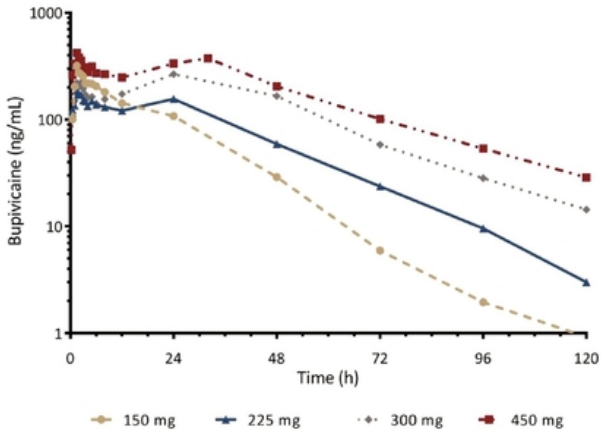
In March 2017, we completed our first Phase 1 trial in Denmark to evaluate the safety and tolerability profile of two different PRINT formulations of bupivacaine: LIQ865A, consisting of particles combining bupivacaine and polylactic-glycolic acid, a polymer widely used in sustained-release drug products and surgical sutures; and LIQ865B, consisting of particles of bupivacaine alone, in a proprietary diluting agent. We observed a dose-response relationship in this trial, and all doses were well-tolerated. The results from this initial Phase 1 trial helped inform our selection of LIQ865A for further investigation in the United States. We filed an IND application in the United States in June 2017 and initiated a Phase 1 trial in the United States in September 2017 using an experimental pain model in healthy adults with quantitative sensory testing. We expect to initiate Phase 2-enabling toxicology studies in the second half of 2018. In the United States, we plan to rely in part on the 505(b)(2) regulatory pathway for our NDA submission to the FDA for LIQ865, which would allow us to rely on the FDA's prior determinations of safety and efficacy for other products containing bupivacaine, such as Marcaine and EXPAREL.

Results of Phase 1 Trials

Our first Phase 1 trial was a randomized, double-blind, controlled, single ascending dose, safety, pharmacokinetic and pharmacodynamic trial of LIQ865A and LIQ865B in 28 healthy male volunteers at a single site in Copenhagen, Denmark. The study design included dosing multiple cohorts, or groups, each receiving increasing bupivacaine doses as either LIQ865A or LIQ865B: 150 mg, 225 mg, 300 mg, 450 mg or 600 mg. The LIQ865 formulation was injected into the upper calf in one leg, and the other leg received the diluting agent without LIQ865 particles. The primary objective of this Phase 1 clinical trial was to evaluate the safety and tolerability profile of the two formulations of LIQ865. We also assessed bupivacaine pharmacokinetic and pharmacodynamic responses.

Based on the results of this Phase 1 trial, we selected the LIQ865A formulation for further development, and all of our references to LIQ865 are to this formulation. Results for 15 volunteers who received LIQ865A in this Phase 1 trial are shown below. The graph shows the mean plasma concentration of bupivacaine over 120 hours comparing the 150 mg, 225 mg, 300 mg and 450 mg dose cohorts of LIQ865A formulation, expressed on a logarithmic, or log, scale.

LIQ865A Log Linear Mean Concentration Over Time



A dose-response relationship was observed, with the plasma levels increasing as the dosage level of LIQ865 increased. Doses of LIQ865 up to 600 mg of bupivacaine were well-tolerated in the trial. All adverse events were mild to moderate in severity, and most adverse events were limited locally at the site of injection, with most related to sensory block of underlying sensory branches of the saphenous nerve in the leg.

At the 450 mg dose of LIQ865, all subjects had maximum concentration values below 800 ng/ml, which is well below the reported thresholds for neurotoxicity and cardiac toxicity of 2000 and 4000 ng/mL, respectively. The pharmacokinetic and pharmacodynamic profile for this dose suggested a sustained duration of effect, with nearly all subjects receiving this dose reporting at least three days of sensory blunting in response to quantitative sensory testing. LIQ865 also showed rapid onset of action at the one-hour time point in all subjects, even at the lowest dose of 150 mg. Additionally, we observed a sensory block of distal sensory branches of the saphenous nerve below the knee in eight of nine subjects who received 450 mg doses of LIQ865. This sensory block lasted at least three days, which we believe further supports the duration profile of LIQ865.

In March 2017, we met with the FDA at a pre-IND meeting and verified that the current Chemical Manufacturing and Control, or CMC, and preclinical package were "phase-appropriate" and sufficient to support our initial U.S. Phase 1 trial.

Following our submission of the IND for LIQ865, we initiated our U.S. Phase 1 trial in September 2017. This trial is using an experimental pain model in healthy male and female subjects with quantitative sensory testing after an injection of LIQ865 at doses of 150 mg, 300 mg and 450 mg. The experimental pain model is designed to simulate post-operative pain for up to five days through a combination of localized ultraviolet B burn and mini-incision. Additionally, the trial includes a cross-over design to compare LIQ865 to EXPAREL.

Plans for Phase 2 Development

At our pre-IND meeting in March 2017, the FDA requested two additional toxicology studies prior to the initiation of Phase 2 trials. Accordingly, in the second half of 2018, we plan to conduct a bone fracture healing study in rats and a hernia repair study in mini-pigs. If the FDA finds these studies sufficient to support proceeding with our clinical development plan, upon successful completion, we plan to initiate Phase 2 trials subject to the availability of sufficient funding, or a partner in the event we elect to license LIQ865 to a third party. The Phase 2 trials are currently planned as ascending dose, active comparator studies in bone and soft tissue models designed to identify the minimum and optimal effective dose of LIQ865 to achieve three or more days of pain relief. We expect that this dose would be carried forward into Phase 3 development.

Competition

The primary competitor for LIQ865, if approved, would be liposomal bupivacaine, marketed as EXPAREL by Pacira Pharmaceuticals, Inc. We are aware of other long-acting local anesthetic products in clinical development from DURECT Corporation, Innocoll Holdings plc and Heron Therapeutics, Inc. as well as generic equivalents of EXPAREL, which may enter the market following the expiry of EXPAREL's patent in 2018. In addition to long-acting local anesthetics, there are a number of indirect competitors in development, including clinical-stage opioids and development-stage molecules that pursue the treatment of pain through alternative pathways.

Our PRINT Technology

Both LIQ861 and LIQ865 are being developed using our proprietary PRINT particle engineering technology, which allows us to engineer and manufacture highly uniform drug particles with independent control over the size, three-dimensional geometric shape and chemical composition of the particles. By controlling these physical and chemical parameters of particles, PRINT enables us to engineer desirable pharmacological benefits into product candidates, including prolonged duration of drug release, increased drug loading, more convenient routes of administration, the ability to create novel combination products, enhanced storage and stability and the potential to reduce adverse side effects. Controlling three-dimensional geometric shape and chemical composition of drug particles enables us to research, identify and pursue the improvement of existing therapies and creation of new therapies from existing drugs or new chemical entities, including small molecules and biologics.

Our ability to design and control these features of drug particles has the potential to provide significant benefits across the breadth of pharmaceutical applications. Product characteristics and features can be tuned depending on the need of a particular application, drug substance, delivery route and other such considerations. Based on our research to date, we anticipate the ability to: (i) enhance inhaled delivery through the highly uniform geometric shape of each drug particle; (ii) design desired drug release profiles ranging from minutes post-delivery to days, weeks or months depending on need of a target therapy, by controlling the chemical composition of the drug particles and the surface area-to-volume ratio of the particles; (iii) enable combination products where one or more of the chemical constituents can destabilize or interact by encapsulating the desired constituent in a particle to shield it from another constituent during

packaging and storage; and (iv) enhance the deposition and retention of topically delivered products by designing particles with a desired charge and/or Young's modulus.

Besides using our PRINT technology to develop our two product candidates, LIQ861 and LIQ865, we have exclusively licensed our PRINT technology to (i) GSK, a market leader in respiratory therapies, for applications broadly across inhaled delivery of their small molecule and biologic chemical entities, although we retained the ability to develop LIQ861; (ii) Aerie Pharmaceuticals, Inc., which acquired most of the assets of Envisia Therapeutics, Inc. in 2017, for broad usage in the design and commercialization of small molecule and biologic ophthalmic therapies; and (iii) G&W Laboratories, Inc., or G&W Labs, for relating to certain generic molecules to treat topical skin conditions.

Our molding approach, which we branded as "PRINT" or Particle Replication In Non-wetting Templates, combines the precision of the semi-conductor industry with the high throughput of roll-to-roll manufacturing to make highly uniform micro- and nano-particles at a commercially viable scale. Our manufacturing equipment and materials used in the production of our drug particles are proprietary and protected by our patent portfolio and trade secret know-how. Our PRINT equipment is also modular, scalable and cost-effective.

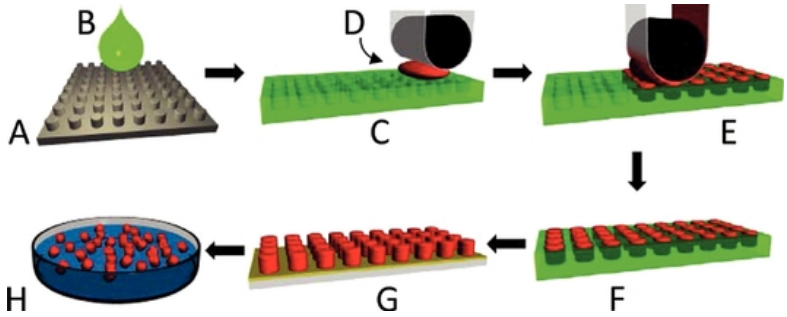
Our PRINT Process

We begin our particle design by procuring a custom designed master template etched with three-dimensional structures, or posts, that will become the eventual shape and size of our drug particles. These three-dimensional structures are then replicated in negative form, through our proprietary processing into flexible rolls of polymeric PRINT molds. Our PRINT molds consist of thousands of linear feet of thin flexible molds up to twenty-four inches wide. We then design and formulate our desired drug particle composition and apply that to our PRINT molds in our high-throughput roll-to-roll processing equipment, with each particle mimicking the shape of the mold cavity from which it was molded, thus taking the shape of the original master template structures.

The general components and steps of our PRINT molding are as follows:

- Etch a master template with the three-dimensional geometric structures of the desired particle size and shape (step A in the diagram below);
- Apply our proprietary polymeric mold material over the master template (step B) and cure the polymeric material to form our PRINT molds with discrete molding cavities that replicate the structures of the master template (step C);
- Design the chemical composition of the drug particle of interest (step D);
- Apply the drug particle composition to the cavities in the mold to fill the cavities (step E);
- Form the drug particles in the cavities of the mold that mimic the size and shape of the mold cavities (step F);
- Remove the drug particles from the mold cavities on a harvesting film (step G); and
- Remove the particles from the harvesting film for further functionalization, purification or packaging to be included in the final drug particle product (step H).

The diagram below shows the general steps involved in producing drug particles using our PRINT technology:



We have translated the PRINT process into a continuous, roll-to-roll manufacturing process that we believe is compliant with cGMP and scaled to support clinical and commercial production, when required. One of our current manufacturing lines is shown below:

Manufacturing and Supply

Our facilities occupy approximately 41,000 square feet and are located in Morrisville, North Carolina. Within these premises, there are office space, research and development laboratories and equipment, analytical development and quality control laboratories, research, development and mold production facilities, research and development particle fabrication equipment, including two operational PRINT particle fabrication lines, both of which we believe are cGMP-compliant, as well as appropriate staging, storage and stability facilities. These two operational PRINT particle fabrication lines are located within class ISO7 clean rooms that operate under applicable ISO and cGMP air quality and environmental requirements.

We currently produce in this facility the product candidates for our and our collaborators' preclinical studies and clinical trials. Our current operational PRINT particle fabrication lines are scaled and capable of producing the necessary materials to support our ongoing operations and planned studies and clinical trials and, we believe, ultimately commercial scale manufacturing. The production capacity for each PRINT particle fabrication line within our production facility varies depending on the drug particle that is being produced.

We have expanded our production facility by installing an additional PRINT particle fabrication line, which was completed in March 2018 and is intended to further increase our production capacity and capability in anticipation of the commercial production of LIQ861 and LIQ865, if and when we receive marketing approval for them. The capital expenditures for leasehold improvements in our facility related to this additional fabrication line will be financed through reimbursement allowances provided by the landlord.

If and when we receive marketing approval for our product candidates, we may, from time to time, rely on third-party CMOs to produce, package and distribute some or all of our approved drug products on a commercial scale.

We also depend on third-party suppliers for clinical supplies, including active pharmaceutical ingredients which are used in our product candidates. For example, we currently rely on a sole supplier, LGM Pharma, for treprostinil, the active pharmaceutical ingredient of LIQ861, and we currently rely on a sole supplier, Plastiape, for RS00 Model 8 DPI, the DPI used to administer LIQ861.

Our Collaboration and Licensing Agreements

In addition to advancing our own product candidates, we have collaborated with leading pharmaceutical companies to develop their own product candidates across a wide range of therapeutic areas, molecule types and routes of administration, leveraging our PRINT technology. These collaborations are intended to help advance new PRINT capabilities and build upon our competitive advantage in the pharmaceutical industry, while adding to our intellectual property portfolio.

GlaxoSmithKline

We have actively collaborated with GSK on the use of our PRINT technology in respiratory disease. In June 2012, we entered into an Inhaled Collaboration and Option Agreement, or the GSK ICO Agreement, with GSK to collaborate on research regarding the application of our PRINT technology to specified inhaled therapies. Pursuant to the GSK ICO Agreement, we granted GSK exclusive options and licenses to further develop and commercialize such inhaled therapies using our PRINT technology. In partial consideration of the rights granted to GSK under the GSK ICO Agreement, we received a one-time up-front payment of $4.0 million. We also entered into a stock purchase agreement with GSK pursuant to which GSK purchased 4,765,248 shares of our Series C-1 convertible preferred stock for an aggregate of $3.8 million. In September 2015, GSK exercised its option to obtain an exclusive, worldwide license to certain of our know-how and patents relating to our PRINT technology, for the purpose of, among others, preclinical studies of inhaled therapeutics developed, manufactured or otherwise produced using our PRINT technology. In connection with the grant of this license, we received a one-time option exercise fee of $15.0 million. Under the terms of the GSK ICO Agreement, we are also entitled to continued research and development funding, certain milestone payments aggregating up to $158 million upon the achievement of specified milestone events, as well as tiered royalties on the worldwide sales of the licensed products at percentages in the mid-single digits. In February 2016, we received a $3.0 million payment from GSK upon the achievement of a clinical development milestone.

GSK has the right to terminate the GSK ICO Agreement in its entirety or on a product-by-product basis upon a specified period of prior written notice. Upon termination of the GSK ICO Agreement, each party will continue to have the right to practice and/or license its interest in any know-how developed during the collaboration without seeking the consent of, or accounting to, the other party.

As of April 1, 2018, GSK is conducting a Phase 1 trial of an inhaled chronic obstructive pulmonary disease, or COPD, candidate that is formulated as an inhaled, dry powder using the PRINT technology. Through this collaboration, we have worked, and anticipate continuing to work, together with GSK to advance inhaled therapeutic products into clinical studies.

G&W Labs

In June 2016, we entered into a development and license agreement, or the G&W Labs Agreement, with G&W Labs to collaborate on research regarding the application of our PRINT technology to topical treatments for dermatological conditions. Pursuant to the terms of the G&W Labs Agreement, we licensed our PRINT technology to G&W Labs for the research, development and commercialization of specified formulated compounds and licensed products, for administration to the skin for treatment or prophylaxis of skin diseases, or skin symptoms of non-skin diseases, disorders and conditions in humans, or in suppository form for the treatment of mucosa in humans. The G&W Labs Agreement includes an option to extend the license of our PRINT technology to several other products in the same field. Under the terms of this G&W Labs Agreement, we received a one-time up-front payment of $1.0 million, and we are entitled to receive milestone payments aggregating up to $21.5 million upon the achievement of specified milestone events and royalties on net sales of commercialized products at a high single digit percentage.

G&W Labs has the right to terminate the G&W Labs Agreement in its entirety or on a select compound-by-compound and country-by-country basis upon a specified period of prior written notice. Upon termination of the G&W Labs Agreement in its entirety, all rights and licenses will immediately terminate. Upon termination with respect to a select compound or territory, all rights and licenses granted to G&W Labs will immediately terminate with respect to the select terminated compound or territory and G&W Labs will grant us a license to operate freely with respect to the select terminated product or territory.

The University of North Carolina at Chapel Hill

In December 2008, we entered into the Amended and Restated License Agreement with UNC for the use of certain patent rights and technology relating to initial innovations of our PRINT technology, or the UNC License. Under the terms of the UNC License, we have an exclusive license to such patent rights and technology for our drug products. The UNC License grants us the right to grant sublicenses to the technology as well as control the litigation of any infringement claim instituted by or against us in respect of the licensed patent rights. We are also responsible for the costs of all expenses associated with the prosecution and maintenance of the patents and patent applications. Such filings and prosecution will be carried out by UNC and in UNC's name but under our control.

Under the UNC License, we are required to pay UNC royalties equal to a low single digit percentage of all net sales of our drug products whose manufacture, use or sale includes any use of the technology or patent rights covered by the UNC License, as well as tiered royalty percentages ranging in the low single digits of sales by our sublicensees for any product covered by rights under a sublicense agreement granted pursuant to the UNC License. Under the UNC License, we are also required to pay UNC 20% of all fees other than royalties that we collect and are attributable to UNC sublicensed intellectual property. As consideration for the UNC License, we paid UNC a license issue fee in the form of 196,469 shares of our Class B non-voting common stock in 2004. During the term of the UNC License, we have also paid approximately $2.9 million in the aggregate to UNC pursuant to a Supported Research Agreement, or the SRA. In connection therewith, we may exclusively license resulting inventions under the SRA for a $5,000 up-front license fee per invention. We have also paid aggregate consideration of $5.7 million in sublicense fees to UNC pursuant to the UNC License, for our sublicenses of our PRINT technology to GSK and G&W Labs, as described above. We also reimburse UNC for its costs of procuring and maintaining the patents we license from UNC. Such reimbursements amounted to $180,943 for the year ended December 31, 2016. Effective November 2017, we have satisfied all milestones associated with our UNC License. The UNC License expires (i) on the expiration of the last to expire patent included in the patent rights or (ii) if no patents mature from such patent rights, in December 2028.

We have the right to terminate the UNC License upon a specified period of prior written notice. UNC may terminate the UNC License in certain circumstances, including if we fail to pay royalty or other payments on time, if we fail to meet the remaining milestone related to the commercial sale of a PRINT product by December 31, 2020 or if we fail to sublicense in accordance with the terms of the UNC License. Upon termination of the UNC License, we must pay any royalty obligations due upon termination.

Intellectual Property

The proprietary nature and protection of our product candidates, their methods of use and our platform technology that enables our product candidates are an important part of our business strategy of rapidly developing and commercializing new medicines that address areas of significant unmet medical needs.

Our policy is to seek patent protection of our proprietary product candidates and technology by filing U.S., international and certain foreign patent applications covering certain of our proprietary technology, inventions, improvements and product candidates that are important to the growth and protection of our business. We also rely on trade secrets to protect aspects of our business that are not amenable to patent protection or where we do not consider patent protection to be adequate or applicable.

Our success depends, in part, on our ability to obtain and maintain patent and other protection for our product candidates, enabling technology, inventions and know-how and our ability to defend and enforce these patents, preserve the proprietary nature of our trade secrets and operate our business without infringing valid and enforceable patent and other proprietary rights of third parties. We pursue both composition-of-matter patents and method-of-use patents for our product candidates. We are also pursuing patents covering our proprietary PRINT micro- and nano-particle fabrication technology.

The term of individual patents depends upon the legal term for patents in the countries in which they are granted. In most countries, including the United States, the patent term is generally 20 years from the earliest filing date of a non-provisional patent application to which the patent claims priority in the applicable country. In the United States, a patent's term may, in certain cases, be lengthened by patent term adjustment, or PTA, which compensates a patentee for administrative delays by the U.S. Patent and Trademark Office, or the USPTO, in examining and granting a patent, or may be shortened if a patent is terminally disclaimed over a commonly owned patent or a patent naming a common inventor and having an earlier expiration date. The Patent Term Restoration Act of 1984, as amended, or the Hatch-Waxman Act, permits a patent term extension, or PTE, of up to five years beyond the expiration date of a U.S. patent as partial compensation for the length of time the drug is under regulatory review while the patent is in force. A PTE cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, and only one patent applicable to each regulatory review period may be extended. Further, only those claims covering the approved drug, a method for using it or a method for manufacturing it may be extended and the extension only applies to the approved drug, method for using it or method for manufacturing it for which the extension was obtained. Similar provisions are available in Europe and certain other foreign jurisdictions to extend the term of a patent that covers an approved drug.

We are the owner or exclusive licensee of patents and applications relating to our proprietary technology platform and our product candidates, and are pursuing additional patent protection for these and for our other product candidates and technology developments.

We have a total of 126 patents and pending patent applications in our patent portfolio. As of April 1, 2018, we were the sole owner of 14 patents in the United States and 19 patents in foreign jurisdictions, as well as approximately 20 additional pending patent applications, including provisional patent applications, in the United States, Europe, Japan and other jurisdictions. In addition to the patents and patent applications owned solely by us, our patent portfolio also includes 48 patents and 23 patent applications licensed from third parties. As of April 1, 2018, we had an exclusive, worldwide license from UNC to 16 U.S. patents and 31 foreign patents, as well as 20 additional patent applications in the United States or selected foreign jurisdictions. Eight of the patents and two of the patent applications in the portfolio licensed from UNC are jointly owned by us.

With regard to our LIQ861 product candidate, as of April 1, 2018 our owned or in-licensed patents and patent applications that are directed to aspects of the PRINT technology utilized in LIQ861 include:

- U.S. Patent No. 8,263,129, which includes claims directed to methods of forming substantially uniform particles and is expected to expire on January 14, 2029, including 1486 days of PTA and assuming payment of all maintenance fees;
- U.S. Patent No. 8,420,124, which includes claims directed to a plurality of monodisperse particles and is expected to expire on August 19, 2028, including 1338 days of PTA and assuming payment of all maintenance fees;
- U.S. Patent No. 9,877,920, which includes claims directed to a plurality of particles and is expected to expire on December 20, 2024, assuming payment of all maintenance fees;
- U.S. Patent No. 8,439,666, which includes claims directed to laminate molds and is expected to expire on December 4, 2026, assuming payment of all maintenance fees;
- U.S. Patent No. 8,662,878, which includes claims directed to molds and mold systems and is expected to expire on December 4, 2026, assuming payment of all maintenance fees;
- U.S. Patent Nos. 8,945,441 and 9,662,809, which include claims directed to methods of making laminate molds and are each expected to expire on December 4, 2026, assuming payment of all maintenance fees;
- U.S. Patent No. 7,976,759, which includes claims directed to methods of forming nanoparticles and is expected to expire on October 13, 2028, assuming payment of all maintenance fees;
- U.S. Patent No. 9,545,737, which includes claims directed to methods of forming pharmaceutical particles and is expected to expire on April 22, 2029, including 191 days of PTA and assuming payment of all maintenance fees;
- U.S. Patent No. 8,444,907, which includes claims directed to methods for fabricating a substantially seamless pattern and is expected to expire on June 28, 2031, including 572 days of PTA and assuming payment of all maintenance fees; and
- U.S. Patent No. 9,744,715, which includes claims directed to methods for fabricating a substantially seamless pattern and is expected to expire on December 3, 2029, assuming payment of all maintenance fees.

As of April 1, 2018, we were sole owner of one pending international patent application, PCT/US17/31301, specifically directed to our LIQ861 product candidate. PCT/US17/31301 includes claims directed to dry powder inhalation compositions, methods of using such compositions treating a patient with PAH and methods of making such compositions. Any patents that may issue from PCT/US17/31301 are expected to expire on May 5, 2037, absent any terminal disclaimers, patent term adjustments or extensions and assuming payment of all maintenance fees.

With regard to our LIQ865 product candidate, as of April 1, 2018, our owned or in-licensed patents and patent applications that cover aspects of the PRINT technology utilized in LIQ865 include:

- U.S. Patent No. 8,263,129, which includes claims directed to methods of forming substantially uniform particles and is expected to expire on January 14, 2029, including 1,486 days of PTA and assuming payment of all maintenance fees;
- U.S. Patent No. 8,420,124, which includes claims directed to a plurality of monodisperse particles and is expected to expire on August 19, 2028, including 1,338 days of PTA and assuming payment of all maintenance fees;
- U.S. Patent No. 9,877,920, which includes claims directed to a plurality of particles and is expected to expire on December 20, 2024, assuming payment of all maintenance fees;
- U.S. Patent No. 8,662,878, which includes claims directed to molds and mold systems and is expected to expire on December 4, 2026, assuming payment of all maintenance fees;

- U.S. Patent Nos. 8,945,441 and 9,662,809, which include claims directed to methods of making laminate molds and are each expected to expire on December 4, 2026, assuming payment of all maintenance fees;
- U.S. Patent No. 7,976,759, which includes claims directed to methods of forming nanoparticles and is expected to expire on October 13, 2028, assuming payment of all maintenance fees;
- U.S. Patent No. 9,545,737, which includes claims directed to methods of forming pharmaceutical particles and is expected to expire on April 22, 2029, including 191 days of PTA and assuming payment of all maintenance fees;
- U.S. Patent No. 8,444,907, which includes claims directed to methods for fabricating a substantially seamless pattern and is expected to expire on June 28, 2031, including 572 days of PTA and assuming payment of all maintenance fees; and
- U.S. Patent No. 9,744,715, which includes claims directed to methods for fabricating a substantially seamless pattern and is expected to expire on December 3, 2029, assuming payment of all maintenance fees.

As of April 1, 2018, we were sole owner of one pending international patent application, PCT/US17/31397, specifically directed to our LIQ865 product candidate. PCT/US17/31397 includes claims directed to particulate compositions comprising an amino amide anesthetic and Poly(lactide-co-glycolide) polymer, formulations comprising such compositions, methods of using such compositions for inducing extended analgesia and methods of forming such compositions. Any patents that may issue PCT/US17/31397 are expected to expire on May 5, 2037, absent any patent term adjustments or extensions and assuming payment of all maintenance fees.

Sales and Marketing

We have retained worldwide commercial rights for our internal product candidates. If our product candidates receive marketing approval, we plan to commercialize them in the United States by building and utilizing our own commercial infrastructure. Outside of the United States, we intend to pursue the regulatory approval of our product candidates in collaboration with others, while leveraging the regional expertise of a commercialization collaborator. Considering our stage of development, we have not yet established a commercial organization or distribution capabilities.

With regard to our lead product candidate, LIQ861, we intend to focus our commercial efforts initially on the U.S. market, which we believe represents the largest market opportunity. In addition, we plan to establish collaborations with established pharmaceutical companies to commercialize our products in foreign markets. Within the United States, we believe that we can effectively commercialize LIQ861, if approved, with an initial specialty sales force of up to 75 representatives. We intend to initially pursue a highly concentrated target market of PAH centers of excellence and frequent prescribers of PAH therapies. Our physician call points within these sites of care will include cardiologists, pulmonologists and their supporting staff. We expect to supplement our sales force with representatives in the medical science, nursing and reimbursement fields to support the proper training and utilization of LIQ861. As part of our commercialization strategy, we plan to educate physician specialists, healthcare practitioners, patients and caregivers of the benefits of LIQ861 and its proper use. We plan to work with national associations, such as the Pulmonary Hypertension Association, and patient advocacy groups to update treatment guidelines to include a new, convenient product with a wide range of dosing.

Competition

The pharmaceutical industry is intensely competitive, subject to rapid and significant technological change and places emphasis on the value of proprietary products. While we believe that our technologies and experience provide us with a competitive advantage, our competitors include organizations such as major multinational pharmaceutical companies, established biotechnology companies, biopharmaceutical companies and generic drug companies. Many of our competitors have greater financial and other resources

than we have, such as more commercial resources, larger research and development staffs and more extensive marketing and manufacturing organizations. As a result, these companies may obtain marketing approval more rapidly than we are able and may be more effective in selling and marketing their products. Smaller or early stage companies may also prove to be significant competitors, particularly through collaboration arrangements with large, established companies.

Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future. Our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, technologies and drug products that are more effective or less costly than products that we are currently selling through collaborators or developing or that we may develop, which could render our products obsolete and non-competitive. We expect any products that we develop and commercialize to compete on the basis of, among other things, efficacy, safety, convenience of administration and delivery, price and the availability of reimbursement from government and other third-party payors. We also expect to face competition in our efforts in recruiting and retaining qualified personnel and establishing clinical trial sites, patient enrollment in clinical trials and in identifying appropriate collaborators to help commercialize any approved products in our target commercial markets.

Government Regulation

Government Regulation and Product Approval

Government authorities in the United States at the federal, state and local level and in other countries, extensively regulate, among other things, the research, development, testing, manufacture, (including manufacturing changes), quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, marketing, export and import of products such as those we are developing. The processes for obtaining regulatory approvals in the United States and in foreign countries, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

U.S. Drug Development Process

In the United States, the FDA regulates drugs under the United States Federal Food, Drug, and Cosmetic Act, or the FDCA, and the FDA's implementing regulations.

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 to administrative or judicial sanctions. These sanctions could include the FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, untitled or warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties. The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- § completion of preclinical laboratory tests, animal studies and formulation studies according to Good Laboratory Practices regulations;
- § submission to the FDA of an IND, which must become effective before human clinical studies may begin;
- § approval by an independent institutional review board, or IRB, at each clinical site before each trial may be initiated;
- § performance of adequate and well-controlled human clinical studies according to Good Clinical Practice, or GCP, regulations, to establish the safety and efficacy of the proposed drug for its intended use;
- § preparation and submission to the FDA of an NDA, containing the results of product development, preclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the drug product, proposed labeling and other relevant information, to request approval to market the drug product;

- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug product, or components thereof, are produced to assess compliance with cGMP to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity;
- satisfactory completion of FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of clinical data;
- FDA review and approval of the NDA;
- payment of fees, including annual program fees for each drug product on the market; and
- ongoing compliance with any post-approval requirements, including risk evaluation and mitigation strategy, or REMS, and post-approval studies required by the FDA.

The testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for our product candidates will be granted on a timely basis, if at all.

Once a pharmaceutical product candidate is identified for development, it enters the preclinical testing stage. Preclinical tests include laboratory evaluations of product chemistry, toxicity, formulation and stability, as well as animal studies. When a sponsor wants to proceed to test the product candidate in humans, it must submit an IND in order to conduct clinical trials.

An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data and any available clinical data or literature, to the FDA as part of the IND. The sponsor must also include a protocol detailing, among other things, the objectives of the initial clinical study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated if the initial clinical study lends itself to an efficacy evaluation. Some preclinical testing may continue even after the IND is submitted. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA raises concerns or questions related to a proposed clinical study and places the study on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical study can begin. Clinical holds also may be imposed by the FDA at any time before or during clinical studies due to safety concerns or non-compliance, and may be imposed on all product candidates within a certain pharmaceutical class. The FDA also can impose partial clinical holds, for example, prohibiting the initiation of clinical studies of a certain duration or for a certain dose.

All clinical studies must be conducted under the supervision of one or more qualified investigators in accordance with GCP regulations. These regulations include the requirement that all research subjects provide informed consent in writing before their participation in any clinical study. Further, an IRB must review and approve the plan for any clinical study before it commences at any institution, and the IRB must conduct continuing review and reapprove the study at least annually. An IRB considers, among other things, whether the risks to individuals participating in the clinical study are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the information regarding the clinical study and the consent form that must be provided to each clinical study subject or his or her legal representative and must monitor the clinical study until completed.

Each new clinical protocol and any amendments to the protocol must be submitted for FDA review, and to the IRBs for approval. Protocols detail, among other things, the objectives of the clinical study, dosing procedures, subject selection and exclusion criteria and the parameters to be used to monitor subject safety.

Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on their ClinicalTrials.gov website.

Human clinical studies are typically conducted in three sequential phases that may overlap or be combined:

- *Phase 1.* The product is initially introduced into a small number of healthy human subjects or patients and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion

and, if possible, to gain early evidence on effectiveness. In the case of some products for severe or life-threatening diseases, especially when the product is suspected or known to be unavoidably toxic, the initial human testing may be conducted in patients.

- *Phase 2.* Involves clinical studies in 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 and schedule.

- *Phase 3.* Clinical studies are undertaken to further evaluate dosage, clinical efficacy and safety in an expanded patient population at geographically dispersed clinical study sites. These clinical studies are intended to establish the overall risk/benefit relationship of the product and provide an adequate basis for product labeling.

Progress reports detailing the results of the clinical studies must be submitted at least annually to the FDA and safety reports must be submitted to the FDA and the investigators for serious and unexpected suspected adverse events. Phase 1, Phase 2 and Phase 3 testing may not be completed successfully within any specified period, if at all. The FDA or the sponsor may suspend or terminate a clinical study at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical study at its institution if the clinical study is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients.

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

U.S. Review and Approval Processes

Assuming successful completion of the required clinical testing, the results of product development, preclinical studies and clinical studies, along with descriptions of the manufacturing process, analytical tests conducted on the drug, proposed labeling and other relevant information, are submitted to the FDA as part of an NDA for a new drug, requesting approval to market the product.

The submission of an NDA is subject to the payment of a substantial application user fee although a waiver of such fee may be obtained under certain limited circumstances. For example, the agency will waive the application fee for the first human drug application that a small business or its affiliate submits for review. The sponsor of an approved NDA is also subject to annual program user fees.

In addition, under the Pediatric Research Equity Act of 2003, or PREA, an NDA application (or a supplement to an application) for a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration must contain data that are adequate to assess the safety and effectiveness of the drug 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, unless the applicant has obtained a waiver or deferral.

A sponsor who is planning to submit a marketing application for a drug product that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration must submit an initial Pediatric Study Plan, or PSP, within 60 days of an End-of-Phase 2 meeting or as may be agreed between the sponsor and the FDA. The initial PSP must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any

request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of data or full or partial waivers. The FDA and the sponsor must reach agreement on the PSP. A sponsor can submit amendments to an agreed-upon initial PSP at any time if changes to the pediatric plan need to be considered based on data collected from preclinical studies, early phase clinical studies or other clinical development program.

The FDA also may require submission of a REMS to mitigate any identified or suspected serious risks. The REMS could include medication guides, physician communication plans, assessment plans and elements to assure safe use, such as restricted distribution methods, patient registries or other risk minimization tools.

The FDA reviews all NDAs submitted to ensure that they are sufficiently complete for substantive review before it accepts them for filing. The FDA may request additional information rather than accept an application for filing. In this event, the application must be re-submitted with the additional information. The re-submitted application also is 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 reviews an NDA to determine, among other things, whether a product is safe and effective for its intended use and whether its manufacturing is cGMP-compliant.

The FDA may approve an NDA only if the methods used in, and the facilities and controls used for, the manufacture processing, packing and testing of the product are adequate to ensure and preserve its identity, strength, quality and purity.

Before approving an NDA, the FDA often will inspect the facility or facilities where the product is or will be manufactured.

The FDA may refer the NDA to an advisory committee for review, evaluation and recommendation as to whether the application should be approved and under what conditions. An advisory committee is a panel of experts, including clinicians and other scientific experts, who provide advice and recommendations when requested by the FDA. The FDA is not bound by the recommendation of an advisory committee, but it considers such recommendations when making decisions.

Additionally, before approving an NDA, the FDA will typically inspect one or more clinical sites to assure clinical data supporting the submission were developed in compliance with GCP.

The approval process is lengthy and difficult and the FDA may refuse to approve an NDA if the applicable regulatory criteria are not satisfied, or may require additional clinical data or other data and information. Even if such data and information are submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. Data obtained from clinical studies are not always conclusive and the FDA may interpret data differently than an applicant interprets the same data.

After the FDA's evaluation of an application, the FDA may issue an approval letter or a complete response letter to indicate that the review cycle is complete and that the application is not ready for approval. A complete response letter generally contains a statement of specific conditions that must be met to secure final approval of the application and may require additional clinical or preclinical testing for the FDA to reconsider the application. The deficiencies identified may be minor, for example, requiring labeling changes, or major, for example, requiring additional clinical studies. Additionally, the complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the application, addressing all of the deficiencies identified in the letter, or withdraw the application or request an opportunity for a hearing.

Even with submission of additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. If and when those conditions have been met to the FDA's

satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. In addition, the FDA may require post-approval studies, including Phase 4 clinical studies, to further assess safety and effectiveness after approval and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized. After approval, some 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.

New Drug Applications

Most drug products obtain FDA marketing approval pursuant to an NDA (described above) for innovator products, or an abbreviated new drug application, or ANDA, for generic products. Relevant to ANDAs, the Hatch-Waxman Act amendments to the FDCA established a statutory procedure for submission and FDA review and approval of ANDAs for generic versions of branded drugs previously approved by the FDA (such previously approved drugs are also referred to as listed drugs). Because the safety and efficacy of listed drugs have already been established by the brand company (sometimes referred to as the innovator), the FDA does not require a demonstration of safety and efficacy of generic products. However, a generic manufacturer is typically required to conduct bioequivalence studies of its test product against the listed drug. The bioequivalence studies for orally administered, systemically available drug products assess the rate and extent to which the active pharmaceutical ingredient is absorbed into the bloodstream from the drug product and becomes available at the site of action. Bioequivalence is established when there is an absence of a significant difference in the rate and extent for absorption of the generic product and the listed drug. For some drugs, including locally acting drugs such as topical anti-fungals, other means of demonstrating bioequivalence may be required by the FDA, especially where rate and/or extent of absorption are difficult or impossible to measure. In addition to the bioequivalence data, an ANDA must contain patent certifications and chemistry, manufacturing, labeling and stability data.

A third alternative is a special type of NDA, commonly referred to as a 505(b)(2) NDA, enables the applicant to rely, in part, on the FDA's findings of safety and efficacy of an existing product, or published literature, in support of its application. 505(b)(2) NDAs often provide an alternate path to FDA approval for new or improved formulations or new uses of previously approved products. Section 505(b)(2) permits the filing of an NDA where at least some of the information required for approval comes from studies not conducted by or for the applicant and for which the applicant has not obtained a right of reference. The applicant may rely upon the FDA's findings with respect to certain preclinical or clinical studies conducted for an approved 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 product 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 505(b)(2) applicant.

In seeking approval for a drug through an NDA, including a 505(b)(2) NDA, applicants are required to list with the FDA certain patents of the applicant or that are held by third parties whose claims cover the applicant's product. Upon approval of an NDA, each of the patents listed in the application for the drug is then published in the Orange Book. Any subsequent applicant who files an ANDA seeking approval of a generic equivalent version of a drug listed in the Orange Book or a 505(b)(2) NDA referencing a drug listed in the Orange Book must make one of the following certifications to the FDA concerning patents: (1) the patent information concerning the reference listed drug product has not been submitted to the FDA; (2) any such patent that was filed has expired; (3) the date on which such patent will expire; or (4) such patent is invalid or will not be infringed upon by the manufacture, use or sale of the drug product for which the application is submitted. This last certification is known as a paragraph IV certification. A notice of the

paragraph IV certification must be provided to each owner of the patent that is the subject of the certification and to the holder of the approved NDA to which the ANDA or 505(b)(2) application refers. The applicant may also elect to submit a "section viii" statement certifying that its proposed label does not contain (or carves out) any language regarding the patented method-of-use rather than certify to a listed method-of-use patent.

If the reference NDA holder or patent owners assert a patent challenge directed to one of the Orange Book listed patents within 45 days of the receipt of the paragraph IV certification notice, the FDA is prohibited from approving the application until the earlier of 30 months from the receipt of the paragraph IV certification expiration of the patent, settlement of the lawsuit or a decision in the infringement case that is favorable to the applicant. The ANDA or 505(b)(2) application also will not be approved until any applicable non-patent exclusivity listed in the Orange Book for the branded reference drug has expired as described in further detail below. Thus approval of a 505(b)(2) NDA or ANDA can be stalled until all the listed patents claiming the referenced product have expired, until any non-patent exclusivity, such as exclusivity for obtaining approval of a new chemical entity, listed in the Orange Book for the referenced product has expired, and, in the case of a Paragraph IV certification and subsequent patent infringement suit, until the earlier of 30 months, settlement of the lawsuit or a decision in the infringement case that is favorable to the ANDA or 505(b)(2) applicant.

Combination Products

Medical products containing a combination of new drugs, biological products, or medical devices are regulated as "combination products" in the United States. A combination product generally is defined as a product comprised of components from two or more regulatory categories, such as drug/device, device/biologic or drug/biologic. The term combination product includes: (i) a product comprised of two or more regulated components (i.e., drug/device, biologic/device, drug/biologic or drug/device/biologic, that are physically, chemically or otherwise combined or mixed and produced as a single entity); (ii) two or more separate products packaged together in a single package or as a unit and comprised of drug and device products, device and biological products or biological and drug products; (iii) a drug, device or biological product packaged separately that according to its investigational plan or proposed labeling is intended for use only with an approved individually specified drug, device or biological product 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, such as to reflect a change in intended use, dosage form, strength, route of administration, or significant change in dose; or (iv) any investigational drug, device or biological product 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.

Each constituent part of a combination product is subject to the requirements established by the FDA for that type of constituent part, whether a new drug, biologic or device. In order to facilitate pre-market review of combination products, the FDA designates one of its centers to have primary jurisdiction for the pre-market review and regulation of the overall product based upon a determination by FDA of the primary mode of action of the combination product, and typically one application, such as for a drug/device combination product assigned to the FDA's Center for Drug Evaluation and Research, or CDER, an NDA, will be made.

A device with the primary purpose of delivering or aiding in the delivery of a drug and distributed containing a drug (i.e., a "prefilled delivery system") is typically evaluated by CDER using drug authorities and device authorities, as necessary.

A device with the primary purpose of delivering or aiding in the delivery of a drug and that is distributed without the drug (i.e., unfilled) is typically evaluated by the FDA's Center for Devices and Radiological Health and CDER, respectively, unless the intended use of the two products, through labeling, creates a combination product.

The FDA has indicated that dry powder inhalers, such as our lead product candidate, LIQ861, are drug/device combination products.

Post-Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to extensive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping (including certain electronic record and signature requirements), periodic reporting, product sampling and distribution, advertising and promotion and reporting of certain adverse experiences, deviations and other problems 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.

The FDA strictly regulates labeling, advertising, promotion and other types of information on products that are placed on the market. Products may be promoted only for the approved indications and in accordance with the provisions of the approved label. Further, manufacturers must continue to comply with cGMP requirements, which are extensive and require considerable time, resources and ongoing investment to ensure compliance. In addition, changes to the manufacturing process generally require prior FDA approval before being implemented and other types of changes to the approved product, such as adding new indications and additional labeling claims, are also subject to further FDA review and approval.

Manufacturers and certain other entities involved in the manufacturing and distribution of approved products are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. The cGMP requirements apply to all stages of the manufacturing process, including the production, processing, sterilization, packaging, labeling, storage and shipment of the product. Manufacturers must establish validated systems to ensure that products meet specifications and regulatory standards, and test each product batch or lot prior to its release. Combination products are subject to FDA regulation to ensure the quality of both the constituent parts and the finished product.

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.

The FDA may impose a number of post-approval requirements as a condition of approval of an application. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product's safety and effectiveness after commercialization.

The FDA may withdraw a product approval if compliance with regulatory requirements 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, problems with manufacturing processes, or failure to comply with regulatory requirements, may result in restrictions on the product or even complete withdrawal of the product from the market.

Potential implications include required 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;
- § 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 drugs is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of the products and product samples at the federal level, and sets minimum standards for the registration and regulation of 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.

From time to time, legislation is drafted, introduced and passed in Congress that could significantly change the statutory provisions governing the approval, manufacturing and marketing of products regulated by the FDA. In addition to new legislation, FDA regulations, guidance and policies are often revised or reinterpreted by the agency in ways that may significantly affect our business and our product candidates. It is impossible to predict whether further legislative or FDA regulation or policy changes will be enacted or implemented and what the impact of such changes, if any, may be.

Patent Term Restoration

Depending upon the timing, duration and specifics of FDA approval of the use of our product candidates, some of our U.S. patents may be eligible for limited PTE under the Hatch-Waxman Act. The Hatch-Waxman Act permits a patent restoration term of up to five years as compensation for patent term effectively lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of an NDA plus the time between the submission date of an NDA and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved drug is eligible for the extension. Extensions are not granted as a matter of right and the extension must be applied for prior to expiration of the patent and within a sixty day period from the date the product is first approved for commercial marketing. The USPTO, in consultation with the FDA, reviews and approves the application for any PTE or restoration. In the future, we may apply for PTEs, defined as the length of the regulatory review of products covered by our granted patents, for some of our currently owned or licensed applications and patents to add patent life beyond their current expiration dates. Such extensions will depend on the length of the regulatory review; however, there can be no assurance that any such extension will be granted to us.

Marketing Exclusivity

Market exclusivity provisions under the FDCA can also delay the submission or the approval of certain applications. The specific scope varies, but fundamentally the FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant to gain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not accept for review an ANDA or a 505(b)(2) NDA submitted by another company for another version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement. The FDCA also provides three years of marketing exclusivity for an NDA, 505(b)(2) NDA or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example, for

new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the conditions of use associated with the new clinical investigations and does not prohibit the FDA from approving applications for drugs containing the original active agent. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well-controlled clinical studies necessary to demonstrate safety and effectiveness.

Pediatric exclusivity is another type of exclusivity in the United States. Pediatric exclusivity, if granted, provides an additional six months to the term of any existing regulatory exclusivity, including the non-patent exclusivity periods described above. This six-month exclusivity may be granted based on the voluntary completion of a pediatric clinical study in accordance with an FDA-issued "Written Request" for such a clinical study.

Pharmaceutical Coverage, Pricing and Reimbursement

In the United States, sales of any products for which we may receive regulatory approval for commercial sale will depend in part on the availability of coverage and reimbursement from third-party payors. Third-party payors include government authorities, managed care providers, private health insurers and other organizations.

Significant uncertainty exists as to the coverage and reimbursement status of any products for which we may obtain regulatory approval. Some of the additional requirements and restrictions on coverage and reimbursement levels imposed by third-party payors influence the purchase of healthcare services and products. Third-party payors may limit coverage to specific drugs on an approved list, or formulary, which might not include all of the FDA-approved drugs for a particular indication, or place drugs at certain formulary levels that result in lower reimbursement levels. Moreover, a payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development. Further, one payor's determination to provide coverage does not assure that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement may differ significantly from payor to payor as there is no uniform policy of coverage and reimbursement for drug products among third-party payors.

Reimbursement may also impact the demand for drug products that obtain marketing approval. If coverage for a drug product is obtained by a third-party payor, the resulting reimbursement payment rates may not be adequate or may require co-payments that patients find unacceptably high. Patients who are prescribed medications for the treatment of their conditions, and their prescribing physicians, generally rely on third-party payors to reimburse all or part of the costs associated with their prescription drugs. Prescribing physicians are unlikely to use or prescribe drug products unless coverage is provided and reimbursement is adequate to cover all or a significant portion of the cost of those drug products. If reimbursement is not available, or is available only to limited levels, a drug product which has obtained marketing approval may not be successfully commercialized.

Third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of medical products and services, in addition to their safety and efficacy. In order to obtain and maintain coverage and reimbursement for any product that might be approved for sale, we may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of any products, in addition to the costs required to obtain regulatory approvals. Our product candidates may not be considered medically necessary or cost-effective. If third-party payors do not consider a product to be cost-effective compared to other available therapies, they may not cover the product after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow a company to sell its products at a profit.

The U.S. government and state legislatures have shown significant interest in implementing cost containment programs to limit the growth of government-paid healthcare costs, including price controls,

restrictions on reimbursement and coverage and requirements for substitution of generic products for branded prescription drugs. Adoption of government controls and measures, and tightening of restrictive policies in jurisdictions with existing controls and measures, could exclude or limit our drugs and product candidates from coverage and limit payments for pharmaceuticals.

In addition, we expect that the increased emphasis on managed care and cost containment measures in the United States by third-party payors and government authorities to continue and will place pressure on pharmaceutical pricing and coverage. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Other Healthcare Laws and Compliance Requirements

Healthcare providers, physicians and third-party payors often play a primary role in the recommendation and prescription of any currently marketed products and product candidates for which we may obtain marketing approval. Our current and future arrangements with healthcare providers, physicians, third-party payors and customers, and our sales, marketing and educational activities, may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations (at the federal and state level) that may constrain our business or financial arrangements and relationships through which we market, sell and distribute our products for which we obtain marketing approval.

In addition, we may be subject to transparency laws and patient privacy regulation by both the federal government and the states in which we conduct our business. The laws that may affect our ability to operate include the following:

- The federal Anti-Kickback Statute, which prohibits, among other things, persons and entities including pharmaceutical manufacturers from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, lease, order or recommendation of, an item or service reimbursable, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. This statute has been interpreted broadly to apply to, among other things, arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers and formulary managers on the other hand. The term "remuneration" expressly includes kickbacks, bribes or rebates and also has been broadly interpreted to include anything of value, including, for example, gifts, discounts, waivers of payment, ownership interest and providing anything at less than its fair market value. There are a number of statutory exceptions and regulatory safe harbors protecting certain common activities from prosecution or other regulatory sanctions, however, the exceptions and safe harbors are drawn narrowly, and practices that do not fit squarely within an exception or safe harbor may be subject to scrutiny. The failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Our practices may not meet all of the criteria for safe harbor protection from federal Anti-Kickback Statute liability in all cases. A person or entity does not need to have actual knowledge of the federal Anti-Kickback Statute or specific intent to violate it to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act.

- The federal civil and criminal false claims laws and civil monetary penalty laws, including the False Claims Act, which prohibits individuals or entities from, among other things, knowingly presenting, or causing to be presented, claims for payment to, or approval by, the federal government that are false, fictitious or fraudulent or knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim to avoid, decrease or conceal an obligation to pay

money to the federal government. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes "any request or demand" for money or property presented to the federal government. Although we do not submit claims directly to payors, manufacturers can be held liable under these laws if they are deemed to "cause" the submission of false or fraudulent claims by, for example, providing inaccurate billing or coding information to customers, promoting a product off-label, marketing products of sub-standard quality, or, as noted above, paying a kickback that results in a claim for items or services. In addition, our activities relating to the reporting of wholesaler or estimated retail prices for our products, the reporting of prices used to calculate Medicaid rebate information and other information affecting federal, state and third-party reimbursement for our products, and the sale and marketing of our products, are subject to scrutiny under this law. For example, several pharmaceutical and other healthcare companies have faced enforcement actions under these laws for allegedly inflating drug prices they report to pricing services, which in turn were used by the government to set Medicare and Medicaid reimbursement rates, and for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. The False Claims Act also permits a private individual acting as a "whistleblower" to bring actions on behalf of the federal government alleging violations of the False Claims Act and to share in any monetary recovery. In addition, federal Anti-Kickback Statute violations and certain marketing practices, including off-label promotion, may also implicate the False Claims Act. Although the False Claims Act is a civil statute, conduct that results in a False Claims Act violation may also implicate various federal criminal statutes.

- The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation.

- HIPAA, as amended by as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, including the Final Omnibus Rule published on January 25, 2013, impose, among other things, obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information held by certain healthcare providers, health plans and healthcare clearinghouses, known as covered entities, and business associates. Among other things, HITECH made certain aspects of HIPAA's rules (notably the Security Rule) directly applicable to business associates — independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal court to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. The Department of Health and Human Services Office of Civil Rights, or the OCR, has increased its focus on compliance and continues to train state attorneys general for enforcement purposes. The OCR has recently increased both its efforts to audit HIPAA compliance and its level of enforcement, with one recent penalty exceeding $5 million.

- The federal physician payment transparency requirements, sometimes referred to as the "Physician Payments Sunshine Act," created under the U.S. Patient Protection and Affordable Health Care Act of 2010, as amended, or the ACA, and its implementing regulations, which requires applicable manufacturers of covered drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the State Children's Health Insurance Program (with certain

exceptions) to annually report to the United States Department of Health and Human Services, information related to certain payments or other transfers of value made or distributed to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members.

- According to the U.S. Federal Trade Commission, or the FTC, failing to take appropriate steps to keep consumers' personal information secure constitutes unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act, or the FTCA, 15 U.S.C § 45(a). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Medical data is considered sensitive data that merits stronger safeguards. The FTC's guidance for appropriately securing consumers' personal information is similar to what is required by the HIPAA Security Rule.

- Analogous state laws and regulations, such as state anti-kickback and false claims laws, which may apply to items or services reimbursed by any third-party payor, including commercial 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 pricing and marketing information, including, among other things, information related to payments to physicians and other healthcare providers or marketing expenditures, state and local laws that require the registration of pharmaceutical sales representatives, and state laws governing the privacy and security of health information and the use of prescriber-identifiable data in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available under such laws, it is possible that certain business activities could be subject to challenge under one or more of such laws. The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Federal and state enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Ensuring that business arrangements with third parties comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert management's attention from the business.

If our operations are found to be in violation of any of the health regulatory laws described above or any other laws that apply to us, we may be subject to penalties, including, but not limited to, criminal, civil and administrative penalties, damages, fines, disgorgement, individual imprisonment, possible exclusion from participation in government healthcare programs, injunctions, private qui tam actions brought by individual whistleblowers in the name of the government and the curtailment or restructuring of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, any of which could adversely affect our ability to operate our business and our results of operations.

Healthcare Reform

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. There have been a number of federal and state proposals during the last few years regarding the pricing of pharmaceutical and biopharmaceutical products, limiting coverage and reimbursement for drugs and other medical products, government control and other changes to the healthcare system in the United States. By way of example, in March 2010, the ACA as amended was enacted, which includes measures that have or will significantly

change the way healthcare is financed by both governmental and private insurers. Among the provisions of the ACA of greatest importance to the pharmaceutical industry are the following:

- The Medicaid Drug Rebate Program requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the Secretary of the Department of Health and Human Services as a condition of Medicare Part B and Medicaid coverage of the manufacturer's outpatient drugs furnished to Medicaid patients. Effective in 2010, the ACA made several changes to the Medicaid Drug Rebate Program, including increasing pharmaceutical manufacturers' rebate liability by raising the minimum basic Medicaid rebate on most branded prescription drugs from 15.1% of average manufacturer price, or AMP, to 23.1% of AMP, establishing new methodologies by which AMP is calculated and rebates owed by manufacturers under the Medicaid Drug Rebate Program are collected for drugs that are inhaled, infused, instilled, implanted or injected, adding a new rebate calculation for "line extensions" (i.e., new formulations, such as extended release formulations) of solid oral dosage forms of branded products, expanding the universe of Medicaid utilization subject to drug rebates to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations. and expanding the population potentially eligible for Medicaid drug benefits.

- In order for a pharmaceutical product to receive federal reimbursement under the Medicare Part B and Medicaid programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. The required 340B discount on a given product is calculated based on the AMP and Medicaid rebate amounts reported by the manufacturer. Effective in 2010, the ACA expanded the types of entities eligible to receive discounted 340B pricing, although, under the current state of the law, with the exception of children's hospitals, these newly eligible entities will not be eligible to receive discounted 340B pricing on orphan drugs when used for the orphan indication. In addition, as 340B drug pricing is determined based on AMP and Medicaid rebate data, the revisions to the Medicaid rebate formula and AMP definition described above could cause the required 340B discount to increase. Recent proposed guidance from the U.S. Department of Health and Human Services Health Resources and Services Administration, if adopted in its current form, may affect manufacturers' rights and liabilities in conducting audits and resolving disputes under the 340B program.

- Expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals beginning in April 2010 and by adding new mandatory eligibility categories for certain individuals with income at or below 133.0% of the federal poverty level beginning in 2014, thereby potentially increasing both the volume of sales and manufacturers' Medicaid rebate liability.

- The ACA imposed a requirement on manufacturers of branded drugs to provide a 50% (and 70% commencing on January 1, 2019) discount off the negotiated price of branded drugs dispensed to Medicare Part D patients in the coverage gap (i.e., the donut hole) in order for Part D coverage to be available for the manufacturer's covered Part D drugs.

- The ACA imposed an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs with aggregate branded prescription drug sales over $5 million to certain government healthcare programs or pursuant to coverage under such programs, apportioned among these entities according to their market share in certain government healthcare programs, although this fee would not apply to sales of certain products approved exclusively for orphan indications.

- The ACA implemented the federal physician payment transparency requirements, sometimes referred to as the "Physician Payments Sunshine Act".

- The ACA established a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research. The research conducted by the Patient-Centered Outcomes Research Institute may affect the market for certain pharmaceutical products by influencing decisions relating to coverage and reimbursement rates.

- The ACA established the Center for Medicare and Medicaid Innovation within Centers for Medicare & Medicaid Services, or CMS, to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending. Funding has been allocated to support the mission of the Center for Medicare and Medicaid Innovation from 2011 to 2019.

- The ACA established a licensure framework for follow-on biologic products.

- The ACA expanded healthcare fraud and abuse laws in the United States, including the False Claims Act and the Anti-Kickback Statute, new government investigative powers and enhanced penalties for non-compliance.

- The ACA requires annual reporting of drug samples that manufacturers and distributors provide to physicians.

Some of the provisions of the ACA have yet to be implemented, and there have been judicial and Congressional challenges to certain aspects of the ACA, as well as recent efforts by the Trump administration to repeal or replace certain aspects of the ACA. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have been signed into law. The Tax Cuts and Jobs Act of 2017 includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate". Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the ACA, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole".

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. For example, in August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2012 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of up to 2% per fiscal year, which went into effect in April 2013 and due to subsequent legislative amendments to the statute, including the BBA, will remain in effect through 2027 unless additional Congressional action is taken. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In addition, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products.

Further, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and

transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. Such reforms could have an adverse effect on anticipated revenues from our products and product candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates.

Foreign Regulation of Drugs

In order to market any product outside of the United States, we will need to comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding development, approval, commercial sales and distribution of our products, and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of our products, if approved. Whether or not we obtain FDA approval for a product, we must obtain the necessary approvals by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process 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.

Employees

As of April 1, 2018, we had 63 full-time employees, including six employees in management (including our executive officers), 27 employees in research and development, 15 employees in manufacturing and operations, five employees in regulatory and quality and 10 employees in finance and administration. All of our full-time employees are employed in the United States.

Facilities

Our corporate headquarters are located in Morrisville, North Carolina, and consist of 36,834 square feet of space under a lease that expires on October 31, 2026 and includes an option to renew for an additional five years through October 31, 2031. The primary use of this location is general office, laboratory, research and development and light manufacturing. In addition, we also have an additional lease in Morrisville, North Carolina consisting of 4,402 square feet of space which lease expires on October 31, 2022 and includes an option to renew for an additional five years through October 31, 2027. The primary use of this location is general office space and research and development laboratories. We believe that our facilities are adequate for our current needs and for the foreseeable future; however, we will continue to seek additional space as needed to accommodate our growth.

Legal Proceedings

From time to time, we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors. There is no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or other body pending or, to the knowledge of our executive officers, threatened against or affecting us, our common stock or any of our officers or directors in their capacities as such, in which an adverse decision could have a materially adverse effect on our financial condition or results of operations.

MANAGEMENT

Executive Officers and Directors

The following table sets forth the name, age as of April 1, 2018 and position of each of our executive officers and directors. The following also includes certain information regarding our directors' and executive officers' individual experience, qualifications, attributes and skills and brief statements of those aspects of our directors' backgrounds that led us to conclude that they are qualified to serve as directors. Unless otherwise stated, the business address for all of our executive officers and members of our Board is c/o Liquidia Technologies, Inc., 419 Davis Drive, Suite 100, Morrisville, North Carolina 27560.

Name	Age	Position
Executive Officers		
Neal Fowler	56	Chief Executive Officer and Director
Kevin Gordon	55	President and Chief Financial Officer
Robert Lippe	53	Chief Operations Officer
Dr. Robert Roscigno	51	Senior Vice President, Product Development
Dr. Benjamin Maynor	43	Senior Vice President, Research and Development
Non-Employee Directors		
Dr. Seth Rudnick[2][3][4]	69	Chairman of the Board and Director
Dr. Stephen Bloch[1][3]	55	Director
Edward Mathers[3]	57	Director
Dr. Isaac Cheng[1]	43	Director
Dr. Ralph Snyderman[2][4]	78	Director
Arthur Kirsch[1]	66	Director
Jason Rushton	48	Director
Raman Singh[2]	47	Director
Key Employees		
Timothy Albury	49	Senior Vice President, Chief Accounting Officer
Jason Adair	46	Vice President, Business Development and Strategy

(1) Member of our Audit Committee.

(2) Member of our Nominating and Corporate Governance Committee effective upon formation of such committee prior to consummation of this offering.

(3) Member of our Compensation Committee.

(4) Member of our Research and Development Committee.

Executive Officers

Neal Fowler has been our Chief Executive Officer and a member of our Board since March 2008. Mr. Fowler also served as a director of Envisia Therapeutics Inc. from November 2013 until November 2017. From June 2006 to March 2008, Mr. Fowler served as president of Centocor, Inc., a subsidiary of Johnson & Johnson, which focused on the development and commercialization of industry-leading biomedicines used to treat chronic inflammatory diseases. From July 2004 to June 2006, Mr. Fowler was the president of Ortho-McNeil Neurologics, Inc. and from October 2001 to July 2004, the vice president of the central nervous system business of Ortho-McNeil-Janssen Pharmaceuticals, Inc. From June 1988 to October 2001, Mr. Fowler held a variety of sales, marketing and business development roles at Eli Lilly and Company in

the pharmaceutical and medical device divisions. Mr. Fowler is currently a director of Aralez Pharmaceuticals, Inc. (Nasdaq: ARLZ). Mr. Fowler graduated from UNC with a Bachelor of Science in Pharmacy and holds a Master of Business Administration from UNC. We believe Mr. Fowler is qualified to serve on our Board due to his extensive and broad range of experience in business and healthcare product development, including previous experience growing companies in the pharmaceutical industry.

Kevin Gordon has been our President and Chief Financial Officer since January 2018. From October 2015 until his retirement in October 2016, Mr. Gordon served as executive vice president and chief operating officer of Quintiles (now named IQVIA Holdings Inc.) (NYSE: IQV), today a global biopharmaceutical services provider. From July 2010 to December 2015, Mr. Gordon served as executive vice president and chief financial officer of Quintiles. Prior to joining Quintiles, Mr. Gordon spent 13 years with Teleflex Incorporated (NYSE: TFX), a health care company, most recently serving as executive vice president and chief financial officer from March 2007 to January 2010. Prior to serving at Teleflex, Mr. Gordon spent 12 years in senior finance positions with Package Machinery Company and KPMG. Mr. Gordon is currently a director and the audit committee chairman of Veracyte, Inc. (Nasdaq: VCYT). Mr. Gordon received his Bachelor of Science in Accounting from the University of Connecticut.

Robert Lippe has been our Chief Operations Officer since June 2015. From February 2014 to June 2015, Mr. Lippe served as executive vice president of operations and chief operations officer at Alexza Pharmaceuticals, Inc. From January 2011 to February 2014, Mr. Lippe worked as the head of global operations at Ironwood Pharmaceuticals, Inc., and from March 2002 to January 2011, he was the head of manufacturing for one of Genentech, Inc.'s Vacaville operating facilities. From May 1992 to May 2002, Mr. Lippe worked at Lawrence Livermore National Laboratory as an assurance and facility manager. Mr. Lippe graduated with a Bachelor of Science in Marine Engineering from the United States Coast Guard Academy. Mr. Lippe holds a Master of Business Administration and Public Health from the University of California, Berkeley.

Dr. Robert Roscigno has been our Senior Vice President, Product Development since December 2017. He served as our Senior Vice President, Research and Development from March 2016 until December 2017 and our Vice President, Research and Development from September 2015 until March 2016. From January 2009 to September 2015, Dr. Roscigno served as the executive vice president, global clinical affairs of GeNO, LLC, a pharmaceutical company in the field of inhaled nitric oxide drug products. From July 2007 to January 2009, Dr. Roscigno provided scientific consulting for various companies in the pharmaceutical industry and also worked as a subject matter expert in PAH. From March 1997 to July 2007, Dr. Roscigno was the president and chief operations officer of Lung Rx, Inc., a subsidiary of United Therapeutics Corporation. Prior to Lung Rx, Inc., Dr. Roscigno served in multiple leadership positions at United Therapeutics Corporation. Dr. Roscigno graduated from Trinity College with a Bachelor of Science in Biology. He also holds a Doctor of Philosophy in Cell and Molecular Biology from Duke University.

Dr. Benjamin Maynor has been our Senior Vice President, Research and Development since January 2016. He served as our Vice President, Research and Development from March 2015 to January 2016. He joined us as a scientist in September 2005 and is a co-inventor of our PRINT technology. Dr. Maynor was seconded by us to Envisia Therapeutics Inc. from January 2013 to March 2015 where he served as Envisia's vice president, research. Dr. Maynor was also our Vice President, Research from January 2012 to January 2013, our Executive Director of Research from November 2011 to January 2012, our Director of Research from January 2010 to November 2011, our Principal Scientist from October 2009 to January 2010 and a Scientist of the Company from September 2005 to October 2009. Prior to joining us, Dr. Maynor was a postdoctoral associate at UNC from May 2004 to September 2005. He was also a scientist at Polestar Technologies, Inc. from September 1996 to June 1999. Dr. Maynor graduated from Harvard University with a Bachelor of Arts in Chemistry. He also holds a Doctor of Philosophy in Chemistry from Duke University. He is also a member of both the American Chemical Society and the American

Association of Pharmaceutical Scientists. Dr. Maynor was honored with the Kathryn C. Hach Award for Entrepreneurial Success in 2014 by the American Chemical Society.

Directors

Dr. Seth Rudnick is the Chairman of our Board and has been a member of our Board since March 2008, a member of our Compensation Committee since its formation in August 2016, a member of our Nominating and Corporate Governance Committee since its formation in , 2018 and a member of our Research and Development Committee since its formation in May 2017. Dr. Rudnick is currently a director of G1 Therapeutics, Inc. (Nasdaq: GTHX) and Aralez Pharmaceuticals, Inc. (Nasdaq: ARLZ). Dr. Rudnick previously served as a partner at Canaan Partners, a global venture capital firm, from January 1998 to December 2013. From January 1991 to January 1998, Dr. Rudnick was the chief executive officer and chairman of CytoTherapeutics, Inc. From July 1986 to January 1991, Dr. Rudnick worked at Ortho Biotech, Inc., a subsidiary of Johnson & Johnson, where he served as vice president, head of research and development. Dr. Rudnick also previously held directorships at Square 1 Bank, LQ3 Pharmaceuticals, Inc. and Spine Wave, Inc. Dr. Rudnick graduated from the University of Pennsylvania with a Bachelor of Arts in History. He also holds a Doctor of Medicine from the University of Virginia and a Diplomate in the Specialty of Internal Medicine from the American Board of Internal Medicine. We believe Dr. Rudnick is qualified to serve on our Board due to his industry experience, experience as a venture capitalist and senior executive and his experience of serving on the board of directors for several public and private pharmaceutical and life sciences companies.

Dr. Stephen Bloch has been a member of our Board since July 2009, a member of our Audit Committee since its formation in August 2016 and the Chairman of our Compensation Committee since its formation in August 2016. Dr. Bloch is currently a director of a number of private life sciences companies and served as a director of Marinus Pharmaceuticals, Inc. (Nasdaq: MRNS) from September 2005 until April 2016. Dr. Bloch has been a general partner at Canaan Partners, a global venture capital firm, since November 2007. From August 2003 to November 2007, Dr. Bloch was a principal at Canaan Partners. From January 1995 to June 2002, Dr. Bloch was the founder and chief executive officer of Radiology Management Sciences, LLC, a specialty medical management company. Dr. Bloch graduated from Dartmouth College with a Bachelor of Arts. Dr. Bloch also holds a Doctor of Medicine from the University of Rochester and a Master of Arts in the History of Science and Public Policy from Harvard University. We believe Dr. Bloch is qualified to serve on our Board due to his financial expertise, experience as a venture capitalist and his experience of serving on the board of directors for several public and private pharmaceutical and life sciences companies.

Edward Mathers has been a member of our Board since July 2009 and a member of our Compensation Committee since its formation in August 2016. Mr. Mathers is currently a partner at New Enterprise Associates, Inc., a global venture capital firm that invests in technology and healthcare companies. Mr. Mathers is currently a director of ObsEva SA (Nasdaq: OBSV), Ra Pharmaceuticals, Inc. (Nasdaq: RARX), Rhythm Pharmaceuticals, Inc. (Nasdaq: RYTM), Synlogic, Inc. (Nasdaq: SYBX) and a number of private life sciences companies. From July 2002 to August 2008, Mr. Mathers was the executive vice president, corporate development and venture of MedImmune, Inc. From August 2000 to July 2002, he was the vice president, marketing and corporate licensing and acquisitions, of Nektar Therapeutics, Inc. Prior to this, Mr. Mathers worked at Glaxo Wellcome, Inc. from July 1997 to August 2000, where he last held the role of vice president, e-business. Mr. Mathers graduated from the North Carolina State University with a Bachelor of Science in Chemistry. We believe Mr. Mathers is qualified to serve on our Board due to his experience as a venture capitalist, his experience as an executive and in business development and his experience in serving on the board of directors for several public and private pharmaceutical and life sciences companies.

Dr. Isaac Cheng has been a member of our Board since January 2010 and a member of our Audit Committee since its formation in August 2016. Dr. Cheng is currently an investment professional at the Morningside Technology Advisory, LLC, a division of the Morningside Group, a group that invests in venture

capital and private equity opportunities. He currently sits on the board of directors of NuCana PLC (Nasdaq: NCNA) and also sits on the boards of several of Morningside Group's private life sciences portfolio companies. Dr. Cheng previously served as director of research and development at Serica Technologies, Inc., from April 2004 to January 2005. Prior to that, Dr. Cheng was a scientific associate director of clinical development and medical affairs at Novartis Pharmaceuticals Corporation from March 2002 to April 2004. Dr. Cheng was also the recipient of a Howard Hughes Medical Institute Research Fellowship which supported his research in the Genetics and Aging Unit of the Massachusetts General Hospital and Harvard Medical School. Dr. Cheng graduated from the Tufts University School of Medicine with a Doctor of Medicine. We believe Dr. Cheng is qualified to serve on our Board due to his financial expertise, experience as a venture capitalist, industry experience and his experience in serving on the board of directors for several public and private life sciences companies.

Dr. Ralph Snyderman has been a member of our Board since February 2007, the Chairman of our Nominating and Corporate Governance Committee since its formation in , 2018 and a member of our Research and Development Committee since its formation in May 2017. Dr. Snyderman is currently a director of CareDx, Inc. (Nasdaq: CDNA), iRhythm Technologies, Inc. (Nasdaq: IRTC) and a number of private life sciences companies. Dr. Snyderman also served as a director of Argos Therapeutics, Inc. (Nasdaq: ARGS) from December 2016 until March 2017. Dr. Snyderman is currently Chancellor Emeritus of Duke University, the James B. Duke Professor of Medicine, as well as a director of the Duke Center for Research on Personalized Health Care. From January 1989 to July 2004, he served as Chancellor for Health Affairs and Dean of the Duke University School of Medicine. From July 1998 to July 2004, Dr. Snyderman also oversaw the development of the Duke University Health System as its first president and chief executive officer. From January 1987 to June 1989, Dr. Snyderman served as senior vice president, medical research and development at Genentech, Inc. From February 1972 to June 1987, he was a Professor of Medicine at the Duke University. From July 1970 to February 1972, Dr. Snyderman started his career at the National Institutes of Health as a senior investigator. Dr. Snyderman previously served as a venture partner at New Enterprise Associates, Inc., a venture capital firm, from January 2006 to November 2009. Dr. Snyderman graduated from Washington College with a Bachelor of Science and from the State University of New York Downstate Medical Center with a Doctor of Medicine. Dr. Snyderman holds an honorary Doctor of Science from the State University of New York and an honorary Doctor of Science from Washington College. He currently holds memberships in the American Academy of Arts & Sciences, the National Academy of Medicine as well as the Association of American Physicians. Dr. Snyderman is also a recipient of several awards, including the Pioneer Award by the Personalized Medicine World Congress in 2016, as well as the North American Healthcare Lifetime Achievement Award by Frost & Sullivan in 2008 for his leadership in the field of personalized health care. We believe Dr. Snyderman is qualified to serve on our Board due to his extensive industry experience and knowledge and his experience serving on the board of directors of several public and private biotechnology and life sciences companies.

Arthur Kirsch has been a member of our Board since September 2016 and the Chairman of our Audit Committee since its formation in August 2016. Mr. Kirsch is currently a director of Aralez Pharmaceuticals, Inc. (Nasdaq: ARLZ). From August 2015 until October 2016, Mr. Kirsch served as a director of Immunomedics, Inc. (Nasdaq: IMMU). Since June 2005, Mr. Kirsch has served as the managing director and senior advisor, as well as global head of medical devices and diagnostics, of GCA Global, LLC, a global investment banking firm. From May 1994 to May 2004, he served as executive vice president, head of research at Vector Securities, LLC. From February 1990 to May 1993, Mr. Kirsch served as president of Natwest Securities Limited. From June 1979 to February 1990, Mr. Kirsch worked at Drexel Burnham Lambert, Inc., an investment banking firm, where he held the position of executive vice president, head of equity division. Mr. Kirsch graduated from the University of Rhode Island with a Bachelor of Science and also holds a Master of Business Administration from The City University of New York. We believe Mr. Kirsch is qualified to serve on our Board due to his business and financial expertise and his experience serving on the boards of directors of several public pharmaceutical and life sciences companies.

Jason Rushton has been a member of our Board since July 2017. Mr. Rushton has been a partner at Xeraya Capital Labuan Ltd, a life science venture capital fund of Khazanah Nasional, a Malaysian sovereign wealth fund, since October 2016. From February 2011 to June 2016, he served as director in the corporate finance advisory arm of Deloitte AG, where he provided corporate finance advisory services to clients in the life sciences industry. From November 2010 to January 2011, Mr. Rushton was self-employed as a consultant providing independent strategy consulting services. From September 2006 to May 2010, Mr. Rushton was an investment manager at Inventages Venture Capital Investment, Inc., a life science investment fund established by Nestlé S.A. From July 2000 to August 2006, Mr. Rushton was also an associate in Merlin Biosciences Fund, L.P., a life science investment fund, and, from June 1997 to July 2000, he was a management consultant in PA Consulting Group, a global management consulting firm. From 1994 to June 1997, Mr. Rushton worked as a biologist in Eli Lilly and Company, a global pharmaceutical company. Mr. Rushton holds a Master of Science in Immunology from the University of Birmingham. We believe Mr. Rushton is qualified to serve on our Board due to his business and financial expertise and his experience as a venture capitalist in the healthcare industry.

Raman Singh has been a member of our Board since February 2018 and a member of our Nominating and Corporate Governance Committee since its formation in , 2018. Since October 2011, Mr. Singh has served as the chief executive officer of Mundipharma Pte Limited, which is part of a network of independent associated companies active in the fields of analgesia, oncology, ophthalmology, respiratory, specialty care and consumer health. Mr. Singh graduated from Osmania University with a Bachelors in Mechanical Engineering in 1992. He also holds Masters in International Management from Thunderbird School of Global Management and in Business Administration from Assumption University. We believe Mr. Singh is qualified to serve on our Board due to his vast industry experience and knowledge as well as his business experience.

Key Employees

Timothy Albury has been our Senior Vice President, Chief Accounting Officer since January 2018. From June 2013 until January 2018, Mr. Albury served as our Chief Financial Officer. From September 2009 to June 2013, Mr. Albury served as the chief financial officer of Osmotica Pharmaceutical Corp., a multinational specialty pharmaceutical company in the field of osmotic drug delivery. Mr. Albury graduated from Liberty University with a Bachelor of Science and completed a Master of Professional Accounting program at the University of Miami. He is also a Certified Public Accountant with the North Carolina State Board of Certified Public Accountant Examiners and the State of Florida Board of Accountancy as well as a member of the American Institute of Certified Public Accountants.

Jason Adair has been our Vice President, Business Development and Strategy since January 2016. From August 2011 through December 2015, Mr. Adair served as the executive director of corporate development at BioCryst Pharmaceuticals, Inc. (Nasdaq: BCRX). Mr. Adair holds a Bachelor of Science in Chemistry from Wake Forest University and a Master of Business Administration from the Tuck School of Business at Dartmouth College.

Corporate Governance

Board Composition

Our amended and restated bylaws that will become effective upon the closing of this offering provides that our Board shall consist of that number of directors to be determined from time to time by vote of our Board, provided that such authorized number shall be no fewer than three and no greater than 11 members, and is currently set at nine members. Currently our Board consists of Drs. Bloch, Cheng, Rudnick and Snyderman, and Messrs. Fowler, Kirsch, Mathers, Rushton and Singh.

In accordance with our amended and restated bylaws and our amended and restated certificate of incorporation, which will be in effect upon the closing of this offering, our Board will be divided into three classes with staggered three-year terms. At each annual meeting of stockholders after the initial

classification, the successors to the directors whose terms will then expire will be elected to serve from the time of election and qualification until the third annual meeting following their election. Our directors will be divided among the three classes as follows:

- the Class I directors will be Mr. Mathers and Dr. Snyderman, and their terms will expire at the annual meeting of stockholders to be held in 2019;
- the Class II directors will be Drs. Bloch and Rudnick and Mr. Singh, and their terms will expire at the annual meeting of stockholders to be held in 2020; and
- the Class III directors will be Messrs. Fowler and Kirsch, and their terms will expire at the annual meeting of stockholders to be held in 2021.

Effective upon completion of this offering, Dr. Cheng and Mr. Rushton will no longer serve on our Board.

Any increase or decrease in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. This classification of our Board may have the effect of delaying or preventing changes in control of our company.

Election Arrangements

Each of our directors were elected pursuant to a voting agreement by and among us, our preferred stockholders and our common stockholders. These provisions will terminate upon the closing of this offering and there will be no further contractual obligations, or terms of our outstanding securities, regarding the election of our directors.

Director Independence

Our Board has determined that upon completion of this offering, Drs. Bloch, Rudnick and Snyderman, and Messrs. Kirsch, Mathers and Singh will be independent directors. In making this determination, our Board applied the standards set forth in the Nasdaq listing standards and in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. In evaluating the independence of Drs. Bloch, Rudnick and Snyderman, and Messrs. Kirsch, Mathers and Singh, our Board considered their current and historical employment, any compensation we have given to them, any transactions we have entered into with them, their beneficial ownership of our capital stock, their ability to exert control over us, all other material relationships they have had with us and the same facts with respect to their immediate families. The Board also considered all other relevant facts and circumstances known to it in making this independence determination. In addition, Drs. Bloch, Rudnick and Snyderman, and Messrs. Kirsch, Mathers and Singh are non-employee directors, as defined in Rule 16b-3 of the Exchange Act.

Code of Conduct

In October 2016, we adopted a code of conduct, which applies to all of our employees, officers and directors, including those officers responsible for financial reporting. Prior to consummation of this offering, we will amend our code of conduct to qualify as a "code of ethics" as defined by the rules of the SEC. Following the completion of this offering, the code of conduct will be available on our website at www.liquidia.com. We intend to disclose any amendments to the code of conduct, or any waivers of its requirements, on our website to the extent required by the applicable rules and exchange requirements. The inclusion of our website address in this prospectus does not incorporate by reference the information on or accessible through our website into this prospectus.

Board Committees

Audit Committee

The Audit Committee of our Board oversees the quality and integrity of our financial statements and other financial information, accounting and financial reporting processes, internal controls and procedures for financial reporting and internal audit function. It also oversees the audit and other services provided by our independent auditors and is directly responsible for the appointment, independence, qualifications, compensation and oversight of the independent auditor. In addition, our audit committee is responsible for

reviewing our compliance with legal and regulatory requirements, and it assists the Board in an initial review of recommendations to the Board regarding proposed business transactions.

The current members of our Audit Committee are Drs. Bloch and Cheng and Mr. Kirsch. The Chairman of our Audit Committee is Mr. Kirsch. Upon the effectiveness of the registration statement of which this prospectus forms a part, the members of our Audit Committee will be Dr. Bloch and Messrs. Kirsch and Singh, with Mr. Kirsch continuing to serve as Chairman. All members of our audit committee meet the requirements for financial literacy under the applicable rules and regulations of the SEC and Nasdaq. Our Board has determined that Mr. Kirsch is an "audit committee financial expert" as defined under the applicable rules of the SEC and has the requisite financial sophistication as defined under the applicable rules and regulations of Nasdaq. Under the rules of the SEC, members of the audit committee must also meet heightened independence standards. Our Board has determined that each of Dr. Bloch and Messrs. Kirsch and Singh are independent under the heightened audit committee independence standards of the SEC and Nasdaq. The Audit Committee operates under a written charter that satisfies the applicable standards of the SEC and Nasdaq.

Compensation Committee

The Compensation Committee of our Board reviews and determines the compensation of all of our executive officers and establishes our compensation policies and programs. Specific responsibilities of our compensation committee will include, among other things, evaluating the performance of our Chief Executive Officer and determining our Chief Executive Officer's compensation. It also determines the compensation of our other executive officers. In addition, our Compensation Committee administers all equity compensation plans and has the authority to grant equity awards subject to the terms and conditions of such equity compensation plans. Our Compensation Committee also reviews and approves various other compensation policies and matters, including establishing policies and making recommendations to our Board regarding director compensation. Our Compensation Committee may also review and discuss with management the compensation discussion and analysis that we may be required from time to time to include in SEC filings, and it may prepare a compensation committee report on executive compensation as may be required from time to time to be included in our annual proxy statements or annual reports on Form 10-K filed with the SEC.

The current members of our Compensation Committee are Drs. Bloch and Rudnick and Mr. Mathers. The Chairman of our Compensation Committee is Dr. Bloch. Upon the effectiveness of the registration statement of which this prospectus forms a part, the members of our Compensation Committee will be Drs. Bloch and Rudnick and Mr. Mathers, with Dr. Bloch continuing to serve as Chairman. Each of the members of our Compensation Committee is independent under the applicable rules and regulations of Nasdaq, and is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act. The Compensation Committee operates under a written charter that satisfies the applicable standards of the SEC and Nasdaq.

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee of our Board, which will be formed prior to the consummation of this offering, will oversee the nomination of directors, including, among other things, identifying, evaluating and making recommendations of nominees to our Board, and evaluating the performance of our Board and individual members of our Board. When identifying nominees, the Nominating and Corporate Governance Committee will consider, among other things, a nominee's character and integrity, level of education and business experience, financial literacy and commitment to represent long-term interests of our equity holders. Our Nominating and Corporate Governance Committee will also be responsible for reviewing developments in corporate governance practices, evaluating the adequacy of our corporate governance practices and making recommendations to our Board concerning corporate governance matters.

Upon its formation, the members of our Nominating and Corporate Governance Committee will be Drs. Snyderman and Rudnick and Mr. Singh, with Dr. Snyderman serving as the Chairman. The composition

of our Nominating and Corporate Governance Committee will, as of the time of the effectiveness of the registration statement of which this prospectus forms a part, meet the requirements for independence under the rules and regulations of the SEC and the listing standards of Nasdaq. The Nominating and Corporate Governance Committee will operate under a written charter that satisfies the applicable standards of the SEC and Nasdaq.

Research and Development Committee

The current members of our Research and Development Committee are Drs. Rudnick and Snyderman, who are, respectively, the Chairman and Vice-Chairman of our Research and Development Committee. The role of our Research and Development Committee is to make recommendations to our Board regarding our research and development functions and programs, including our research and development strategies, priorities and opportunities.

Compensation Committee Interlocks and Insider Participation

None of the members of our Compensation Committee is an executive officer or employee of our company. None of our executive officers serves as a member of the Compensation Committee of any entity that has one or more executive officers serving on our Compensation Committee.

Director Compensation

The following table presents the total compensation for each person who served as a non-employee member of our Board and received compensation for such service during the fiscal year ended December 31, 2017. Other than as set forth in the table and described more fully below, we did not pay any compensation, make any equity awards or non-equity awards to or pay any other compensation to any of the non-employee members of our Board in 2017. We reimburse non-employee members of our Board for reasonable travel expenses. Mr. Fowler, a member of our Board who also serves as our Chief Executive Officer, does not receive any additional compensation for his service as a director. Mr. Fowler's compensation for service as an employee for 2017 is presented in "Executive Compensation — 2017 Summary Compensation Table."

	Fees Earned or Paid in Cash ($)[1]	Total ($)
Dr. Seth Rudnick	120,000	120,000
Dr. Stephen Bloch[2]	—	—
Edward Mathers[2]	—	—
Dr. Isaac Cheng[2]	—	—
Dr. Ralph Snyderman	60,000	60,000
Arthur Kirsch	50,000	50,000
Jason Rushton[2]	—	—

(1) Fees earned pursuant to a board service agreement.

(2) Investor-appointed directors did not receive fees or other compensation for their service on our Board.

The following table lists all outstanding option awards held by our non-employee directors as of December 31, 2017:

Name	Option Awards
Dr. Seth Rudnick	629,016
Dr. Stephen Bloch	—
Edward Mathers	—
Dr. Isaac Cheng	—
Dr. Ralph Snyderman	92,495
Arthur Kirsch	150,000
Jason Rushton	—
Raman Singh	—

Board Service Agreements

Mr. Kirsch and Drs. Rudnick and Snyderman are each parties to individual board service agreements with us which shall terminate upon consummation of this offering. Each individual board service agreement is described below.

Rudnick

On April 1, 2015, we and Dr. Rudnick entered into a board service agreement whereby, in exchange for Dr. Rudnick serving as a non-employee member of the Board and providing periodic additional consulting or advisory services to us from time to time, we (i) pay Dr. Rudnick $120,000 annually for serving on the Board and (ii) granted a nonstatutory stock option to Dr. Rudnick to purchase 205,000 shares of common stock, with an exercise price equal to $0.28 per share and vesting over a four year period commencing July 1, 2016, pursuant to the Liquidia Technologies, Inc. Stock Option Plan, as amended, or the 2004 Plan.

Snyderman

On April 1, 2015, we and Dr. Snyderman entered into a board service agreement whereby, in exchange for Dr. Snyderman serving as a non-employee member of the Board and providing periodic additional consulting or advisory services to us from time to time, we (i) pay Dr. Snyderman $60,000 annually and (ii) granted a nonstatutory stock option to Dr. Snyderman to purchase 100,000 shares of common stock, with an exercise price equal to $0.28 per share and vesting over a four year period commencing April 1, 2015, pursuant to the 2004 Plan.

Kirsch

On December 7, 2016, we and Mr. Kirsch entered into a board service agreement whereby, in exchange for Mr. Kirsch acting as a non-employee member of the Board, acting as a non-employee chairman of the Audit Committee and providing periodic additional consulting or advisory services to us from time to time, we (i) pay Mr. Kirsch $35,000 annually for serving on the Board, (ii) pay Mr. Kirsch $15,000 annually for participating as the Chairman of the Audit Committee and (iii) granted a nonstatutory stock option to Mr. Kirsch to purchase 150,000 shares of common stock, with an exercise price equal to $1.21 per share and vesting over a four year period commencing December 7, 2016, pursuant to the 2016 Plan.

2018 Option Grant to Raman Singh

In connection with his appointment to our Board, on March 7, 2018 we granted Mr. Singh an option to purchase 285,000 shares of common stock, or the Singh Option Shares, under our 2016 Plan, with one-third of the Singh Option Shares vesting on March 7, 2019, and the remaining two-thirds of the Singh Option Shares vesting monthly thereafter over a period of two years.

Other 2018 Option Grants

On March 7, 2018, we granted each of Mr. Kirsch and Drs. Rudnick and Snyderman options to purchase 135,000, 930,000 and 460,000 shares of common stock, respectively, under our 2016 Plan, with

one-third of such option shares vesting on March 7, 2019 and the remaining two-thirds of such option shares vesting monthly thereafter over a period of two years.

On the date of execution of the underwriting agreement, we expect to grant, under the 2018 Plan, certain directors an aggregate of shares of common stock issuable upon the exercise of stock options.

Non-Employee Director Compensation Policy

Our Board has adopted a non-employee director compensation policy, effective upon effectiveness of the registration statement of which this prospectus forms a part, that is designed to enable us to attract and retain, on a long-term basis, highly qualified non-employee directors. Under the policy, each director who is not an employee will be paid cash compensation from and after the completion of this offering, as set forth below:

	Member Annual Fee ($)	Chairman Additional Annual Fee ($)
Board of Directors	35,000	25,000
Audit Committee	7,500	15,000
Compensation Committee	5,000	10,000
Nominating and Corporate Governance Committee	3,750	7,500

Additionally, the Chairman of our Research and Development Committee will be paid $32,000 annually in cash compensation and the Vice-Chairman of our Research and Development Committee will be paid $15,000 annually in cash compensation.

EXECUTIVE COMPENSATION

The following section provides compensation information pursuant to the scaled disclosure rules applicable to "emerging growth companies" under the rules of the SEC.

Named Executive Officers

Our named executive officers for the year ended December 31, 2017, which consisted of our principal executive officer and two other most highly compensated executives, were:

- Neal Fowler;
- Timothy Albury; and
- Robert Lippe.

Timothy Albury ceased service as our Chief Financial Officer, and Kevin Gordon began service as our President and Chief Financial Officer, on January 22, 2018.

This discussion may contain forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt following the completion of this offering may differ materially from the currently planned programs summarized in this discussion. See "Cautionary Note Regarding Forward-Looking Statements."

2017 Summary Compensation Table

The following table sets forth certain information with respect to the total compensation paid to the named executive officers for the year ended December 31, 2017:

Name and principal position	Year	Salary ($)	Non-equity incentive plan compensation ($)[1]	All other compensation ($)[2]	Total ($)
Neal Fowler *Chief Executive Officer*	2017	411,769	164,800	10,800	587,369
Timothy Albury *Former Chief Financial Officer*[3]	2017	341,847	109,454	10,800	462,101
Robert Lippe *Chief Operations Officer*	2017	397,048	127,126	10,800	534,974

(1) Represents bonuses earned during the fiscal year covered.

(2) Represents contributions to our 401(k) plan on behalf of each of our named executive officers.

(3) On January 22, 2018, Mr. Albury's title changed from Chief Financial Officer to Senior Vice President, Chief Accounting Officer.

Narrative Disclosure to 2017 Summary Compensation Table

2017 Base Salary

The named executive officers receive a base salary to compensate them for services rendered to our company. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities.

We expect that, following the completion of this offering, base salaries for the named executive officers will be reviewed periodically by the Board and/or the Compensation Committee, with adjustments expected to be made generally in accordance with the applicable employment agreements, as well as financial and other business factors affecting our company, and to maintain a competitive compensation package for our executive officers.

2017 Performance-Based Compensation and Bonuses

Our named executive officers are entitled to annual bonuses calculated as a target percentage of their annual base salary based upon our Compensation Committee's assessment of their performance and our attainment of targeted goals as set by the Compensation Committee in their sole discretion, and communicated to each named executive officer. For 2017, bonuses were based on the Compensation Committee's assessment of each named executive officer's and our performance.

2017 Other Compensation

We contribute to our 401(k) plan on behalf of our named executive officers, but we have no pension benefits, nonqualified defined contribution or other nonqualified deferred compensation plans for our named executive officers.

Fowler and Gordon Employment Agreements

We entered into an amended and restated employment agreement with Mr. Fowler, our Chief Executive Officer, on January 31, 2018, and an employment agreement with Mr. Gordon, our Chief Financial Officer, on January 22, 2018, together, the Executive Employment Agreements, and individually, an Executive Employment Agreement, pursuant to which Mr. Fowler is entitled to receive an annual base salary of $480,000 and an annual target bonus equal to 50% of his annual base salary and Mr. Gordon is entitled to receive an annual base salary of $450,000 and an annual target bonus equal to 40% of his annual base salary. The annual bonus amounts shall be based upon our Board's assessment of Messrs. Fowler and Gordon's respective performances and our attainment of targeted goals as set by the Board in its sole discretion. The Executive Employment Agreements also contain provisions related to a confidentiality, inventions assignment, non-competition and non-solicitation and non-disparagement, pursuant to which each of Messrs. Fowler and Gordon agree to refrain from disclosing our confidential information during or at any time following their employment with us and from competing with us or soliciting our employees or customers during their employment and for 12 months following termination of their employment.

The Executive Employment Agreements provide that, in the event that either Messrs. Fowler's or Gordon's employment is terminated by us without "cause" or by him for "good reason," subject to the execution and effectiveness of a separation agreement and release, he will be entitled to receive (i) an amount equal to (x) 12 months of base salary plus the amount of the bonus he would have earned had he remained employed pro-rated based on the number of days that the he was employed with us during the applicable fiscal year, payable on our normal payroll cycle if such termination is not in connection with a "change in control" or (y) 18 months of base salary plus an amount equal to 1.5 times his target bonus and 100% vesting of the unvested portion of his equity for Mr. Fowler and 12 months of base salary plus an amount equal to his target bonus and 100% vesting of the unvested portion of his equity for Mr. Gordon if such termination is within the 12 month period following a "change in control," and (ii) reimbursement of COBRA premiums for health benefit coverage for him and his immediate family in an amount equal to the monthly employer contribution that we would have made to provide health insurance to Messrs. Fowler or Gordon, as applicable had he remained employed with us for up to 12 months following termination if such termination is not in connection with a "change in control."

Under the Executive Employment Agreements, "cause" means that we have determined, in our sole discretion, that Messrs. Fowler or Gordon has engaged in any of the following: (a) any material breach of the terms of the applicable Executive Employment Agreement, or a willful failure to diligently and properly perform material duties for us; (b) misappropriation or unauthorized use of our tangible or intangible property that causes or is likely to cause material harm to us or our reputation, or material breach of the

confidentiality, inventions and non-competition agreement entered between him and our company or any other similar agreement regarding confidentiality, intellectual property rights, non-competition or non-solicitation; (c) any material failure to comply with our policies or any other policies and/or directives of our Board; (d) use of illegal drugs or any illegal substance, or use of alcohol in any manner that materially interferes with the performance of employment duties; (e) any dishonest or illegal action, or any other action, whether or not dishonest or illegal, which is materially detrimental to our interest and well-being; (f) failure to disclose any material conflict of interest in a transaction being us and any third party which is materially detrimental to our interest and well-being; (g) any adverse action or omission which would be required to be disclosed pursuant to public securities laws or limit our ability, or the ability of any entity affiliated with us, to sell securities under any federal or state law which would disqualify us from any exemption otherwise available to us; or (h) any material violation of our policies prohibiting unlawful harassment, discrimination, retaliation or workplace violence; provided that, before we may terminate Messrs. Fowler or Gordon for cause, if the grounds for such cause are reasonably capable of cure by him, we will provide him with written notice of the grounds of cause and provide him with 10 business days in which to cure such cause.

Under the Executive Employment Agreements, "good reason" means the occurrence of any of the following without the Messrs. Fowler's or Gordon's prior consent, as applicable: (a) a material diminution in the executive's authority, duties or responsibility; (b) a material diminution in the executive's base salary or bonus target; (c) a requirement that the executive report to an employee other than the Board for Mr. Fowler or the Chief Executive Officer for Mr. Gordon; (d) the executive's principal place of employment is relocated by more than 25 miles for Mr. Fowler and 50 miles for Mr. Gordon from our present location in Research Triangle Park, North Carolina; or (e) for Mr. Fowler only, materially breach our obligations under his Executive Employment Agreement. In addition, for any of the above events to constitute good reason, Mr. Fowler or Mr. Gordon, as applicable, must inform us of the existence of the event within 60 days of the initial existence of the event, after which date we shall have no less than 30 days to cure the event which otherwise would constitute good reason, and Mr. Fowler or Mr. Gordon, as applicable, must terminate his employment with us for such good reason no later than 90 days after the initial existence of the event.

Pursuant to his Executive Employment Agreement, on March 7, 2018 Mr. Gordon was granted a stock option award to purchase shares of our common stock equal to 1% (2,146,767 shares) of our capital stock on a fully-diluted basis on the date of grant and a restricted stock unit award equal to approximately 1% (2,146,767 shares) of our capital stock on a fully-diluted basis on the date of grant, or the Sign-On Award. The option and restricted stock unit award vest as to 25% of the shares underlying the option and the award on the first anniversary of Mr. Gordon's start date and, as to the remainder, in 36 equal monthly installments on the first day of each month thereafter, subject to Mr. Gordon's continued employment. Further, on the date of execution of the underwriting agreement Mr. Gordon is also entitled to (i) an additional stock option award under the 2018 Plan to purchase shares of our common stock equal to 1% of our capital stock on a fully-diluted basis on the date of grant (shares assuming we sell shares in this offering) with an exercise price per share equal to the initial public offering price and (ii) a restricted stock unit award equal to 1% of our capital stock on a fully-diluted basis on the date of grant (shares assuming we sell shares in this offering). These additional awards will be on the same terms as the Sign-On Award (except the vesting start date is as of the grant date) and granted upon the earlier of (i) us consummating an initial public offering of our common stock or (b) us entering into an equity financing transaction or a series of such transactions up to an aggregate amount of $20 million (excluding the closing of the Series D transaction), or the Additional Equity Grant. Such Additional Equity Grant shall be granted, if at all, on the date of the execution of the underwriting agreement of the initial public offering or closing date of the equity financing, as applicable.

Lippe Employment Agreement

In connection with this offering, we will enter into a new employment agreement with Mr. Lippe, or the Lippe Employment Agreement, which will take effect as of the effectiveness of the registration statement of

which this prospectus forms a part and which shall supersede Mr. Lippe's employment agreement entered into on April 1, 2017. The Lippe Employment Agreement reflects updated and enhanced severance terms which include certain change in control severance benefits.

Pursuant to the terms of Lippe Employment Agreement, Mr. Lippe shall be entitled to an annual base salary of $409,189, which reflects Mr. Lippe current salary and is eligible to receive a discretionary annual cash bonus of up to 40% of his annualized base salary, which is consistent with his current agreement.

The base salary of Mr. Lippe may be increased from time to time by our Board, and, notwithstanding anything to the contrary, may also be reduced if our Board determines such reduction is necessary and justified by our financial condition and implements an equal percentage reduction in the base salaries of all of our executive officers, provided that such reduction will not be greater than 10% of his base salary.

In accordance with the employment practices in North Carolina, Mr. Lippe will be employed by us on an at-will basis, meaning that either we or such executives may terminate their employment with us at any time without giving advance notice. The Lippe Employment Agreement shall be governed by the laws of North Carolina and the notice periods mentioned above that have been included in the Lippe Employment Agreement may be subject to interpretation in accordance with the laws of North Carolina and the employment practices in North Carolina as well.

In the event we terminate Mr. Lippe's employment with us at any time without "cause" or Mr. Lippe resigns from his employment with us for "good reason", as such terms are defined in the Lippe Employment Agreement, then he will be entitled to receive, subject to his compliance with certain obligations:

(a) an amount equal to his then-current salary for nine months, or the Lippe Severance Period;

(b) a pro-rated bonus for the financial year in which the termination of Mr. Lippe's employment occurred; and

(c) payment of the employer portion of the premiums required to continue his group healthcare coverage under the applicable provisions of the U.S. Consolidated Omnibus Budget Reconciliation Act of 1985, or COBRA, provided that he elects to continue and remains eligible for these benefits, until the earliest of (i) the close of the Lippe Severance Period, (ii) the expiration of his eligibility for the continuation coverage under COBRA or (iii) the date when he becomes eligible for substantially equivalent health insurance coverage in connection with new employment.

In the event Mr. Lippe's employment with us is terminated for cause or due to his death or "disability", as defined in the Lippe Employment Agreement or Mr. Lippe resigns from his employment with us for any reason other than a resignation for good reason, he will not receive any severance compensation or benefits.

Under the Lippe Employment Agreement, "cause" shall mean that we have determined, in our sole discretion, that he has engaged in any of the following: (a) any material breach of the terms of the Lippe Employment Agreement, or a willful failure to diligently and properly perform material duties for us; (b) misappropriation or unauthorized use of our tangible or intangible property that causes or is likely to cause material harm to us or our reputation, or material breach of the confidentiality, inventions and non-competition agreement entered between him and our company or any other similar agreement regarding confidentiality, intellectual property rights, non-competition or non-solicitation; (c) any material failure to comply with our policies or any other policies and/or directives of our Board; (d) use of illegal drugs or any illegal substance, or use of alcohol in any manner that materially interferes with the performance of employment duties; (e) any dishonest or illegal action, or any other action, whether or not dishonest or illegal, which is materially detrimental to our interest and well-being; (f) failure to disclose any material conflict of interest in a transaction being us and any third party which is materially detrimental to our interest and well-being; (g) any adverse action or omission which would be required to be disclosed

pursuant to public securities laws or limit our ability, or the ability of any entity affiliated with us, to sell securities under any federal or state law which would disqualify us from any exemption otherwise available to us; (h) becoming prohibited by law or any order from any regulatory body or governmental body from being an employee or director of any company, firm or entity; provided that, before we may terminate Mr. Lippe for cause, if the grounds for such cause are reasonably capable of cure by him, we will provide him with written notice of the grounds of cause and provide him with 10 business days in which to cure such cause.

Under the Lippe Employment Agreement, "good reason" means the occurrence of any of the following without. Mr. Lippe's prior consent: (a) a material diminution in his authority, duties or responsibility; (b) a material diminution in his base compensation; (c) a requirement that he report to an employee other than the Chief Executive Officer; (d) his principal place of employment is relocated by more than 25 miles from our present location in Research Triangle Park, North Carolina; or (e) we materially breach our obligations under the Lippe Employment Agreement. In addition, for any of the above events to constitute good reason, Mr. Lippe must inform us of the existence of the event within 60 days of the initial existence of the event, after which date we shall have no less than 30 days to cure the event which otherwise would constitute good reason, and Mr. Lippe must terminate his employment with us for such good reason no later than 90 days after the initial existence of the event. Also, any action taken by us to accommodate a disability of Mr. Lippe or pursuant to the U.S. Family and Medical Leave Act of 1993 does not constitute good reason.

In the event we, or any surviving or acquiring corporation, terminate Mr. Lippe's employment without cause or he resigns for good reason within 12 months following the effective date of a "change in control", as defined in the 2018 Plan, then Mr. Lippe will be eligible to receive, subject to his compliance with certain obligations, the same severance benefits on the same conditions as if he had been terminated by us without cause; provided, however, that (a) the Lippe Severance Period shall be increased to 12 months, (b) Mr. Lippe's annual bonus shall instead be paid at the target amount for the Lippe Severance Period, and (c) in the event that Mr. Lippe's outstanding equity as of the closing of the change in control is assumed or continued (in accordance with its terms) by the surviving entity in a change in control, then 100.0% of the unvested portion of such equity shall become vested.

Albury Employment Agreement

In connection with this offering, we will enter into a new employment agreement with Mr. Albury, or the Albury Employment Agreement, which will take effect as of the effectiveness of the registration statement of which this prospectus forms a part and which shall supersede Mr. Albury's amended and restated employment agreement entered into on January 22, 2018. The Albury Employment Agreement reflects updated and enhanced severance terms which include certain change in control severance benefits.

Pursuant to the terms of Albury Employment Agreement, Mr. Albury shall be entitled to an annual base salary of $352,000 and shall be eligible to receive a discretionary annual cash bonus of up to 25% of his annualized base salary, which amounts are consistent with what Mr. Albury is entitled to, and eligible to receive under, his current amended and restated employment agreement.

The base salary of Mr. Albury may be increased from time to time by our Board, and, notwithstanding anything to the contrary, may also be reduced if our Board determines such reduction is necessary and justified by our financial condition and implements an equal percentage reduction in the base salaries of all of our executive officers, provided that such reduction will not be greater than 10% of his base salary.

In accordance with the employment practices in North Carolina, Mr. Albury will be employed by us on an at-will basis, meaning that either we or such executive may terminate his employment with us at any time without giving advance notice. The Albury Employment Agreement is governed by the laws of North Carolina and the notice periods mentioned above that have been included in the Albury Employment Agreement may be subject to interpretation in accordance with the laws of North Carolina and the employment practices in North Carolina as well.

In the event we terminate Mr. Albury's employment with us at any time without "cause" or Mr. Albury terminates his employment with us for "good reason", as such terms are defined in the Albury Employment Agreement, then the relevant executive will be entitled to receive, subject to his compliance with certain obligations:

(a) an amount equal to his then-current salary for six months, or the Albury Severance Period;

(b) a pro-rated bonus for the financial year in which the termination of Mr. Albury's employment occurred; and

(c) payment of the employer portion of the premiums required to continue his group healthcare coverage under the applicable provisions of COBRA, provided that he elects to continue and remains eligible for these benefits, until the earliest of (i) the close of the Albury Severance Period, (ii) the expiration of his eligibility for the continuation coverage under COBRA or (iii) the date when he becomes eligible for substantially equivalent health insurance coverage in connection with new employment.

In the event Mr. Albury's employment with us is terminated for cause or due to his death or "disability", as defined in the Albury Employment Agreement, or Mr. Albury resigns from his employment with us for any reason other than a resignation for good reason, he will not receive any severance compensation or benefits.

Under the Albury Employment Agreement, "cause" means that we have determined, in our sole discretion, that he has engaged in any of the following: (a) any material breach of the terms of the Albury Employment Agreement, or a willful failure to diligently and properly perform material duties for us; (b) misappropriation or unauthorized use of our tangible or intangible property that causes or is likely to cause material harm to us or our reputation, or material breach of the Confidentiality, Inventions and Non-Competition Agreement entered between him and our company or any other similar agreement regarding confidentiality, intellectual property rights, non-competition or non-solicitation; (c) any material failure to comply with our policies or any other policies and/or directives of our Board; (d) use of illegal drugs or any illegal substance, or use of alcohol in any manner that materially interferes with the performance of employment duties; (e) any dishonest or illegal action, or any other action, whether or not dishonest or illegal, which is materially detrimental to our interest and well-being; (f) failure to disclose any material conflict of interest in a transaction being us and any third party which is materially detrimental to our interest and well-being; (g) any adverse action or omission which would be required to be disclosed pursuant to public securities laws or limit our ability, or the ability of any entity affiliated with us, to sell securities under any federal or state law which would disqualify us from any exemption otherwise available to us; (h) becoming prohibited by law or any order from any regulatory body or governmental body from being an employee or director of any company, firm or entity; provided that, before we may terminate Mr. Albury for cause, if the grounds for such cause are reasonably capable of cure by him, we will provide him with written notice of the grounds of cause and provide him with 10 business days in which to cure such cause.

Under the Albury Employment Agreement, "good reason" means the occurrence of any of the following without. Mr. Albury's prior consent: (a) a material diminution in the executive's authority, duties or responsibility; (b) a material diminution in the executive's base compensation; (c) a requirement that the executive report to an employee other than the Chief Financial Officer; (d) the executive's principal place of employment is relocated by more than 50 miles from our present location in Research Triangle Park, North Carolina; or (e) we materially breach our obligations under the Albury Employment Agreement. In addition, for any of the above events to constitute good reason, Mr. Albury must inform us of the existence of the event within 60 days of the initial existence of the event, after which date we shall have no less than 30 days to cure the event which otherwise would constitute good reason, and Mr. Albury must terminate his employment with us for such good reason no later than 90 days after the initial existence of the event. Also, any action taken by us to accommodate a disability of Mr. Albury or pursuant to the U.S. Family and Medical Leave Act of 1993 does not constitute good reason.

In the event we, or any surviving or acquiring corporation, terminate Mr. Albury's employment without cause or he terminates his employment for good reason within 12 months following the effective date of a "change in control", as defined in the 2018 Plan, then Mr. Albury will be eligible to receive, subject to his compliance with certain obligations, the same severance benefits on the same conditions as if he had been terminated by us without cause; provided, however, that (a) the Albury Severance Period shall be increased to nine months, (b) Mr. Albury's annual bonus shall instead be paid at the target amount for the Albury Severance Period, and (c) in the event that Mr. Albury's outstanding equity as of the closing of the change in control is assumed or continued (in accordance with its terms) by the surviving entity in a change in control, then 100% of the unvested portion of such equity shall become vested.

Outstanding Equity Awards at December 31, 2017

The following table sets forth information concerning outstanding equity awards at December 31, 2017 for each of our named executive officers, all of which were granted under the 2004 Plan:

	Option Awards			
Name	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price ($/share)	Option Expiration Date
Neal Fowler	1,000,000	—	0.50	05/13/2018
	1,058,201	—	0.11	11/23/2020
	405,023	—	0.23	11/21/2023
	825,000	495,000[1]	0.28	05/21/2025
Timothy Albury	129,815	—	0.23	11/21/2023
	52,669	—	0.23	11/21/2023
	155,833	174,167[1]	0.28	05/21/2025
Robert Lippe	250,000	296,875[2]	0.28	08/27/2025

(1) 2.084% of the shares underlying the option vest monthly commencing August 1, 2015, becoming fully vested on July 1, 2019.

(2) 25% of the shares underlying the options vested on July 13, 2016, with 2.084% of the shares vesting monthly thereafter, becoming fully vested on July 13, 2019.

2018 Equity Grants

On March 7, 2018, we granted incentive stock options to purchase shares of our common stock under the 2016 Plan, with an exercise price equal to $0.55 per share, to each of the following officers: (i) Neal Fowler, our Chief Executive Officer, for 3,900,000 shares; (ii) Kevin Gordon, our President and Chief Financial Officer, for 2,146,767 shares; (iii) Robert Lippe, our Chief Operations Officer, for 735,000 shares; (iv) Dr. Robert Roscigno, our Senior Vice President, Product Development, for 600,000 shares; (v) Dr. Benjamin Maynor, our Senior Vice President, Research and Development, for 700,000 shares; (vi) Jason Adair, our Vice President, Business Development and Strategy, for 350,000 shares; and (vii) Timothy Albury, our Senior Vice President, Chief Accounting Officer, for 514,000 shares. Such options, with the exception of the options granted to Mr. Albury, vest as to 25% on March 7, 2019, and, as to the remainder, in 36 equal monthly installments on the first day of each month thereafter. The options granted to Mr. Albury vest as to 25% on March 7, 2019, and, as to the remainder, in 12 equal monthly installments on the first day of each month thereafter.

On March 7, 2018, we granted Kevin Gordon a restricted stock unit award of 2,146,767 shares. The restricted stock unit award vests as to 25% of the shares underlying the award on January 22, 2019, and, as to the remainder, in 36 equal monthly installments on the first day of each month thereafter, subject to Mr. Gordon's continued employment.

Equity and Other Incentive Compensation Plans

Employee Bonus Plan

In connection with the offering, we will adopt an employee bonus plan, or the Employee Bonus Plan, under which eligible employees will be entitled to receive an annual cash bonus determined by the achievement of certain company and individual performance indicators that have been approved by our Compensation Committee and our Board for the relevant financial year.

All regular full-time and part-time employees who are employed by us on the date the bonus payout is made are eligible to receive a cash bonus pursuant to and on the terms of our Employee Bonus Plan. Employees who do not work a full financial year may be paid bonuses on a pro rata basis, at the discretion of our management. All bonus eligibility is subject to the determination of our management.

The determination of the bonus payable to any eligible employee is solely and completely within the discretion of our management, and there is no obligation on our management to award any bonus to any employee. Our Compensation Committee will approve the payment of any management-recommended bonus awards.

Severance Plan

On , 2018, we adopted an Executive Severance and Change in Control Plan, or the Severance Plan, under which eligible employees are entitled to receive certain severance benefits, including a lump sum payment, upon the termination of their employment with us, if such termination was (a) initiated by us and not for "cause" or "disability", each as defined under the Severance Plan, or because of death or (b) initiated by the employee for "good reason", as defined under the Severance Plan, or an Involuntary Termination.

Under the Severance Plan, in the event of an Involuntary Termination, we will pay and provide the following to the eligible employee within 60 days following such termination: an amount equal to the employee's annual salary as of the termination date multiplied by the applicable severance multiple, an amount equal to the excess of COBRA coverage over the monthly premium rate for our active employees multiplied by the applicable healthcare assistance multiple within 60 days following such termination, and post-termination nonqualified deferred compensation benefits, equity awards and employee welfare benefits pursuant to the terms of the respective plans and policies under which such benefits are provided, if any. In connection with an Involuntary Termination following a "change in control", as defined under the Severance Plan, we will pay and provide the following to the eligible employee: an amount equal to the sum of the employee's annual salary and target annual incentive (such amounts shall be determined as of the date of termination) multiplied by the applicable severance multiple within 60 days following such termination, an amount equal to the excess of COBRA coverage over the monthly premium rate for our active employees multiplied by the applicable healthcare assistance multiple within 60 days following such termination, and post-termination nonqualified deferred compensation benefits, equity awards and employee welfare benefits pursuant to the terms of the respective plans and policies under which such benefits are provided, if any. As a condition to the receipt of certain of these benefits under the Severance Plan, the employee must execute and not revoke a valid release of claims in the form provided by us.

The severance multiple and healthcare assistance multiple under the Severance Plan is are follows: six months for a termination date prior to or absent a change in control and nine months for a termination date during the two-year period following a change in control.

Generally, employees holding a position of vice president or a more senior position are eligible to be selected by our Compensation Committee to participate in the Severance Plan, except that an individual who is (a) party to an employment agreement with us that provides for payments upon his termination of employment, whether before or after a change in control, or (b) entitled to "deferred compensation" under Section 409A of the Code payable in installments shall not be eligible.

Stock Option Plan (2004)

The 2004 Plan was approved by our Board and our stockholders on November 6, 2004 and November 9, 2004, respectively. The 2004 Plan was most recently amended in June 2015 with the approval of both our Board and our stockholders. Under the 2004 Plan, we have reserved for issuance an aggregate of 9,394,365 shares of our common stock. The number of shares of common stock reserved for issuance is subject to adjustment in the event of any stock dividend, stock split, reverse stock split, combination, reclassification or other similar change in our capital structure.

The shares of common stock underlying awards that expire or are terminated or cancelled without having been fully exercised under the 2004 Plan are added back to the shares of common stock available for issuance under the 2004 Plan.

Our Board has acted as administrator of the 2004 Plan. The administrator has full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, and to determine the specific terms and conditions of each award, subject to the provisions of the 2004 Plan. Persons eligible to participate in the 2004 Plan are our employees, officers, directors, consultants and advisors as selected from time to time by the administrator in its discretion.

The 2004 Plan permits the granting of (1) options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Code, or ISOs, and (2) non-statutory stock options, or NSOs. Subject to certain exceptions set forth therein, the per share option exercise price of each option will be determined by the administrator but may not be less than 100% of the fair market value of the common stock on the date of grant, provided that the per share option exercise price of each option granted to an optionee that owns more than 10% of the common stock may not be less than 110% of the fair market value of the common stock on the date of grant. The term of each option will be fixed by the administrator. The administrator will determine at what time or times each option may be exercised.

The 2004 Plan provides that upon the occurrence of a "Transfer of Control," as defined in the 2004 Plan, except as otherwise provided in a particular option agreement, any unexercisable portion of an outstanding option under the 2004 Plan that would have otherwise become exercisable within 12 months following the effective time of the Transfer of Control shall become immediately exercisable as of a date prior to the Transfer of Control, which date shall be determined by the Board. Upon the occurrence of a Transfer of Control, each outstanding option under the 2004 Plan, to the extent not exercised prior to the Transfer of Control, shall terminate as of the effective time of the Transfer of Control, unless such option is assumed by the successor corporation (or parent thereof) or replaced with a comparable option to purchase shares of the common stock of the successor corporation (or parent thereof).

The Board may amend, suspend or terminate the 2004 Plan or any portion thereof at any time, subject to stockholder approval where such approval is required by applicable law. The Board may also amend, modify or terminate any outstanding option award, provided that no amendment to an award may adversely affect a participant's rights without his or her consent, unless such amendment is required to enable an option designated as an incentive stock option to qualify as an incentive stock option.

All options underlying the 2004 Plan were required to be granted within 10 years from November 6, 2004, the date the 2004 Plan was adopted by the Board. As of April 1, 2018, options to purchase 9,034,615 shares of common stock were outstanding under the 2004 Plan. No future grants will be made under the 2004 Plan.

2016 Equity Incentive Plan

The 2016 Plan was adopted by the Board on May 18, 2016 and our stockholders on August 10, 2016 to succeed the 2004 Plan. The 2016 Plan was most recently amended on February 2, 2018. As a result, all options granted under the 2004 Plan remained subject to the terms of the 2004 Plan, but any shares of common stock that otherwise remained available for future grants under the 2004 Plan as of the effective date of the 2016 Plan ceased to be available under the 2004 Plan at such time.

Under the 2016 Plan, we have reserved for issuance an aggregate of 22,811,308 shares of our common stock. The number of shares of common stock reserved for issuance is subject to adjustment in the event of a capitalization event in which we are not paid any consideration including a merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or any similar equity restructuring transaction, as that term is used in ASC 718.

The shares of common stock underlying awards that expire or are terminated, surrendered or cancelled without having been fully exercised or are forfeited or repurchased or result in shares of common stock not being issued under the 2016 Plan are added back to the shares of common stock available for issuance under the 2016 Plan. In addition, shares of common stock tendered to us by a participant to exercise an award are added back to the shares available for grant under the 2016 Plan.

Our Board has acted as administrator of the 2016 Plan. The administrator has full power to, among other things, select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to accelerate the time at which a stock award may be exercised or vest, to amend the 2016 Plan and to determine the specific terms and conditions of each award, subject to the provisions of the 2016 Plan. Persons eligible to participate in the 2016 Plan are our employees, directors and consultants.

The 2016 Plan permits the granting of (1) options to purchase common stock intended to qualify as ISOs, (2) NSOs, (3) stock appreciation rights, (4) restricted stock awards, (5) restricted stock unit awards and (6) other stock awards. The per share option exercise price of each option will be determined by the administrator but may not be less than 100% of the fair market value of the common stock on the date of grant, provided that the per share option exercise price of each option granted to an optionee that owns more than 10% of the common stock may not be less than 110% of the fair market value of the common stock on the date of grant and such option grant may not be exercisable after the ten year anniversary of the date of grant. The term of each option will be fixed by the administrator. The administrator will determine at what time or times each option may be exercised.

The 2016 Plan provides that upon the occurrence of a "Corporate Transaction," as defined in the 2016 Plan, our Board may take one or more of the following actions as to some or all awards outstanding under the 2016 Plan: (i) provide that outstanding options awards will be assumed or substituted by the acquiring or successor corporation, (ii) arrange for the assignment of any reacquisition or repurchase rights held by us in respect of common stock issued pursuant to the stock award to the surviving corporation or acquiring corporation, (iii) accelerate the vesting, in whole or in part, of the stock award to a date prior to the effective time of such Corporate Transaction, (iv) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us with respect to the stock award, (v) cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for such cash consideration as the Board, in its sole discretion, may consider appropriate, or without the payment of consideration or (vi) make a payment, in such form as may be determined by the Board equal to the excess, if any, of (A) the value of the property the participant would have received upon the exercise of the stock award immediately prior to the effective time of the Corporate Transaction, over (B) any exercise price payable by such holder in connection with such exercise.

The Board may amend, suspend or terminate the 2016 Plan at any time, subject to stockholder approval where such approval is required by applicable law. Board may also amend, modify or terminate any outstanding award, provided that no amendment to an award may adversely affect a participant's rights without his or her consent.

Unless terminated by the Board, the 2016 Plan will terminate automatically on May 17, 2026. No stock awards may be granted under the 2016 Plan while the 2016 Plan is suspended or after it is terminated.

As of April 1, 2018, options to purchase 14,749,384 shares of common stock were outstanding under the 2016 Plan and 2,146,767 restricted stock units were outstanding under the 2016 Plan. Our Board has determined not to make any further awards under the 2016 Plan following the closing of this offering, at which time the 2018 Plan will become effective.

2018 Long-Term Incentive Plan

The Liquidia Technologies, Inc. 2018 Long-Term Incentive Plan, or the 2018 Plan, was approved by our Board on , 2018 and our stockholders on , 2018 and will become effective as of the date of the completion of this offering, or the Effective Date. No "Awards", as defined below, will be made under the 2004 Plan or the 2016 Plan on or after the Effective Date.

The 2018 Plan is designed to:

- promote the long-term financial interests and growth of our company and its subsidiaries by attracting and retaining directors and employees, which include management as well as other personnel;
- motivate management by means of growth-related incentives to achieve long-range goals; and
- further the alignment of the interests of participants and those of our stockholders, through opportunities for increased stock or stock-based ownership in our company.

The 2018 Plan will remain in effect, subject to the right of our Board or our Compensation Committee to amend or terminate the 2018 Plan at any time, until the earlier of (a) the earliest date as of which all Awards granted under the 2018 Plan have been satisfied in full or terminated and no shares of common stock approved for issuance under the 2018 Plan remain available to be granted under new Awards, or (b) . No Awards will be granted under the 2018 Plan after such termination date. Subject to other applicable provisions of the 2018 Plan, all Awards made under the 2018 Plan on or before , or such earlier termination of the 2018 Plan, shall remain in effect until such Awards have been satisfied or terminated in accordance with the 2018 Plan and the terms of such Awards.

Participation in the 2018 Plan

All of our officers, non-employee directors, employees and consultants are eligible to participate in the 2018 Plan.

Participation by Non-Employee Directors

Although our non-employee directors, including our independent directors, are not involved in the day-to-day running of our operations, they play an important role in furthering our business interests by contributing their experience and expertise. In particular, a number of our independent directors have substantial experience and expertise in pharmaceutical research and development and play an important role in helping us shape our business strategy. It is crucial for us to be able to attract, retain and incentivize such individuals.

It may not always be possible to quantify the services and contributions of our non-employee directors to our company, and accordingly, it may not always be possible to compensate them fully or appropriately by increasing their directors' fees or other cash payments. To that end, participation by non-employee directors in the 2018 Plan will allow us to acknowledge and reward their services and contributions to our company. In addition, we believe that opportunities for increased stock or stock-based ownership in our company will further align the interests of our non-employee directors with the interests of our stockholders.

Administration Plan

The 2018 Plan will be administered by the "Administrator", as defined below, provided that no director shall participate in any deliberation or decision in respect of any stock option, stock appreciation right, stock award, stock unit, performance share, performance unit and/or other stock-based award, each, an Award, and collectively, the Awards, to be granted to him or held by him.

For the purposes of the 2018 Plan, "Administrator" means our Compensation Committee, or such other committee(s) of director(s) duly appointed by our Board or our Compensation Committee to administer the 2018 Plan or delegated limited authority to perform administrative actions under the 2018 Plan, and having such powers as shall be specified by our Board or our Compensation Committee, provided, however, that at any time our Board may serve as the Administrator in lieu of or in addition to our Compensation Committee or such other committee(s) of director(s) to whom administrative authority has been delegated. With respect to any Award to which Section 16 of the Exchange Act applies, the Administrator shall consist of either our Board or a committee of our Board, which committee shall consist of three or more directors, each of whom is intended to be, to the extent required by Rule 16b-3 of the Exchange Act, a "non-employee director" as defined in Rule 16b-3 of the Exchange Act and an "independent director" to the extent required by the Nasdaq listing rules. Any member of the Administrator who does not meet the foregoing requirements shall abstain from any decision regarding an Award and shall not be considered a member of the Administrator to the extent required to comply with Rule 16b-3 of the Exchange Act.

As of , 2018, the Administrator is the Compensation Committee.

The Administrator has the authority, in its sole and absolute discretion, to grant Awards under the 2018 Plan to eligible individuals, and to take all other actions necessary or desirable to carry out the purpose and intent of the 2018 Plan. Further, the Administrator has the authority, in its sole and absolute discretion, subject to the terms and conditions of the 2018 Plan, to, among other things:

(a) determine the eligible individuals to whom, and the time or times at which, Awards shall be granted;

(b) determine the type of Awards to be granted to any eligible individual;

(c) determine the number of shares of common stock to be covered by or used for reference purposes for each Award or the value to be transferred pursuant to any Award; and

(d) determine the terms, conditions and restrictions applicable to each Award and any shares of common stock acquired pursuant thereto, including, without limitation, (i) the purchase price of any shares of common stock, (ii) the method of payment for shares of common stock purchased pursuant to any Award, (iii) the method for satisfying any tax withholding obligation arising in connection with any Award, including by the withholding or delivery of shares of common stock, (iv) the timing, terms and conditions of the exercisability, vesting or payout of any Award or any shares of common stock acquired pursuant thereto, (v) the performance goals applicable to any Award and the extent to which such performance goals have been attained, (vi) the time of the expiration of an Award, (vii) the effect of a participant's Termination of Service, as defined in the 2018 Plan, on any of the foregoing and (viii) all other terms, conditions and restrictions applicable to any Award or shares of common stock acquired pursuant thereto as the Administrator considers to be appropriate and not inconsistent with the terms of the 2018 Plan.

Size

A total of shares of our common stock will be initially authorized and reserved for issuance under the 2018 Plan. This reserve will automatically increase on January 1, 2019 and each subsequent anniversary through 2028, by an amount equal to the smaller of (a) 4% of the number of shares of common stock issued and outstanding on the immediately preceding December 31, or (b) an amount determined by the Board. This reserve will not be increased to include any shares issuable upon exercise of options granted under our 2016 Plan that expire or terminate without having been exercised in full.

Appropriate adjustments will be made in the number of authorized shares and other numerical limits in the Equity Plan and in outstanding awards to prevent dilution or enlargement of participants' rights in the event of a stock split or other change in our capital structure. Shares subject to awards which expire or are cancelled or forfeited will again become available for issuance under the Equity Plan.

Subject to adjustment as provided in the provision of the 2018 Plan pertaining to the occurrence of certain corporate transactions, the maximum number of shares of common stock that may be issued pursuant to stock options granted under the 2018 Plan that are intended to qualify as ISOs is .

Maximum Entitlements

The Administrator may establish compensation for directors who are not employees of our company or any of our Affiliates, as defined in the 2018 Plan, or the Non-Employee Directors, from time to time, provided that the sum of any cash compensation and the grant date fair value of Awards granted under the 2018 Plan to a non-employee director as compensation for services as a non-employee director during any calendar year may not exceed $500,000 for an annual grant, provided however that in a non-employee's director first year of service, compensation for services may not exceed $1,000,000. The Administrator may make exceptions to this limit for individual non-employee directors in extraordinary circumstances, as the Administrator may determine in its discretion, provided that the non-employee director receiving such additional compensation may not participate in the decision to award such compensation or in other compensation decisions involving non-employee director.

Awards

Awards may be granted individually or in tandem with other types of Awards, concurrently with or with respect to outstanding Awards. Participants are not required to pay for the application or acceptance of Awards.

Stock Options. The Administrator may, from time to time, grant to eligible individuals Awards of stock options.

Such stock options shall be exercisable at such time or times and subject to such terms and conditions as shall be determined by the Administrator; provided, however, that, Awards of stock options may not have a term in excess of ten years unless otherwise required by applicable law.

The exercise price per share subject to a stock option granted under the 2018 Plan shall not be less than the fair market value of one share on the date of grant of the stock option, except as provided under applicable law or with respect to stock options that are granted in substitution of similar types of awards of a company acquired by our company or with which our company combines (whether in connection with a corporate transaction, such as a merger, combination, consolidation or acquisition of property or stock, or otherwise) to preserve the intrinsic value of such awards.

Except as provided in the applicable award agreement or otherwise determined by the Administrator, to the extent stock options are not vested and exercisable, a participant's stock options shall be forfeited upon his Termination of Service.

Stock Appreciation Rights. The Administrator may, from time to time, grant to eligible individuals Awards of stock appreciation rights. A stock appreciation right entitles the participant to receive, subject to the provisions of the 2018 Plan and the applicable award agreement, a payment having an aggregate value equal to the product of (a) the excess of (i) the fair market value on the exercise date of one share over (ii) the base price per share specified in the award agreement, and (b) the number of shares of common stock specified by the stock appreciation right, or portion thereof, which is exercised. The base price per share specified in the applicable award agreement shall not be less than the lower of the fair market value on the date of grant or the exercise price of any tandem stock option to which the stock appreciation right is related, or with respect to stock appreciation rights that are granted in substitution of similar types of awards of a company acquired by our company or with which our company combines (whether in connection with a corporate transaction, such as a merger, combination, consolidation or acquisition of property or stock, or otherwise) such base price as is necessary to preserve the intrinsic value of such awards.

Stock appreciation rights shall be exercisable at such time or times and subject to such terms and conditions as shall be determined by the Administrator; provided, however, that stock appreciation rights granted under the 2018 Plan may not have a term in excess of ten years unless otherwise required by applicable law.

Except as provided in the applicable award agreement or otherwise determined by the Administrator, to the extent stock appreciation rights are not vested and exercisable, a participant's stock appreciation rights shall be forfeited upon his Termination of Service.

Stock Awards. The Administrator may, from time to time, grant to eligible individuals Awards of unrestricted stock or restricted stock, collectively, Stock Awards. For the purposes of the 2018 Plan, "Restricted Stock" means an Award of shares of common stock that may be subject to certain transferability and other restrictions and to a risk of forfeiture, including by reason of not satisfying certain performance goals.

Restricted Stock shall be subject to such vesting, restrictions on transferability and other restrictions, if any, and risk of forfeiture as the Administrator may impose at the date of grant or thereafter. The period during which such vesting or transferability and other restrictions and/or risk of forfeiture applies, or the Restriction Period, may lapse under such circumstances, including without limitation upon the attainment of performance goals, in such instalments, or otherwise, as the Administrator may determine. Subject to the provisions of the 2018 Plan and the applicable award agreement, during the Restriction Period, the Participant shall not be permitted to sell, assign, transfer, pledge or otherwise encumber Restricted Stock.

Except to the extent restricted under the applicable award agreement, a participant granted Restricted Stock shall have all of the rights of a stockholder including, without limitation, the right to vote. Cash dividends declared payable on of common stock shall be paid, with respect to outstanding Restricted Stock,

either as soon as practicable following the dividend payment date or deferred for payment to such later date as determined by the Administrator, and shall be paid in cash or as unrestricted shares of common stock having a fair market value equal to the amount of such dividends or may be reinvested in additional shares of Restricted Stock as determined by the Administrator; provided, however, that dividends declared payable on Restricted Stock granted as a Performance Award shall be held by our company and made subject to forfeiture at least until achievement of the applicable performance goal relating to such shares of Restricted Stock. Shares of common stock distributed in connection with a stock split or stock dividend, and other property distributed as a dividend, shall be subject to restrictions and a risk of forfeiture to the same extent as the Restricted Stock with respect to which such shares of common stock or other property have been distributed.

Except as provided in the applicable award agreement, upon termination of service during the applicable Restriction Period, Restricted Stock and any accrued but unpaid dividends that are at that time subject to restrictions shall be forfeited; provided that the Administrator may provide, by rule or regulation or in any Award Agreement, or may determine in any individual case, that restrictions or forfeiture conditions relating to Restricted Stock will be waived in whole or in part in the event of terminations resulting from specified causes, and the Administrator may in other cases waive in whole or in part the forfeiture of Restricted Stock.

Stock Units. The Administrator may, from time to time, grant to eligible individuals Awards of unrestricted stock units or Restricted Stock Units. For the purposes of the 2018 Plan, "Restricted Stock Unit" means a right granted to a participant to receive shares of common stock or cash at the end of a specified deferral period, which right may be conditioned on the satisfaction of certain requirements, including the satisfaction of certain performance goals.

Restricted Stock Units shall be subject to such vesting, risk of forfeiture and/or payment provisions as the Administrator may impose at the date of grant. The Restriction Period to which such vesting and/or risk of forfeiture applies may lapse under such circumstances, including without limitation upon the attainment of performance goals, in such instalments, or otherwise, as the Administrator may determine.

Until shares of common stock are issued to the participant in settlement of stock units, the participant shall not have any rights of a stockholder with respect to the stock units or the shares of common stock issuable thereunder. The Administrator may grant the participant the right to dividend equivalents on stock units, on a current, reinvested and/or restricted basis, subject to such terms as the Administrator may determine; provided, however, that dividend equivalents declared payable on stock units granted as a Performance Award shall rather than be paid on a current basis, be accrued and made subject to forfeiture at least until achievement of the applicable performance goal relating to such stock units.

Other Stock-Based Awards. The Administrator may, from time to time, grant to eligible individuals Awards in the form of Other Stock-Based Awards. For the purposes of the 2018 Plan, "Other Stock-Based Award" means an Award of shares of common stock or any other Award that is valued in whole or in part by reference to, or that is otherwise based upon, shares of common stock, including without limitation dividend equivalents and convertible debentures.

Adjustment Events

In the event of a merger, consolidation, rights offering, statutory share exchange or similar event affecting our company, each, a Corporate Event, or a stock dividend, stock split, reverse stock split, separation, spinoff, reorganization, extraordinary dividend of cash or other property, share combination or subdivision or recapitalization or similar event affecting the capital structure of our company, each, a Share Change, that occurs at any time after the Effective Date (including any such Corporate Event or Share Change that occurs after such adoption and coincident with or prior to the Effective Date), the Administrator shall make equitable and appropriate substitutions or proportionate adjustments to (a) the aggregate number and kind of shares of common stock or other securities on which Awards under the 2018 Plan may be granted to

eligible individuals, (b) the maximum number of shares of common stock or other securities with respect to which Awards may be granted during any one calendar year to any individual, (c) the maximum number of shares of common stock or other securities that may be issued with respect to ISOs granted under the 2018 Plan, (d) the number of shares of common stock or other securities covered by each outstanding Award and the exercise price, base price or other price per share, if any, and other relevant terms of each outstanding Award and (e) all other numerical limitations relating to Awards, whether contained in the 2018 Plan or in award agreements; provided, however, that any fractional shares resulting from any such adjustment shall be eliminated and that no such adjustment shall be made if as a result, the participant receives a benefit that a stockholder does not receive and any adjustment (except in relation to a capitalization issue) must be confirmed in writing by the auditors of our company (acting as experts and not as arbitrators) to be, in their opinion, fair and reasonable.

In the case of Corporate Events, the Administrator may make such other adjustments to outstanding Awards as it determines to be appropriate and desirable, which adjustments may include, without limitation, (a) the cancellation of outstanding Awards in exchange for payments of cash, securities or other property or a combination thereof having an aggregate value equal to the value of such Awards, as determined by the Administrator in its sole discretion (it being understood that in the case of a Corporate Event with respect to which stockholders receive consideration other than publicly traded equity securities of the ultimate surviving entity, any such determination by the Administrator that the value of a stock option or stock appreciation right shall for this purpose be deemed to equal the excess, if any, of the value of the consideration being paid for each share of common stock pursuant to such Corporate Event over the exercise price or base price of such stock option or stock appreciation right shall conclusively be deemed valid and that any stock option or stock appreciation right may be cancelled for no consideration upon a Corporate Event if its exercise price or base price equals or exceeds the value of the consideration being paid for each share of common stock pursuant to such Corporate Event), (b) the substitution of securities or other property (including, without limitation, cash or other securities of our company and securities of entities other than our company) for the shares of common stock subject to outstanding Awards and (c) the substitution of equivalent awards, as determined in the sole discretion of the Administrator, of the surviving or successor entity or a parent thereof; provided, however, that no such adjustment shall be made if as a result, the participant receives a benefit that a stockholder does not receive and any adjustment (except in relation to a capitalization issue) must be confirmed in writing by the auditors of our company (acting as experts and not as arbitrators) to be, in their opinion, fair and reasonable.

Change in Control

In the event of a change in control, as defined in the 2018 Plan, of our company, outstanding awards will terminate upon the effective time of the change in control unless provision is made for the continuation, assumption or substitution of awards by the surviving or successor entity or its parent. Unless an award agreement says otherwise, the following will occur with respect to awards that terminate in connection with a change in control of our company:

- stock options and stock appreciation rights will become fully exercisable and holders of these awards will be permitted immediately before the change in control to exercise them;
- restricted stock and stock units with time-based vesting (i.e., not subject to achievement of performance goals) will become fully vested immediately before the change in control, and stock units will be settled as promptly as is practicable in accordance with applicable law; and
- performance shares and units that vest based on the achievement of performance goals will vest as if the performance goal for the unexpired performance period had been achieved at the target level; and the performance units will be settled as promptly as is practicable in accordance with applicable law.

2018 Plan Amendments

Our Board or our Compensation Committee may amend, alter or discontinue the 2018 Plan, but no amendment, alteration or discontinuation shall be made which would materially impair the rights of a

participant with respect to a previously granted Award without such participant's consent, except such an amendment made to comply with applicable law or rule of any securities exchange or market on which our shares of common stock are listed or admitted for trading or to prevent adverse tax or accounting consequences to our company or the participant.

Our Board or our Compensation Committee may, at any time, modify and/or alter any or all of the provisions of the 2018 Plan, except that no modification or alternation of any provision shall be made to the advantage of participants except with the prior approval of stockholders a stockholders' meeting to the extent such amendment requires stockholders' approval under the applicable provisions of the applicable listing exchange rule, including but not limited to (a) expanding the eligibility for participation in the 2018 Plan, (b) increasing the number of shares of common stock which may be issued under the 2018 Plan or to a participant, (c) eliminating or modifying the prohibition set forth in Section 7(f) of the 2018 Plan on repricing of stock options and stock appreciation rights, (d) lengthening the maximum term or lowering the minimum exercise price or base price permitted for stock options and stock appreciation rights, (e) modifying the prohibition on the issuance of reload or replenishment options or (f) materially increasing the benefits accruing to participants under the 2018 Plan.

Amendment of Awards

The Administrator may unilaterally amend the terms of any Award theretofore granted, but no such amendment shall materially impair the rights of any participant with respect to an Award without the participant's consent, except such an amendment made to cause the 2018 Plan or Awards thereunder to comply with applicable law, applicable rule of any securities exchange on which our shares of common stock are listed or admitted for trading, or to prevent adverse tax or accounting consequences for the participant or our company or any of our affiliates. For purposes of the foregoing sentence, an amendment to an Award that results in a change in the tax consequences of the Award to the participant shall not be considered to be a material impairment of the rights of the participant and shall not require the participant's consent.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a description of transactions since January 1, 2015, to which we have been a party, in which the amount involved exceeds or will exceed $120,000 and in which any of our directors, executive officers or holders of more than 5% of our capital stock, or an affiliate or immediate family member thereof, had or will have a direct or indirect material interest.

Series D Preferred Stock Financing

On February 2, 2018, pursuant to a Series D Preferred Stock Purchase Agreement, we issued and sold, at a price per share equal to $0.59808, shares of our Series D preferred stock to Canaan VIII L.P., or Canaan, Morningside Venture Investments Limited, or Morningside, New Enterprise Associates, or NEA, Xeraya LT Ltd, or Xeraya, and Robert Lippe, our Chief Operations Officer. The following table sets forth the aggregate number of shares of Series D preferred stock issued to our related parties in this offering:

		Aggregate Purchase Price	
Participants	Shares of Series D Preferred Stock	Cash ($)	Conversion of Promissory Note ($)
Canaan[1]	15,887,155	7,500,000	2,001,790
Morningside[2]	1,849,490	—	1,106,143
NEA[3]	16,502,833	7,500,000	2,370,015
Xeraya[4]	17,445,780	—	10,433,973
Robert Lippe	91,814	—	54,912

(1) Dr. Bloch, a member of our Board, is a General Partner at Canaan, which is a beneficial holder of more than 5% of our capital stock.

(2) Dr. Cheng, a member of our Board, is an Investment Partner at Morningside Technology Advisory, LLC, an affiliate of Morningside, which is a beneficial holder of more than 5% of our capital stock.

(3) Mr. Mathers, a member of our Board, is a partner at New Enterprise Associates, Inc., an affiliate of NEA, which is a beneficial holder of more than 5% of our capital stock.

(4) Mr. Rushton, a member of our Board, is a partner at Xeraya Capital Labuan Ltd., an affiliate of Xeraya, which is a beneficial holder of more than 5% of our capital stock.

Issuance of Unsecured Subordinated Convertible Promissory Notes and Warrants

On January 9, 2017, pursuant to a Note Purchase Agreement, as amended, we issued unsecured subordinated convertible promissory notes, or the Insider Notes, each accruing simple interest at a rate of 8% per year, to Canaan, Morningside, NEA and Robert Lippe in the principal amounts set forth in the following table:

Participants	Principal Amounts of Subordinated Convertible Promissory Notes ($)	Warrants to Purchase Shares of Common Stock[1]
Canaan	1,845,271	687,497
Morningside	1,019,654	379,894
NEA	2,184,704	813,960
Robert Lippe	50,927	18,973

(1) Represents the number of shares of common stock underlying warrants which will be exercisable following the automatic conversion of all outstanding shares of preferred stock, including the Series D preferred stock issued in February 2018, into common stock upon completion of this offering. The exercise price per share underlying the warrants is $0.001.

On July 17, 2017, pursuant to an additional Note Purchase Agreement, or the Xeraya NPA, we issued an unsecured subordinated convertible promissory note to Xeraya in the principal amount of $10 million, or the Xeraya Note, accruing simple interest at a rate of 8% per year. In connection with such agreement, we appointed Jason Rushton, a partner at Xeraya Capital Labuan Ltd, an affiliate of Xeraya, to our Board, effective July 17, 2017.

On February 2, 2018, each of the Insider Notes and the Xeraya Note converted into shares of our Series D preferred stock pursuant to the Series D Preferred Stock Purchase Agreement at the rate of one share for each $0.59808 in principal and accrued interest outstanding under the notes.

Certain Transactions Involving Envisia Therapeutics Inc.

In 2013, we formed Envisia and granted it an exclusive, worldwide, fully paid license to develop therapies using our PRINT technology in specified fields, including ophthalmology, dermatology, articular and otic, or the Envisia License, in exchange for an aggregate of 1,000,000 shares of Envisia common stock. Certain of our significant stockholders purchased shares of Envisia Series A-1 preferred stock in 2013 in a transaction contingent upon the execution of the Envisia License. Each share of preferred stock was initially convertible into one share of common stock. The following table summarizes the ownership of Envisia common and

preferred stock following this transaction, including the relative percentage ownership of the stock on an as-converted basis:

Name	Shares of Common Stock	Shares of Series A Preferred Stock	Aggregate Purchase Price ($)	Ownership Percentage (%)
Liquidia	1,000,000	—	—(1)	11.6
Canaan	—	2,360,739	9,584,600	27.4
Morningside	—	450,936	1,830,800	5.2
NEA	—	2,360,739	9,584,600	27.4
Other stockholders(2)	—	983,484	3,992,968	28.4

(1) We received an aggregate of 1,000,000 shares of Envisia common stock as consideration for the Envisia License.

(2) Consists of Envisia stockholders who were not our related parties.

We understand that Canaan, Morningside and NEA participated in subsequent equity financings with Envisia.

In May 2015, we repurchased the Envisia License with respect to the dermatology and articular fields in exchange for 50,000 shares of the Envisia common stock we held. In March 2017, we repurchased the Envisia License with respect to the otic field, along with other intellectual property rights, in exchange for 75,000 shares of the Envisia common stock we held.

From November 2013 to June 2016, we funded expenses of Envisia related to its facilities, intellectual property and manufacturing under a shared services agreement, totaling $873,474, $614,893 and $0 for the years ended December 31, 2015, 2016 and 2017, respectively. We also provided management services worth $1.5 million to Envisia during the year ended December 31, 2015. In May 2016, we converted Envisia's unpaid expenses under the shared services agreement into a promissory note in the principal amount of $985,594, which carried interest at an annual rate of 5.0% and had a stated maturity date of December 31, 2016. Envisia repaid the promissory note in full in August 2016. In October 2017, we entered into a mutual release agreement with Envisia related to intellectual property services under our shared services agreement, pursuant to which we waived $121,473 in fees owed by Envisia.

In October 2017, Aerie purchased substantially all of the assets of Envisia for $24.8 million, comprised of $10.5 million in cash and 263,146 shares of Aerie common stock valued at $14.3 million. In addition, Aerie agreed to make potential milestone payments to Envisia of up to an aggregate of $45.0 million, contingent upon achievement of certain product regulatory approvals. To the extent funds are to be distributed by Envisia, such distributions will be first allocated to the Envisia preferred stockholders in light of their liquidation preferences. After such liquidation preferences are satisfied, we do not currently expect that we will receive any portion of the proceeds of this transaction as a holder of Envisia common stock. We are not aware of any plans for distributions to Envisia's stockholders.

Investor Rights Agreement

We have entered into the Seventh Amended and Restated Investors' Rights Agreement, or the IRA, dated as of February 2, 2018. The IRA contains information rights and registration rights, among other things, for certain holders of our capital stock. Pursuant to the terms of the agreement, each of these rights, with the exception of the registration rights, will terminate upon the closing of this offering, except for the registration rights as more fully described below in "Description of Capital Stock — Registration Rights."

Indemnification Agreements and Directors' and Officers' Liability Insurance

We have entered into indemnification agreements with each of our directors and executive officers. These agreements, among other things, require us to indemnify each director and executive officer to the fullest extent permitted by Delaware law, including indemnification of expenses such as attorneys' fees, judgments, penalties fines and settlement amounts incurred by the director or executive officer in any action or proceeding, including any action or proceeding by or in right of us, arising out of the person's services as a director or executive officer.

Policies and Procedures for Related Party Transactions

Our Board has adopted a written related person transaction policy, to be effective upon the consummation of this offering, setting forth the policies and procedures for the review and approval or ratification of related person transactions. This policy will cover, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act, any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships in which we were or are to be a participant, where the amount involved exceeds $120,000 and a related person had or will have a direct or indirect material interest, including, without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness and employment by us of a related person. In reviewing and approving any such transactions, our Audit Committee, but only those independent directors who are disinterested, will be tasked to consider all relevant facts and circumstances, including, but not limited to, whether the transaction is on terms comparable to those that could be obtained in an arm's length transaction with an unrelated third party and the extent of the related person's interest in the transaction. All of the transactions described in this section occurred prior to the adoption of this policy.

PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our common stock as of April 1, 2018, and as adjusted to reflect the sale of our common stock offered by us in this offering, for:

- each of our named executive officers;
- each of our directors;
- all of our current directors and executive officers as a group; and
- each person, or group of affiliated persons, known by us to be the beneficial owner of more than 5% of our outstanding shares of common stock.

We have determined beneficial ownership in accordance with the rules of the SEC, which generally means that a person has beneficial ownership of a security if he or she possesses sole or shared voting or investment power of that security, including options or warrants that are currently exercisable or exercisable within 60 days of April 1, 2018. In computing the number of shares beneficially owned by an individual or entity and the percentage ownership of that person, shares of common stock subject to options, convertible securities or other rights, held by such person that are currently exercisable or will become exercisable within 60 days of April 1, 2018, are considered outstanding. We did not, however, deem such shares outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, to our knowledge, the persons and entities named in the table below have sole voting and sole investment power with respect to all shares that they beneficially own, subject to community property laws where applicable. The information in the table below does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Sections 13(d) and 13(g) of the Securities Act.

We have based our calculation of the percentage of beneficial ownership prior to this offering on 177,855,306 shares of common stock outstanding as of April 1, 2018, after giving effect to the automatic conversion of all of our outstanding preferred stock, including the Series D preferred stock issued in February 2018, and non-voting common stock into common stock upon the closing of this offering.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Liquidia Technologies, Inc., 419 Davis Drive, Suite 100, Morrisville, North Carolina 27560.

Name of Beneficial Owner	Number of Shares Beneficially Owned Prior to Offering	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering[1]
5% Stockholders:			
New Enterprise Associates 12, Limited Partnership[2]	33,469,253	18.7%	%
Canaan VIII L.P.[3]	31,583,070	17.7%	%
Xeraya LT Ltd[4]	17,445,780	9.8%	%
Bill & Melinda Gates Foundation[5]	13,412,616	7.5%	%
Morningside Venture Investments Limited[6]	9,680,849	5.4%	%
Named Executive Officers and Directors:			
Neal Fowler[7]	3,925,724	2.2%	%
Timothy Albury[8]	868,284	*	*
Robert Lippe[9]	657,662	*	*
Seth Rudnick[10]	810,995	*	*
Stephen Bloch	—	—	—
Edward Mathers	—	—	—
Isaac Cheng	—	—	—
Ralph Snyderman[11]	483,773	*	*
Arthur Kirsch[12]	56,250	*	*
Jason Rushton	—	—	—
Raman Singh	—	—	—
All current executive officers and directors as a group (14 persons)[13]	7,749,117	4.2%	%

* Represents ownership of less than 1.0%.

(1) Assumes no exercise of the underwriters' option to purchase additional shares of common stock.

(2) Consists of (i) 187,121 shares of common stock, (ii) 32,468,172 shares of common stock issuable upon the automatic conversion of outstanding shares of preferred stock held by NEA and NEA Ventures 2006 Limited Partnership, or NEA 2006, an affiliate of NEA, and (iii) 813,960 shares of common stock issuable upon the conversion of an outstanding warrant. The securities held by NEA are indirectly held by (x) NEA Partners 12, Limited Partnership, or NEA Partners 12, the sole general partner of NEA, (y) NEA 12 GP, LLC, or NEA 12 LLC, the sole general partners of NEA Partners 12, and each of the individual managers of NEA 12 LLC. The individual managers of NEA 12 LLC, or the NEA 12 Managers, are M. James Barrett, Peter J. Barris, Forest Baskett, Patrick J. Kerins and Scott D. Sandell. The shares directly held by NEA 2006 are indirectly held by Karen P. Welsh, the general partner of NEA 2006. NEA, NEA Partners 12, NEA 12 LLC and the NEA 12 Managers share voting and dispositive power with regard to our securities directly held by NEA. Karen P. Welsh, the general partner of NEA 2006, has voting and dispositive power with regard to our securities directly held by NEA 2006. All indirect holders of the above referenced securities disclaim beneficial ownership of all applicable securities, except to the extent of their actual pecuniary interest therein. The address of NEA is 1954 Greenspring Drive, Suite 600, Timonium, MD 21093.

(3) Consists of (i) 45,419 shares of common stock, (ii) 30,850,154 shares of common stock issuable upon the automatic conversion of outstanding shares of preferred stock and (iii) 687,497 shares of common stock issuable upon the conversion of an outstanding warrant. Canaan Partners VIII LLC is the general partner of Canaan VIII L.P. and has sole investment and voting power over the shares held by Canaan VIII L.P. Brenton K. Ahrens, John V. Balen, Stephen M. Bloch, Wende S. Hutton, Maha S. Ibrahim, Deepak Kamra, Guy M. Russo and Eric A. Young are the managing members of Canaan Partners VIII LLC. No one individual controls Canaan Partners VIII LLC and, therefore, none of the managing members of Canaan Partners VIII LLC individually has investment or voting power with respect to the shares held by Canaan VIII L.P. Investment and voting decisions with respect to the shares held by Canaan VIII L.P. are made by the managing members of Canaan Partners VIII LLC, collectively. Dr. Bloch, a member of our Board, is a managing member of Canaan Partners VIII LLC.

Neither Dr. Bloch nor the other members or managers of Canaan Partners VIII LLC are deemed to indirectly beneficially own the shares beneficially owned by Canaan. The address of Canaan is 285 Riverside Avenue, Suite 250, Westport, CT 06880.

(4) Consists of 17,445,780 shares of common stock issuable upon the automatic conversion of outstanding shares of Series D preferred stock. All shares are held by Xeraya. Fares Zahir, a director of Xeraya, has sole voting and dispositive power with respect to the shares held by Xeraya. Mr. Zahir disclaims beneficial ownership of the shares held by Xeraya, except to the extent of his pecuniary interest therein, if any. The principal address of Xeraya is Lot 26.03-26.08, Level 26, GTower, No. 199, Jalan Tun Razak, 50400, Kuala Lumpur, Malaysia.

(5) Consists of 13,412,616 shares of common stock issuable upon the automatic conversion of outstanding shares of Series C-1 preferred stock. For purposes of Rule 13d-3 under the Exchange Act, all shares beneficially owned by the Bill & Melinda Gates Foundation may be deemed to be beneficially owned by William H. Gates III and Melinda French Gates as Co-Trustees of the Bill & Melinda Gates Foundation. The principal address of the Bill & Melinda Gates Foundation is 1432 Elliot Avenue West, Seattle, WA 98119.

(6) Consists of (i) 9,300,955 shares of common stock issuable upon the automatic conversion of outstanding shares of preferred stock, and (ii) 379,894 shares of common stock issuable upon the conversion of an outstanding warrant. All shares are held by Morningside. Raymond Tang, Louise Garbarino, Peter Stuart Allenby Edwards and Jill Franklin are directors of Morningside, and may be deemed to have joint voting and dispositive power with respect to the shares held by Morningside. Each of Mr. Tang, Ms. Garbarino, Mr. Edwards and Ms. Franklin disclaim beneficial ownership of the shares held by Morningside, except to the extent of his or her pecuniary interest therein, if any. The address of Morningside is 2nd Floor, Le Prince de Galles, 3-5 Avenue des Citronniers, MC 98000, Monaco.

(7) Consists of (i) 500,000 shares of common stock and (ii) 3,425,724 shares of common stock underlying outstanding options which will have vested within 60 days of April 1, 2018.

(8) Consists of (i) 474,967 shares of common stock and (ii) 393,317 shares of common stock underlying outstanding options which will have vested within 60 days of April 1, 2018.

(9) Consists of (i) 203,125 shares of common stock, (ii) 343,705 shares of common stock underlying an outstanding option which will have vested within 60 days of April 1, 2018, (iii) 18,973 shares of common stock issuable upon the conversion of an outstanding warrant and (iv) 91,814 shares of common stock issuable upon the conversion of outstanding shares of Series D preferred stock.

(10) Consists of (i) an aggregate of 406,250 shares of common stock held by Dr. Rudnick and the Carolyn F. Rudnick, and successors, Trustee Seth A. Rudnick Irrevocable GST Trust u/a 3/1/2014 which is managed by Dr. Rudnick's wife for the benefit of his wife and children, and (ii) 404,745 shares of common stock underlying outstanding options which will have vested within 60 days of April 1, 2018.

(11) Consists of (i) 418,362 shares of common stock and (ii) 65,411 shares of common stock underlying outstanding options which will have vested within 60 days of April 1, 2018.

(12) Consists of 56,250 shares of common stock underlying an outstanding option which will have vested within 60 days of April 1, 2018.

(13) Consists of an aggregate of (i) 2,062,704 shares of common stock, (ii) 5,565,452 shares of common stock underlying outstanding options which will have vested within 60 days of April 1, 2018, (iii) 18,973 shares of common stock issuable upon the conversion of an outstanding warrant, (iv) 10,174 shares of common stock issuable upon the conversion of outstanding shares of non-voting common stock, and (v) 91,814 shares of common stock issuable upon the conversion of outstanding shares of Series D preferred stock, held by eight executive officers and directors.

DESCRIPTION OF CAPITAL STOCK

The following description summarizes important terms of our capital stock. For a complete description, you should refer to our amended and restated certificate of incorporation and amended and restated bylaws, forms of which have been filed as exhibits to the registration statement of which this prospectus is a part, as well as the relevant portions of the Delaware General Corporation Law, or the DGCL. References to our amended and restated certificate of incorporation and amended and restated bylaws are to our amended and restated certificate of incorporation and our amended and restated bylaws, respectively, each of which will become effective upon completion of this offering.

General

The following is a summary of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to the closing of this offering. This summary does not purport to be complete and is qualified in its entirety by the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, copies of which have been filed as exhibits to the registration statement of which this prospectus forms a part.

Following the closing of this offering, our authorized capital stock will consist of shares of common stock and shares of preferred stock.

Common Stock

As of April 1, 2018, there were 10,122,219 shares of Class A voting common stock outstanding held of record by 82 stockholders; 330,664 shares of Class B non-voting common stock outstanding held of record by nine stockholders; 1,974,430 shares of Series A preferred stock outstanding held of record by 11 stockholders; 1,834,862 shares of Series A-1 preferred stock outstanding held of record by nine stockholders; 4,496,908 shares of Series B preferred stock outstanding held of record by six stockholders; 17,102,578 shares of Series C preferred stock outstanding held of record by ten stockholders, 17,556,178 shares of Series C-1 preferred stock outstanding held of record by three stockholders and 91,147,482 shares of Series D preferred stock outstanding held of record by 31 stockholders. There will be shares of a single class of voting common stock outstanding following the closing of this offering, assuming no exercise of the underwriters' option to purchase additional shares and assuming no exercise of outstanding options and warrants and no delivery of any shares of common stock underlying outstanding restricted stock units. Such number of outstanding shares of common stock also reflects the conversion of all outstanding shares of preferred stock and Class B non-voting common stock into an aggregate of shares of common stock upon the consummation of this offering.

The holders of common stock will be entitled to one vote per share on all matters to be voted upon by the stockholders. The holders of common stock will be entitled to receive ratably those dividends, if any, that may be declared from time to time by our Board out of funds legally available, subject to preferences that may be applicable to preferred stock, if any, then outstanding. In the event of a liquidation, dissolution or winding up of our company, the holders of common stock will be entitled to share ratably in all assets remaining after payment of liabilities, subject to prior distribution rights of preferred stock, if any, then outstanding. The common stock will have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are fully paid and non-assessable.

Preferred Stock

Upon the closing of this offering, all outstanding shares of our preferred stock will be converted into an aggregate of shares of our common stock in accordance with our amended and restated certificate of incorporation. After the closing of this offering, there will be no outstanding shares of preferred stock.

Following this conversion and the closing of this offering, our Board will be authorized to issue preferred stock in one or more series, to establish the number of shares to be included in each such series and to fix the designation, powers, preferences and rights of these shares and any qualifications, limitations or restrictions thereof. The issuance of preferred stock may have the effect of delaying, deferring or preventing a change in control of our company without further action by the stockholders and may adversely affect the voting and other rights of the holders of common stock. The issuance of preferred stock with voting and conversion rights may adversely affect the voting power of the holders of common stock, including the loss of voting control to others. At present, we have no plans to issue any of the preferred stock.

Warrants

As of April 1, 2018, we had outstanding warrants to purchase an aggregate of 3,698,128 shares of our Series C-1 preferred stock at an exercise price of $0.001 per share. These warrants will continue to be exercisable for an aggregate of 4,394,914 shares of common stock following the closing of this offering (after the automatic conversion of all outstanding shares of our preferred stock into shares of common stock upon the closing of this offering), at an exercise price of $0.001 per share and expire on December 31, 2026.

Registration Rights

We entered into a Seventh Amended and Restated Investor Rights Agreement, or IRA, on February 2, 2018 with our largest stockholders. Subject to the terms of this agreement, Holders, as defined in the Seventh Amended and Restated IRA, of shares having registration rights, or Registrable Securities, as defined in the Seventh Amended and Restated IRA, can demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing, until the earliest to occur of: (i) five years following the consummation of this offering, (ii) as to any Holder, such earlier time after this offering at which such Holder can sell all Registrable Securities held by such Holder (together with any affiliate of the Holder with whom such Holder must aggregate its sales under Rule 144) in a single three (3)-month period without registration in compliance with Rule 144 of the Securities Act or (iii) after the consummation of a "Liquidation Event," as defined in the Seventh Amended and Restated IRA.

Demand Registration Rights. At any time after six months following the closing of this offering, subject to certain exceptions set forth in the Seventh Amended and Restated IRA, if the Holders of at least a majority of the common stock issuable or issued upon conversion of the Series C, Series C-1 and Series D preferred stock, or the Required Holders, demand that we file a registration statement covering the registration of Registrable Securities with an anticipated aggregate offering price of at least $10 million, we are required to use all commercially reasonable efforts to effect, as soon as practicable, the registration under the Securities Act of all Registrable Securities requested to be registered.

Form S-3 Registration Rights. If we receive from the Holders of Registrable Securities a written request that we effect a registration on Form S-3, we are required to provide written notice of the proposed registration to all other Holders and use all commercially reasonable efforts to effect the registration of such shares on Form S-3; provided, however, that such Form S-3 registration right is subject to a number of exceptions, such as us being eligible to use Form S-3 at the time such Form S-3 registration request is made, the proposed sale of Registrable Securities to be registered on Form S-3 having an aggregate price to the public (net of any underwriters' discounts or commissions) of at least $5 million and us not being required to file more than two registration statements on Form S-3 in a 12-month period. Furthermore, we have the ability to delay the filing of a registration statement under specified conditions, such as for a

period of time following the effective date of a prior registration statement, if our Board deems it detrimental to us and our stockholders to delay the filing. Such postponements cannot exceed 90 days during any 12-month period and cannot be made more than once in any 12-month period.

Piggyback Registration Rights. If we propose to register any of our securities under the Securities Act in connection with the public offering of such securities, we are required to, at such time, promptly give each Holder party to the Seventh Amended and Restated IRA written notice of such registration. Upon the written request of each such Holder given within 20 days after receipt of our registration notice, we are required to use all commercially reasonable efforts to cause to be registered under the Securities Act all of the Registrable Securities that each holder requests to be registered. In connection with any such offering, we are not required to include any of the Holders' securities in such underwriting unless they accept the terms of the underwriting as agreed between us and the underwriters selected by us and enter into an underwriting agreement in customary form with such underwriters, and then only in such quantity as the underwriters determine in their sole discretion will not jeopardize the success of the offering by us. If marketing factors require a limitation of the number of shares to be underwritten, then the number of shares that may be included in the underwriting will be allocated, first, to us; second, to the Holders other than the Common Holders on a pro rata basis based on the total number of Registrable Securities held by such Holders; third, to the Common Holders on a pro rata basis based on the total number of Registrable Securities held by the Common Holders; and fourth, to any stockholder other than a Holder and/or Common Holder on a pro rata basis.

Expenses of Registration. We will pay all expenses, other than underwriting discounts and commissions, related to any demand, Form S-3 or piggyback registration, including without limitation all registration, filing and qualification fees, printers' and accounting fees, fees and disbursements of counsel for us and the reasonable fees and disbursements of one counsel for the selling Holders, not to exceed $50,000.

Indemnification. The Seventh Amended and Restated IRA contains customary cross-indemnification provisions under which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions or other "Violation," as defined in the Seventh Amended and Restated IRA, in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions or other Violation attributable to them.

Termination of Registration Rights. All registration rights granted under the IRA will terminate on the fifth anniversary of the completion of this offering.

Anti-Takeover Effects of Our Charter and Bylaws and Delaware Law

Some provisions of Delaware law and our amended and restated certificate of incorporation and amended and restated bylaws, to be effective following the closing of this offering, could make the following transactions more difficult:

- § acquisition of our company by means of a tender offer, a proxy contest or otherwise; and
- § removal of our incumbent officers and directors.

These provisions, summarized below, are expected to discourage and prevent coercive takeover practices and inadequate takeover bids. These provisions are designed to encourage persons seeking to acquire control of our company to negotiate first with our board. They are also intended to provide our management with the flexibility to enhance the likelihood of continuity and stability if our board determines that a takeover is not in the best interests of our stockholders. These provisions, however, could have the effect of discouraging attempts to acquire us, which could deprive our stockholders of opportunities to sell their shares of common stock at prices higher than prevailing market prices. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of

discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Election and Removal of Directors

Our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that establish specific procedures for appointing and removing members of our board. Under our amended and restated certificate of incorporation and amended and restated bylaws, to be effective following the closing of this offering, our board will consist of three classes of directors: Class I, Class II and Class III. A nominee for director shall be elected to our board if the votes cast for such nominee's election exceed the votes cast against such nominee's election. Each director will serve a three-year term and will stand for election upon the third anniversary of the annual meeting at which such director was elected. In addition, our amended and restated certificate of incorporation and amended and restated bylaws will provide that vacancies and newly created directorships on our board may be filled only by a majority of the directors then serving on our board. Under our amended and restated certificate of incorporation, directors may be removed by the stockholders only by the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of our capital stock entitled to vote generally in the election of directors, voting together as a single class.

Authorized but Unissued Shares. The authorized but unissued shares of our common stock and our preferred stock will be available for future issuance without any further vote or action by our stockholders. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued shares of our common stock and our preferred stock could render more difficult or discourage an attempt to obtain control over us by means of a proxy contest, changes in our management, tender offer, merger or otherwise. In particular, the authorization of undesignated preferred stock makes it possible for our board to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of our company.

Stockholder Action; Advance Notification of Stockholder Nominations and Proposals. Our amended and restated certificate of incorporation and amended and restated bylaws will require that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and will eliminate the right of stockholders to act by written consent without a meeting. In addition, our amended and restated bylaws will provide that candidates for director may be nominated and other business brought before an annual meeting only by the board or by a stockholder who gives written notice to us no later than 90 days prior to nor earlier than 120 days prior to the first anniversary of the last annual meeting of stockholders. These provisions may have the effect of deterring unsolicited offers to acquire our company or delaying changes in our management, which could depress the market price of our common stock.

Special Stockholder Meetings. Under our amended and restated certificate of incorporation and amended and restated bylaws, only the board, the Chairman of our board or our Chief Executive Officer may call special meetings of stockholders.

Delaware Anti-Takeover Law. After this offering, we will be subject to Section 203 of the DGCL, which is an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date that the person became an interested stockholder, unless the business combination or the transaction in which the person became an interested stockholder is approved in a prescribed manner. Generally, a business combination includes a merger, asset or stock sale, or another transaction resulting in a financial benefit to the interested stockholder. Generally, an interested stockholder is a person who, together with affiliates and associates, owns 15% or more of the corporation's voting stock. The existence of this provision may have an anti-takeover effect with respect to transactions that are not approved in advance by our board, including

discouraging attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

No Cumulative Voting. Under Delaware law, cumulative voting for the election of directors is not permitted unless a corporation's certificate of incorporation authorizes cumulative voting. Our amended and restated certificate of incorporation does not provide for cumulative voting in the election of directors. Cumulative voting allows a minority stockholder to vote a portion or all of its shares for one or more candidates for seats on our board. Without cumulative voting, a minority stockholder will not be able to gain as many seats on our board based on the number of shares of our stock the stockholder holds as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to gain a seat on our board to influence its decision regarding a takeover.

Amendment of Charter Provisions. The amendment of certain of the above provisions in our amended and restated certificate of incorporation and our amended and restated bylaws requires approval by holders of at least a majority of our outstanding capital stock entitled to vote generally in the election of directors.

These and other provisions could have the effect of discouraging others from attempting hostile takeovers, and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests.

Limitation of Liability and Indemnification

Our amended and restated certificate of incorporation provides that no director will be personally liable for monetary damages for breach of any fiduciary duty as a director, except with respect to liability:

- 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;
- under Section 174 of the DGCL (governing distributions to stockholders); or
- for any transaction from which the director derived any improper personal benefit.

If the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of our directors will be eliminated or limited to the fullest extent permitted by the DGCL, as so amended. The modification or repeal of this provision of our amended and restated certificate of incorporation will not adversely affect any right or protection of a director existing at the time of such modification or repeal.

Our amended and restated bylaws will also provide that we will, to the fullest extent permitted by law, indemnify our directors and officers against all liabilities and expenses in any suit or proceeding or arising out of their status as an officer or director or their activities in these capacities. We will also indemnify any person who, at our request, is or was serving as a director, officer, employee, agent or trustee of another corporation or of a partnership, limited liability company, joint venture, trust or other enterprise. We may, by action of our board, provide indemnification to our employees and agents within the same scope and effect as the foregoing indemnification of directors and officers.

Exclusive Forum

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware will, to the fullest extent permitted by law, be the sole and exclusive forum for any (1) derivative action or proceeding brought on behalf of our company, (2) action asserting a claim of breach of a fiduciary duty owed by any director or officer of our company to our company or our company's stockholders, (3) action asserting a claim against our company arising pursuant to any provision of the DGCL or our

amended and restated certificate of incorporation or our amended and restated bylaws or (4) action asserting a claim against our company governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of our company shall be deemed to have notice of and consented to the forum provisions in our amended and restated certificate of incorporation. However, the enforceability of similar forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be unenforceable.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. and its address is 250 Royall Street, Canton, MA 02021.

Listing

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

SHARES ELIGIBLE FOR FUTURE SALE

Immediately prior to this offering, there was no public market for shares of our common stock. Future sales of substantial amounts of shares of our common stock in the public market, or the perception that such sales may occur, could adversely affect the market price of our common stock. Although we have applied to list shares of our common stock on the Nasdaq Global Market, we cannot assure you that there will be an active public market for shares of our common stock.

Based upon the number of shares of our common stock outstanding as of , 2018, we will have shares of common stock outstanding upon the closing of this offering. All the shares of our common stock sold in this offering will be freely tradable without restriction or further registration under the Securities Act, except for any such shares which may be held or acquired by our "affiliates," as that term is defined in Rule 144 promulgated under the Securities Act, which shares will be subject to the volume limitations and other restrictions of Rule 144 described below. The remaining shares of common stock will be "restricted securities," as that term is defined in Rule 144. These restricted securities will be eligible for public sale only if they are registered under the Securities Act, or if they qualify for an exemption from registration, for example, under Rule 144 or Rule 701, which are summarized below.

Subject to the provisions of Rules 144 and 701 under the Securities Act and the lock-up agreements described below, these restricted securities will be available for sale in the public market as follows:

Days After Date of this Prospectus	Shares Eligible for Sale	Comment
Date of Prospectus		Shares sold in this offering
90 Days		Shares saleable under Rules 144 and 701 that are not subject to a lock-up agreement
180 Days		Lock-up released; shares saleable under Rules 144 and 701

In addition, of the 23,783,999 shares of our common stock that were subject to options outstanding as of April 1, 2018, options to purchase 7,981,128 shares were exercisable as of April 1, 2018, and all of the warrants to purchase 4,394,914 shares of our common stock outstanding as of April 1, 2018 were exercisable as of that date. Furthermore, none of the 2,146,767 restricted stock units which were outstanding as of April 1, 2018 were exercisable as of such date.

Rule 144

In general, under Rule 144 as in effect on the date of this prospectus, a person who is not one of our affiliates at any time during the three months preceding a sale, and who has beneficially owned shares of our common stock for at least six months, would be entitled to sell an unlimited number of shares of our common stock provided current public information about us is available and, after owning such shares for at least one year, would be entitled to sell an unlimited number of shares of our common stock without restriction. Our affiliates who have beneficially owned restricted securities within the meaning of Rule 144 for at least six months would be entitled to sell within any three-month period a number of shares that does not exceed the greater of:

- 1.0% of the number of shares of our common stock then outstanding, which was equal to approximately shares as of , 2018; or

- the average weekly trading volume of our common stock on the during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Resales 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. In addition, if the number of shares being sold under Rule 144 by an affiliate during any three-month period exceeds 5,000 shares or has an aggregate sale price of $50,000, the seller must file a notice on Form 144 with the SEC and the Nasdaq Global Market concurrently with either the placing of a sale with the broker or the execution directly with a market maker.

Rule 701

Rule 701 generally allows a stockholder who purchased shares of our common stock pursuant to a written compensatory plan or contract and who is not deemed to have been an affiliate of our company during the immediately preceding 90 days to sell these shares in reliance upon Rule 144, but without being required to comply with the public information, holding period, volume limitation or notice provisions of Rule 144. Rule 701 also permits affiliates of our company to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. All holders of Rule 701 shares, however, are required by that rule to wait until 90 days after the date of this prospectus before selling those shares pursuant to Rule 701.

The SEC has indicated that Rule 701 will apply to 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.

Form S-8 Registration Statements

Following the date of this prospectus, we intend to file one or more registration statements on Form S-8 under the Securities Act to register the issuance of up to shares of common stock under our equity incentive plans. These registration statements will become effective upon filing. All of the shares issued or to be issued upon the exercise of stock options or settlement of other awards under our stock plans are or will be eligible for resale in the public market without restrictions, subject to Rule 144 limitations applicable to affiliates and the lock-up agreements described below.

Lock-up Agreements

Notwithstanding the foregoing, we, our directors, executive officers and other holders of our shares of common stock and options and warrants to purchase our common stock collectively representing substantially all of our outstanding shares of common stock immediately prior to this offering, as well as the holders of our convertible preferred stock, have agreed with the underwriters, subject to limited exceptions, not to offer, sell, contract to sell, pledge, or otherwise dispose of, or to enter into any hedging or swap transaction with respect to, any shares of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock for a period ending 180 days after the date of this prospectus.

The foregoing does not prohibit the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act during the period or transfers or dispositions by our directors, executive officers and other holders:

- with the prior written consent of Jefferies LLC and Cowen and Company, LLC;
- of shares of common stock or other securities acquired in this offering or in open market transactions after the completion of this offering;
- as a transfer pursuant to a bona fide third party tender offer, merger, consolidation or other similar transaction involving a change of control of our company;

- as a distribution to limited partners, members or stockholders of a holder of our common stock;
- as a transfer by a business entity to another business entity so long as the transferee controls or is under common control with the holder;
- as a transfer to a legal representative, heir, beneficiary or a member of the holder's immediate family;
- as a transfer to any trust for the direct or indirect benefit the holder or the immediate family of the holder and/or charitable organizations;
- as a bona fide gift, including pursuant to a domestic order or a negotiated divorce settlement, or estate or intestate succession; or
- as a transfer by operation of law, including pursuant to a court or regulatory agency order, a qualified domestic relations order or in connection with a divorce settlement.

Unless a transfer or disposition is made with the written consent of Jefferies LLC and Cowen and Company, LLC, the permitted transfers and dispositions described above may not be made (i) by any of our directors, executive officers and other holders unless the transfer or disposition does not result in any public disclosure or filing under the Exchange Act reporting a reduction in beneficial ownership of shares of common stock being required or voluntarily made during the lock-up period and (ii) by any of our directors, executive officers and other holders unless the transferee of each such shares agrees to be bound by the lock-up agreement. For more information regarding the lock-up agreements of our directors, executive officers and other holders, see "Underwriters."

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 them. The director or officer may amend a Rule 10b5-1 plan in some circumstances and may terminate a plan at any time. Our directors and executive officers also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material nonpublic information subject to compliance with the terms of our insider trading policy. Prior to 180 days after the date of this offering, subject to early termination, the sale of any shares under such plan would be prohibited by the lock-up agreement that the director or officer has entered into with the underwriters.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS TO NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax consequences to Non-U.S. Holders, as defined below, of the purchase, ownership and disposition of our common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the Code, Treasury Regulations promulgated thereunder, judicial decisions and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership and disposition of our common stock.

This discussion is limited to Non-U.S. Holders that hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment) and not in connection with a trade or business conducted or a permanent establishment maintained in the United States. This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder's particular circumstances, including the impact of the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons subject to the alternative minimum tax;
- persons holding our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies and other financial institutions;
- brokers, dealers or traders in securities;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- tax-qualified retirement plans; and
- "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

If an entity treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATION PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF

THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-U.S. Holder

For purposes of this discussion, a "Non-U.S. Holder" is any beneficial owner of our common stock that is neither a "U.S. person" nor an entity treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code), or (2) has a valid election in effect to be treated as a United States person for U.S. federal income tax purposes.

Distributions

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying dividends to holders of our common stock in the foreseeable future. However, if we do make distributions of cash or property on our common stock, such distributions 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. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a Non-U.S. Holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under "— Sale or Other Taxable Disposition."

Dividends paid to a Non-U.S. Holder of our common stock will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

Sale or Other Taxable Disposition

A Non-U.S. Holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the Non-U.S. Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a U.S. real property interest, or USRPI, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty), which may be offset by U.S. source capital losses of the Non-U.S. Holder (even though the individual is not considered a resident of the United States), provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the second bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, there can be no assurance we currently are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder of our common stock will not be subject to U.S. federal income tax if our common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder's holding period.

Non-U.S. Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

However, 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. If we are a USRPHC and either our common stock is not regularly traded on an established securities market or a Non-U.S. Holder holds, or is treated as holding, more than 5% of our outstanding common stock, directly or indirectly, during the applicable testing period, any gain recognized by such Non-U.S. Holder will generally be subject to U.S. federal income tax rates in the same manner as if the Non-U.S. Holder were a resident of the United States. If we are a USRPHC and our common stock is not regularly traded on an established securities market, such Non-U.S. Holder's proceeds received on the disposition of shares will also generally be subject to withholding at a rate of 15%. Prospective investors are encouraged to consult their own tax advisors regarding the possible consequences to them if we are, or were to become, a USRPHC.

Information Reporting and Backup Withholding

Payments of dividends on our common stock will not be subject to backup withholding, provided the applicable withholding agent does not have actual knowledge or reason to know the holder is a United States person and the holder either certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN or W-8BEN-E, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any dividends on our common stock paid to the Non-U.S. Holder, regardless of whether any tax was actually withheld. In addition, proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting, if the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that such holder is a United States person, or the holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as the Foreign Account Tax Compliance Act, or FATCA, on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or gross proceeds from the sale or other disposition of, our common stock paid

to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any "substantial United States owners", as defined in the Code, or furnishes identifying information regarding each substantial United States owner or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United States persons" or "United States-owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on our common stock, and will apply to payments of gross proceeds from the sale or other disposition of such stock on or after January 1, 2019.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.

UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement, dated , 2018, among us, Jefferies LLC and Cowen and Company, LLC, as the representatives of the underwriters named below and the joint book-running managers of this offering, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the respective number of shares of common stock shown opposite its name below:

UNDERWRITER	NUMBER OF SHARES
Jefferies LLC	
Cowen and Company, LLC	
Needham & Company, LLC	
Wedbush Securities Inc.	
Total	

The underwriting agreement provides that the obligations of the several underwriters are subject to certain conditions precedent such as the receipt by the underwriters of officers' certificates and legal opinions and approval of certain legal matters by their counsel. The underwriting agreement provides that the underwriters will purchase all of the shares of common stock if any of them are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated. We have agreed to indemnify the underwriters and certain of their controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriters may be required to make in respect of those liabilities.

The underwriters have advised us that, following the pricing of this offering, they currently intend to make a market in the common stock as permitted by applicable laws and regulations. However, the underwriters are not obligated to do so, and the underwriters may discontinue any market-making activities at any time without notice in their sole discretion. Accordingly, no assurance can be given as to the liquidity of the trading market for the common stock, that you will be able to sell any of the common stock held by you at a particular time or that the prices that you receive when you sell will be favorable.

The underwriters are offering the shares of common stock subject to their acceptance of the shares of common stock from us and subject to prior sale. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commission and Expenses

The underwriters have advised us that they propose to offer the shares of common stock to the public at the initial public offering price set forth on the cover page of this prospectus and to certain dealers, which may include the underwriters, at that price less a concession not in excess of $ per share of common stock. The underwriters may allow, and certain dealers may reallow, a discount from the concession not in excess of $ per share of common stock to certain brokers and dealers. After the offering, the initial public offering price, concession and reallowance to dealers may be reduced by the representatives. No such reduction will change the amount of proceeds to be received by us as set forth on the cover page of this prospectus.

The following table shows the public offering price, the underwriting discounts and commissions that we are to pay the underwriters and the proceeds, before expenses, to us in connection with this offering. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Per Share		Total	
	Without Option to Purchase Additional Shares	With Option to Purchase Additional Shares	Without Option to Purchase Additional Shares	With Option to Purchase Additional Shares
Public offering price	$	$	$	$
Underwriting discounts and commissions paid by us	$	$	$	$
Proceeds to us, before expenses	$	$	$	$

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately $ million. We have also agreed to reimburse the underwriters for certain expenses, including an amount not to exceed $ in connection with the clearance of this offering with the Financial Industry Regulatory Authority, Inc., as set forth in the underwriting agreement.

Determination of Offering Price

Prior to this offering, there has not been a public market for our common stock. Consequently, the initial public offering price for our common stock will be determined by negotiations between us and the representatives. Among the factors to be considered in these negotiations will be prevailing market conditions, our financial information, market valuations of other companies that we and the underwriters believe to be comparable to us, estimates of our business potential, the present state of our development and other factors deemed relevant.

We offer no assurances that the initial public offering price will correspond to the price at which the common stock will trade in the public market subsequent to the offering or that an active trading market for the common stock will develop and continue after the offering.

Listing

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

Option to Purchase Additional Shares

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase, from time to time, in whole or in part, up to an aggregate of shares from us at the public offering price set forth on the cover page of this prospectus, less underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to specified conditions, to purchase a number of additional shares proportionate to that underwriter's initial purchase commitment as indicated in the table above. This option may be exercised only if the underwriters sell more shares than the total number set forth on the cover page of this prospectus.

No Sales of Similar Securities

We, our officers, directors and holders of all of our outstanding capital stock have agreed, subject to specified exceptions, not to directly or indirectly:

- sell, offer, contract or grant any option to sell (including any short sale), pledge, transfer, establish an open "put equivalent position" within the meaning of Rule 16a-l(h) under the Exchange Act;
- otherwise dispose of any shares of common stock, options or warrants to acquire shares of common stock, or securities exchangeable or exercisable for or convertible into shares of common stock currently or hereafter owned either of record or beneficially; or
- publicly announce an intention to do any of the foregoing for a period of 180 days after the date of this prospectus without the prior written consent of Jefferies LLC and Cowen and Company, LLC.

This restriction terminates after the close of trading of the common stock on and including the 180th day after the date of this prospectus.

Jefferies LLC and Cowen and Company, LLC may, in their discretion and at any time or from time to time before the termination of the 180-day period release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriters and any of our stockholders who will execute a lock-up agreement, providing consent to the sale of shares prior to the expiration of the lock-up period.

Stabilization

The underwriters have advised us that they, pursuant to Regulation M under the Exchange Act, and certain persons participating in the offering may engage in short sale transactions, stabilizing transactions, syndicate covering transactions or the imposition of penalty bids in connection with this offering. These activities may have the effect of stabilizing or maintaining the market price of the common stock at a level above that which might otherwise prevail in the open market. Establishing short sales positions may involve either "covered" short sales or "naked" short sales.

"Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares of our common stock in this offering. The underwriters may close out any covered short position by either exercising their option to purchase additional shares of our common stock or purchasing shares of our common stock 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 to purchase additional shares.

"Naked" short sales are sales in excess of the option to purchase additional shares of our common stock. 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 the shares of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering.

A stabilizing bid is a bid for the purchase of shares of common stock on behalf of the underwriters for the purpose of fixing or maintaining the price of the common stock. A syndicate covering transaction is the bid for or the purchase of shares of common stock on behalf of the underwriters to reduce a short position incurred by the underwriters in connection with the offering. Similar to other purchase transactions, the underwriter's 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. A penalty bid is an arrangement permitting the underwriters to reclaim the selling concession otherwise accruing to a syndicate member in connection with the offering if the common stock

originally sold by such syndicate member are purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member.

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. The underwriters are not obligated to engage in these activities and, if commenced, any of the activities may be discontinued at any time.

Electronic Distribution

A prospectus in electronic format may be made available by e-mail or on the websites or through online services maintained by one or more of the underwriters or their affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriters may agree with us to allocate a specific number of shares of common stock for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriters on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriters' websites and any information contained in any other website maintained by any of the underwriters is not part of this prospectus, has not been approved and/or endorsed by us or the underwriters and should not be relied upon by investors.

Other Activities and Relationships

The underwriter and certain of its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriter and certain of its affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriter and certain of its 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, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the underwriters or their respective affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. The underwriters and their respective affiliates may hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the common stock offered hereby. Any such short positions could adversely affect future trading prices of the common stock offered hereby. The underwriters and certain of their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Selling Restrictions

Australia

This prospectus is not a disclosure document for the purposes of Australia's Corporations Act 2001 (Cth) of Australia, or Corporations Act, has not been lodged with the Australian Securities & Investments Commission and is only directed to the categories of exempt persons set out below. Accordingly, if you receive this prospectus in Australia:

You confirm and warrant that you are either:

- a "sophisticated investor" under section 708(8)(a) or (b) of the Corporations Act;

- a "sophisticated investor" under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant's certificate to us which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made;
- a person associated with our company under Section 708(12) of the Corporations Act; or
- a "professional investor" within the meaning of section 708(11)(a) or (b) of the Corporations Act.

To the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor, associated person or professional investor under the Corporations Act any offer made to you under this prospectus is void and incapable of acceptance.

You warrant and agree that you will not offer any of the securities issued to you pursuant to this prospectus for resale in Australia within 12 months of those securities being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

Canada

Resale Restrictions

The distribution of our common stock in Canada is being made only in the provinces of Ontario, Quebec, Alberta and British Columbia on a private placement basis exempt from the requirement that we prepare and file a prospectus with the securities regulatory authorities in each province where trades of these securities are made. Any resale of our common stock in Canada must be made under applicable securities laws which may vary depending on the relevant jurisdiction, and which may require resales to be made under available statutory exemptions or under a discretionary exemption granted by the applicable Canadian securities regulatory authority. Purchasers are advised to seek legal advice prior to any resale of the securities.

Representations of Canadian Purchasers

By purchasing our common stock in Canada and accepting delivery of a purchase confirmation, a purchaser is representing to us and the dealer from whom the purchase confirmation is received that:

- the purchaser is entitled under applicable provincial securities laws to purchase the common stock without the benefit of a prospectus qualified under those securities laws as it is an "accredited investor" as defined under National Instrument 45-106 — Prospectus Exemptions;
- the purchaser is a "permitted client" as defined in National Instrument 31-103 — Registration Requirements, Exemptions and Ongoing Registrant Obligations;
- where required by law, the purchaser is purchasing as principal and not as agent; and
- the purchaser has reviewed the text above under "— Resale Restrictions."

Conflicts of Interest

Canadian purchasers are hereby notified that the underwriters are relying on the exemption set out in section 3A.3 or 3A.4, if applicable, of National Instrument 33-105 — *Underwriting Conflicts* from having to provide certain conflict of interest disclosure in this document.

Statutory Rights of Action

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if the prospectus (including any amendment thereto) such as this document contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser of our common stock in Canada should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Enforcement of Legal Rights

All of our directors and officers as well as the experts named herein may be located outside of Canada and, as a result, it may not be possible for Canadian purchasers to effect service of process within Canada upon us or those persons. All or a substantial portion of our assets and the assets of those persons may be located outside of Canada and, as a result, it may not be possible to satisfy a judgment against us or those persons in Canada or to enforce a judgment obtained in Canadian courts against us or those persons outside of Canada.

Taxation and Eligibility for Investment

Canadian purchasers of our common stock should consult their own legal and tax advisors with respect to the tax consequences of an investment in our common stock in their particular circumstances and about the eligibility of our common stock for investment by the purchaser under relevant Canadian legislation.

Upon receipt of this document, each Canadian investor hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the securities described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *Par la réception de ce document, chaque investisseur canadien confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.*

European Economic Area

In relation to each member state of the European Economic Area which has implemented the Prospectus Directive, each, a Relevant Member State, an offer to the public of any shares of common stock which are the subject of the offering contemplated by this prospectus may not be made in that Relevant Member State except that an offer to the public in that Relevant Member State of any shares of common stock may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

- to any legal entity which is a "qualified investor" as defined in the Prospectus Directive;
- 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 underwriters or the underwriters nominated by us for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of common stock shall require us or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

For the purposes of this provision, the expression "offer shares of common stock to the public" in relation to the shares of common stock 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 common stock to be offered so as to enable an investor to decide to purchase or subscribe to the common stock, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State and the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

Hong Kong

No securities have been offered or sold, and no securities may be offered or sold, in Hong Kong, by means of any document, other than to persons whose ordinary business is to buy or sell shares or debentures,

whether as principal or agent; or to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong, or SFO, and any rules made under that Ordinance; or in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong, or CO, or which do not constitute an offer or invitation to the public for the purpose of the CO or the SFO. No document, invitation or advertisement relating to the securities has been issued or may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made under that Ordinance.

This prospectus has not been registered with the Registrar of Companies in Hong Kong. Accordingly, this prospectus may not be issued, circulated or distributed in Hong Kong, and the securities may not be offered for subscription to members of the public in Hong Kong. Each person acquiring the securities will be required, and is deemed by the acquisition of the securities, to confirm that he is aware of the restriction on offers of the securities described in this prospectus and the relevant offering documents and that he is not acquiring, and has not been offered any securities in circumstances that contravene any such restrictions.

Japan

The offering has not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948 of Japan, as amended), or FIEL, and the Initial Purchaser will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEL and any other applicable laws, regulations and ministerial guidelines of Japan.

Singapore

This prospectus has not been and will not be lodged or registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the common stock may not be circulated or distributed, nor may the common stock be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the common stock is subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor, as defined in Section 4A of the SFA) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities, as defined in Section 239(1) of the SFA, of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the common stock pursuant to an offer made under Section 275 of the SFA except:

- to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

- where no consideration is or will be given for the transfer;
- where the transfer is by operation of law;
- as specified in Section 276(7) of the SFA; or
- as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This prospectus has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this prospectus nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this prospectus nor any other offering or marketing material relating to the offering, our company or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this prospectus will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of securities.

United Kingdom

This prospectus is only being distributed to, and is only directed at, persons in the United Kingdom that are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive that are also (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended, or the Order, and/or (ii) high net worth entities falling within Article 49(2)(a) to (d) of the Order and other persons to whom it may lawfully be communicated, each such person being referred to as a "relevant person".

This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any person in the United Kingdom that is not a relevant person should not act or rely on this document or any of its contents.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by DLA Piper LLP (US), Short Hills, New Jersey. Cooley LLP is serving as counsel for the underwriters.

EXPERTS

The financial statements as of December 31, 2016 and 2017 and for each of the two years in the period ended December 31, 2017 included in this prospectus have been so included in reliance on the report (which contains an explanatory paragraph relating to our ability to continue as a going concern as described in Note 2 to the financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

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 common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. For further information about us and the common stock offered hereby, we refer you to the registration statement and the exhibits and schedules filed thereto. Statements contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement.

Upon the closing of this offering, we will be required to file periodic reports, proxy statements and other information with the SEC pursuant to the Exchange Act. You may read and copy this information at the Public Reference Room of the SEC, 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may obtain information on the operation of the public reference rooms by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements and other information about registrants, like us, that file electronically with the SEC. The address of that site is www.sec.gov. We also maintain a website at *www.liquidia.com*, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus.

INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of
Liquidia Technologies, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Liquidia Technologies, Inc. as of December 31, 2017 and 2016, and the related statements of operations and comprehensive loss, of stockholders' deficit, and of cash flows for the years then ended, including the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Substantial Doubt About the Company's Ability to Continue as a Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company has suffered recurring losses and cash outflows from operations, has an accumulated deficit, and debt maturing within twelve months that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these financial statements in accordance with the standards of the PCAOB and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

Raleigh, North Carolina
March 14, 2018

We have served as the Company's auditor since 2014.

Liquidia Technologies, Inc.
Balance Sheets

	December 31, 2016	December 31, 2017
Assets		
Current assets:		
Cash	$ 1,438,712	$ 3,418,979
Accounts receivable, less allowance of $48,108 and $48,108, respectively	1,149,402	1,622,179
Related party receivable, net, less allowance of $0 and $0, respectively	89,318	—
Prepaid expenses and other current assets	468,666	443,460
Total current assets	3,146,098	5,484,618
Property, plant and equipment, net	4,347,711	8,243,012
Prepaid expenses and other assets	992,724	1,115,972
Total assets	$ 8,486,533	$ 14,843,602
Liabilities and stockholders' deficit		
Current liabilities:		
Accounts payable	$ 2,407,244	$ 4,424,948
Accrued expenses	892,859	2,785,618
Accrued compensation	1,953,816	1,952,505
Accrued interest	62,303	1,408,869
Deferred rent	208,914	268,628
Current portion of capital lease obligations	324,512	469,798
Current portion of deferred revenue	3,343,217	3,605,199
Current portion of long-term debt	2,898,101	15,608,349
Total current liabilities	12,090,966	30,523,914
Long-term capital lease obligations	243,426	510,625
Long-term deferred rent	456,904	2,612,552
Long-term deferred revenue	8,724,881	5,527,296
Long-term debt	5,215,559	5,556,782
Deferred financing obligation	—	1,341,810
Warrant liabilities	—	2,462,859
Total liabilities	26,731,736	48,535,838
Commitments and contingencies (Note 10)		
Stockholders' deficit:		
Preferred stock — Series A, $0.001 par value, 1,974,430 shares authorized, issued and outstanding as of December 31, 2016 and 2017, liquidation preference of $2,625,992	1,974	1,974
Preferred stock — Series A-1, $0.001 par value, 1,834,862 shares authorized, issued and outstanding as of December 31, 2016 and 2017, liquidation preference of $6,000,000	1,835	1,835
Preferred stock — Series B, $0.001 par value, 4,620,123 shares authorized, 4,496,908 issued and outstanding as of December 31, 2016 and 2017, liquidation preference of $16,000,000	4,497	4,497
Preferred stock — Series C, $0.001 par value, 17,102,578 shares authorized, issued and outstanding as of December 31, 2016 and 2017, liquidation preference of $25,000,035	17,103	17,103
Preferred stock — Series C-1, $0.001 par value, 17,556,178 and 91,000,000 shares authorized as of December 31, 2016 and 2017, respectively, 17,556,178 issued and outstanding as of December 31, 2016 and 2017, liquidation preference of $14,000,000	17,556	17,556
Common stock — Class A (voting), $0.001 par value, 87,615,152 and 175,000,000 shares authorized as of December 31, 2016 and 2017, respectivley, 8,978,960 and 9,254,228 shares issued and outstanding as of December 31, 2016 and 2017, respectively	8,979	9,254
Common stock — Class B (non-voting), $0.001 par value, 330,664 shares authorized, issued and outstanding as of December 31, 2016 and 2017	331	331
Additional paid-in capital	66,016,593	79,668,525
Less: Related party note receivable for stock option exercise	(55,000)	—
Accumulated deficit	(84,259,071)	(113,413,311)
Total stockholders' deficit	(18,245,203)	(33,692,236)
Total liabilities and stockholders' deficit	$ 8,486,533	$ 14,843,602

The accompanying notes are an integral part of these financial statements.

Liquidia Technologies, Inc.
Statements of Operations and Comprehensive Loss

	For the year ended December 31,	
	2016	2017
Revenues	$ 13,216,989	$ 7,258,123
Costs and expenses:		
Cost of sales	918,778	319,759
Research and development	23,319,886	24,753,876
General and administrative	4,841,128	10,212,774
Total costs and expenses	29,079,792	35,286,409
Loss from operations	(15,862,803)	(28,028,286)
Other income (expense):		
Interest income	14,906	268
Interest expense	(85,865)	(13,010,475)
Derivative and warrant fair value adjustments	—	11,884,253
Total other income (expense), net	(70,959)	(1,125,954)
Net loss	(15,933,762)	(29,154,240)
Other comprehensive loss	—	—
Comprehensive loss	$ (15,933,762)	$ (29,154,240)
PER SHARE DATA:		
Basic and diluted net loss per share	$ (2.16)	$ (3.08)
Weighted average common shares outstanding, basic and diluted	7,361,596	9,475,083

The accompanying notes are an integral part of these financial statements.

Liquidia Technologies, Inc.

Statements of Stockholders' Deficit

For the years ended December 31, 2016 and 2017

	Preferred Stock										Common Stock						
	Series A		Series A-1		Series B		Series C		Series C-1		Class A Voting		Class B Nonvoting		Additional Paid-In Capital	Accumulated Deficit	Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			
Balance as of December 31, 2015	**1,974,430**	**$ 1,974**	**1,834,862**	**$ 1,835**	**4,496,908**	**$ 4,497**	**17,102,578**	**$ 17,103**	**17,556,178**	**$ 17,556**	**5,855,807**	**$ 5,856**	**330,664**	**$ 331**	**$65,171,804**	**$ (68,325,309)**	**$ (3,104,353)**
Exercise of stock options	—	—	—	—	—	—	—	—	—	—	3,123,153	3,123	—	—	497,345	—	500,468
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	347,444	—	347,444
Note to related party shareholder	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(55,000)	—	(55,000)
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(15,933,762)	(15,933,762)
Balance as of December 31, 2016	**1,974,430**	**1,974**	**1,834,862**	**1,835**	**4,496,908**	**4,497**	**17,102,578**	**17,103**	**17,556,178**	**17,556**	**8,978,960**	**8,979**	**330,664**	**331**	**65,961,593**	**(84,259,071)**	**(18,245,203)**
Exercise of stock options	—	—	—	—	—	—	—	—	—	—	255,268	255	—	—	86,448	—	86,703
Exercise of warrants	—	—	—	—	—	—	—	—	—	—	20,000	20	—	—	9,980	—	10,000
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	514,092	—	514,092
Repayment of note to related party shareholder	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55,000	—	55,000
Beneficial conversion feature on Convertible Notes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13,041,412	—	13,041,412
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(29,154,240)	(29,154,240)
Balance as of December 31, 2017	1,974,430	$ 1,974	1,834,862	$ 1,835	4,496,908	$ 4,497	17,102,578	$ 17,103	17,556,178	$ 17,556	9,254,228	$ 9,254	330,664	$ 331	$79,668,525	$(113,413,311)	$ (33,692,236)

The accompanying notes are an integral part of these financial statements.

Liquidia Technologies, Inc.
Statements of Cash Flows

	For the year ended December 31,	
	2016	**2017**
Operating activities		
Net loss	$ (15,933,762)	$ (29,154,240)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	347,444	514,092
Depreciation	651,560	931,931
Amortization of discount on long-term debt	—	9,837,985
Non-cash interest expense	—	2,859,102
Derivative fair value adjustment	—	(9,872,990)
Warrant fair value adjustment	—	(2,011,263)
Non-cash rent expense	391,651	233,449
Lease incentive	—	1,981,915
Changes in operating assets and liabilities:		
Accounts and related party receivables	2,527,304	(328,458)
Prepaid expenses and other current assets	1,655,775	25,206
Other non-current assets	(966,104)	(123,249)
Accounts payable	1,313,193	1,872,852
Accrued expenses	575,903	1,985,263
Accrued compensation	892,426	(1,310)
Accrued interest	5,374	(105,036)
Deferred revenue	(5,407,465)	(2,935,603)
Net cash used in operating activities	(13,946,701)	(24,290,354)
Investing activities		
Purchases of property, plant and equipment	(2,885,159)	(2,544,064)
Net cash used in investing activities	(2,885,159)	(2,544,064)
Financing activities		
Principal payments on capital lease obligations	(335,875)	(384,024)
Proceeds from issuance of convertible notes	—	27,388,524
Proceeds from issuance of long-term debt	6,000,000	4,000,000
Principal payments on long-term debt	—	(888,890)
Payments for debt issuance costs	—	(1,397,628)
Proceeds from exercise of stock options and warrants	445,468	96,703
Net cash provided by financing activities	6,109,593	28,814,685
Net increase (decrease) in cash	(10,722,267)	1,980,267
Cash, beginning of period	12,160,979	1,438,712
Cash, end of period	$ 1,438,712	$ 3,418,979
Supplemental disclosure of cash flow information		
Cash paid for interest	$ 92,155	$ 313,390
Purchase of equipment with capital leases	$ 69,136	$ 796,508
Purchase of equipment in accounts payable	$ 21,486	$ 144,852
Purchase of build-to-suit asset with deferred financing obligation	$ —	$ 1,341,810
Conversion of accrued interest to long-term debt	$ 8,251	$ 41,271
Conversion of accrued expenses to debt	$ 1,500,000	$ —
Recording of warrant liabilities with corresponding discount on convertible notes	$ —	$ 4,474,122
Recording of derivative liabilities with corresponding discount on convertible notes	$ —	$ 9,872,990
Recording of discount on convertible notes as paid-in capital for beneficial conversion feature	$ —	$ 12,119,584
Issuance of convertible note for debt issuance costs	$ —	$ 442,356
Related party note receivable for stock option exercise	$ 55,000	$ —

The accompanying notes are an integral part of these financial statements.

Liquidia Technologies, Inc.

Notes to Financial Statements

December 31, 2016 and 2017

1. Organization and Description of the Business

Liquidia Technologies, Inc. ("Liquidia" or the "Company"), is a late-stage clinical biopharmaceutical company focused on the development and commercialization of human therapeutics using the Company's proprietary PRINT technology to transform the lives of patients. PRINT is a particle engineering platform that enables precise production of uniform drug particles designed to improve the safety, efficacy and performance of a wide range of therapies. The Company is currently focused on the development of two product candidates for which it holds worldwide commercial rights: LIQ861 for the treatment of pulmonary arterial hypertension and LIQ865 for the treatment of local post-operative pain.

The development and commercialization activities are conducted at the Company's headquarters located in Morrisville, North Carolina. The Company was incorporated under the laws of the state of Delaware in 2004.

2. Significant Accounting Policies

Basis of Presentation

The Company's financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). Such financial statements reflect all adjustments that are, in management's opinion, necessary to present fairly, in all material respects, the Company's financial position, results of operations and cash flows and are presented in U.S. Dollars. Certain prior period amounts have been reclassified to conform to the current period presentation.

Variable Interest Entities

The Company identifies entities (i) that do not have sufficient equity investment at risk to permit the entity to finance its activities without additional subordinated financial support or (ii) in which the equity investors lack an essential characteristic of a controlling financial interest as variable interest entities ("VIE" or "VIEs"). The Company performs an initial and on-going evaluation of the entities with which the Company has variable interests to determine if any of these entities are VIEs. If an entity is identified as a VIE, the Company performs an assessment to determine whether the Company has both (i) the power to direct activities that most significantly impact the VIE's economic performance and (ii) the obligation to absorb losses from or the right to receive benefits of the VIE that could potentially be significant to the VIE. If both of these criteria are satisfied, the Company is identified as the primary beneficiary of the VIE and the entity must be consolidated.

Envisia Therapeutics Inc.

The Company determined Envisia Therapeutics Inc. ("Envisia") is a VIE. The Company formed Envisia in November 2013 through the issuance of $25 million of Series A preferred stock of Envisia to investors who at the time were also investors in Liquidia. In addition, at formation, in exchange for 1,000,000 shares of Envisia common stock, the Company granted to Envisia a worldwide, exclusive, royalty-free license to utilize the PRINT technology in specified fields. Envisia's focus is on therapies in ophthalmology and its programs were in the preclinical stage of development when the company was formed. Under the license agreement, any intellectual property advancements by Envisia related to PRINT automatically become licensed to Liquidia under a transferable, fully paid, royalty-free, exclusive, sub-licensable, worldwide license, for use in its respective fields. Immediately subsequent to the formation, pursuant to an obligation to UNC under the UNC Letter Agreement (Note 5), the Company transfered 200,000 shares of Envisia common stock to UNC. The Company's initial investment in the 800,000 shares of Envisia common stock (post transfer of shares to UNC) was recorded at its estimated fair value of $930,000.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

In May 2015, the Company repurchased the license in the dermatology and articular fields, as defined, from Envisia in exchange for 50,000 shares of its Envisia common stock, reducing the Company's ownership percentage. In March 2017, the license related to the Otic field, along with other intellectual property rights, as defined, was purchased back by the Company from Envisia in exchange for 75,000 shares of its Envisia common stock. The purchase prices were not material and were based upon prior third-party appraisals performed by CapVal-American Business Appraisers, LLC. The valuations of Envisia common stock were for Internal Revenue Code Section 409A, or 409A, and ASC 718, *Compensation—Stock Compensation*, or ASC 718, purposes. These standards of value may not be appropriate for a market transaction, and furthermore, the dates are different and therefore such number of shares could be different for this purpose. The Company's initial investment in Envisia common stock was recorded at its estimated fair value of $930,000 as of the formation date. As part of the license agreement entered into between Liquidia and Envisia, any intellectual property advancements by Envisia related to PRINT automatically become licensed to Liquidia under a transferable, fully paid, royalty-free, exclusive, sub-licensable, worldwide license, for use in its respective fields.

In October 2017, Envisia sold its license to the PRINT technology to Aerie Pharmaceuticals, Inc. ("Aerie") for initial consideration of $25 million in the form of a combination of cash and Aerie common stock, with the potential to earn additional payments subject to achievement of certain product approval milestones. The Company did not receive any proceeds from this transaction at closing.

As of December 31, 2016 and 2017, Liquidia's common equity ownership percentage in Envisia was approximately 77% and 75%, respectively, and its ownership percentage of voting shares was 4.9% and 4.4%, respectively. Although Liquidia's common equity ownership in Envisia was greater than 50%, control did not rest with the Company; however, the Company had the ability to exercise significant influence over operating and financial policies of Envisia and for a limited time had certain management personnel in common with Envisia. The Company does not have the power to direct activities of Envisia that most significantly impact Envisia's economic performance. Envisia has a board that is independent from Liquidia which approves all activities that affect Envisia's performance, such as selling and purchasing of goods or services; selecting, acquiring or disposing of assets; and researching and developing new products or processes. Additionally, the license rights given to Envisia are irrevocable. Accordingly, the Company accounts for Envisia using the equity method.

LQ3 Pharma, Inc.

The Company has determined that LQ3 Pharma, Inc ("LQ3") is a VIE. In July 2014, the Company formed LQ3 through the issuance of $10 million Series A preferred stock of LQ3 primarily from a single investor who also holds an investment in Liquidia. At the time of the formation of LQ3, the Company granted to LQ3 a worldwide, exclusive, royalty-free license to utilize the PRINT technology in a specified field. LQ3's focus was on field of diseases in the head and neck, leveraging Liquidia's PRINT platform. Following the formation of LQ3, the Company held 900,000 shares of LQ3 common stock after the transfer of 100,000 shares of LQ3 to UNC related to obligations under the UNC Letter Agreement (see Note 5).

As of December 31, 2015, Liquidia's ownership percentage of voting shares was 19.8%. The Company's initial investment in LQ3 common stock was recorded at its estimated fair value of $157,140 as of the formation date. As part of the license agreement entered into between Liquidia and LQ3, any intellectual property advancements by LQ3 for PRINT revert to Liquidia, to be added to the body of technology licensed to LQ3 in its respective fields.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

In February 2016, LQ3 terminated the development of its sole product and, therefore, ceased its operations. LQ3 also relinquished its license to the PRINT technology for a waiver by the Company of any fees or payments related to shared services beyond that which had been billed. As of the date of termination of operations, no amounts were due from LQ3.

As of December 31, 2016 and 2017, Liquidia's common equity ownership percentage was 0%. Although Liquidia's common equity ownership in LQ3 was greater than 50% in prior years, control did not rest with the Company; however, the Company had the ability to exercise significant influence over operating and financial policies. The Company did not have the power to direct activities of LQ3 that most significantly impacted LQ3's economic performance. Additionally, the license rights given to LQ3 were irrevocable. Accordingly, the Company accounted for LQ3 using the equity method.

Envisia and LQ3 reported net losses from operations for all years since inception. As a result of the Company recording its share of losses incurred by each of these investees in their intial year, the Company's investment in each was reduced to $0 (as of December 31, 2013 for Envisia and December 31, 2014 for LQ3). Envisia and LQ3 reported losses for all subsequent periods, and accordingly, the Company's investment in these entites remained recorded at $0 for all years presented. The initial investment amounts recorded represent the Company's maximum risk of loss related to these VIEs.

Going Concern

The Company's financial statements have been prepared assuming the Company will continue as a going concern, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business.

The Company's operations have consisted primarily of developing its technology, developing products, prosecuting its intellectual property and securing financing. The Company has incurred recurring losses and cash outflows from operations, has an accumulated deficit, and has debt maturing within twelve months. The Company expects to continue to incur losses in the foreseeable future and will require additional financial resources to continue to advance its products and intellectual property, in addition to repaying its maturing debt and other obligations.

These circumstances raise substantial doubt about the Company's ability to continue as a going concern. Management's plans with regard to this matter include continuing attempts to obtain additional financing from its current investors and new investors to sustain its operations or to pursue other financing alternatives. However, there is no assurance that the Company will be successful in obtaining sufficient financing on terms acceptable to the Company, and the failure of the Company to obtain sufficient funds on acceptable terms, when needed, could have a material adverse effect on the Company's business, results of operations and financial condition. If sufficient financings are not obtained, this may necessitate other actions by the Company. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual amounts could differ from those estimates.

Shared Services

Liquidia was party to shared service agreements with Envisia and LQ3, whereby they shared facilities, patent costs, management services and manufacturing in exchange for monetary consideration through June 30, 2016, after which such agreements were terminated.

Equity Method Investments

The Company holds investments in equity method investees. Investments in equity method investees are those for which the Company has the ability to exercise significant influence but does not control and is not the primary beneficiary. Significant influence typically exists if the Company has a 20% or more voting interest in the venture, unless predominant evidence to the contrary exists. Under this method of accounting, the Company records its proportionate share of the net earnings or losses of equity method investees and a corresponding increase or decrease to the investment balances. Cash payments to equity method investees such as additional investments, loans and advances, as well as payments from equity method investees such as dividends, distributions and repayments of loans and advances, are recorded as adjustments to investment balances. The Company evaluates its equity method investments for impairment whenever events or changes in circumstances indicate that the carrying amounts of such investments may not be recoverable.

Cash

The Company considers all highly liquid investments with a maturity of three months or less, when purchased, to be cash equivalents. The Company had no cash equivalents at December 31, 2016 and 2017.

Accounts Receivable

Accounts receivable are stated at historical cost less an allowance for doubtful accounts as of each Balance Sheet date. The Company does not accrue interest on trade receivables. On a periodic basis, the Company evaluates its accounts receivable and establishes an allowance based on its history of collections and write-offs and the current status of all receivables. The Company writes off customer receivables when it becomes apparent, based upon customer facts and circumstances, that such amounts will not be collected.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist of cash, accounts receivable and related party receivables. The Company is exposed to credit risk, subject to federal deposit insurance, in the event of default by the financial institutions holding its cash to the extent of amounts recorded on the Balance Sheet. With regards to cash, 100% of the Company's cash is held on deposit with Pacific Western Bank. With regards to revenues and accounts receivable, GlaxoSmithKline ("GSK", "GSK Vaccines" and "GSK Inhaled") accounted for 90% and 84% of the Company's revenues for the years ended December 31, 2016 and 2017, respectively, and 67% and 69% of the Company's accounts receivable as of December 31, 2016 and 2017, respectively.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

Property, Plant and Equipment

Property, plant and equipment are stated at cost. Depreciation of property, plant and equipment is computed using the straight-line method over the estimated useful lives of the assets beginning when the assets are placed in service. Estimated useful lives for the major asset categories are:

Lab equipment	5 - 7 years
Office equipment	5 years
Furniture and fixtures	10 years
Computer equipment	3 years
Leasehold improvements	Lesser of life of the asset or remaining lease term

The Company has entered into grant agreements with governmental agencies to perform defined research activities. Under those grants, the Company purchases lab equipment required to perform the necessary research. Those specific assets are depreciated over the lesser of the useful life of the assets or the effective duration of the grant.

Major renewals and improvements are capitalized to the extent that they increase the useful economic life or increase the expected economic benefit of the underlying asset. Maintenance and repairs are charged to operations as incurred. When items of property, plant and equipment are sold or retired, the related cost and accumulated depreciation or amortization is removed from the accounts, and any gain or loss is included in operating expenses in the accompanying Statements of Operations and Comprehensive Loss.

Impairment of Long-Lived Assets

The Company evaluates long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. If the estimated future cash flows (undiscounted and without interest charges) from the use of an asset are less than the carrying value, a write-down is recorded to reduce the related asset to its estimated fair value. To date, no such write-downs have occurred.

Deferred Rent

Rent expense is recognized on a straight-line basis over the life of the lease. The difference between rent expense recognized and rental payments, as stipulated in the lease, is reflected as deferred rent in the accompanying Balance Sheets and amortized over the life of the lease. In addition, deferred rent also includes landlord incentives on a portion of the leasehold improvement cost, which is amortized over the life of the lease.

Revenue Recognition

The Company follows the revenue-recognition guidance established by Financial Accounting Standards Board, or FASB, ASC Topic 605, *Revenue Recognition*, or ASC 605. In determining the accounting for collaboration agreements, the Company follows the related guidance. Guidance is provided on whether an arrangement that involves multiple revenue-generating activities or deliverables should be divided into separate units of accounting for revenue-recognition purposes and, if division is required, how the arrangement consideration should be allocated among the separate units of accounting. If the arrangement constitutes separate units of accounting according to the separation criteria of the guidance, a revenue-

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

recognition policy must be determined for each unit. If the arrangement constitutes a single unit of accounting, the revenue-recognition policy must be determined for the entire arrangement.

Collaboration research and development revenue is recognized as research is performed and related expenses are incurred. Non-refundable up-front fees, which may include, for example, an initial payment upon effectiveness of the contractual relationship or payment to secure a right for a future license, are recorded as deferred revenue and recognized into revenue on a straight-line basis over the estimated period of the Company's substantive performance obligations. If the Company does not have substantive performance obligations, it recognizes non-refundable up-front fees into revenue over the estimated development period.

Revenue for non-refundable payments based on the achievement of milestone events under collaboration agreements are recognized in accordance with ASC 605-28-50-2(e). Milestone events under the Company's collaboration agreements may include research, development, regulatory or commercialization events. A milestone payment is recognized as revenue when the applicable event is achieved, if the event meets the definition of a milestone and the milestone is determined to be substantive. A milestone event is an event having all of the following characteristics: (1) there is substantive uncertainty regarding achievement of the milestone event at the inception of the arrangement; (2) the event can only be achieved based, in whole or in part, on either the Company's performance or a specific outcome resulting from the Company's performance; and (3) if achieved, the event would result in an additional payment due to the Company. The Company also treats events that can only be achieved based, in whole or in part, on either a third party's performance or a specific outcome resulting from a third party's performance, as milestone events if the criteria of the guidance are otherwise satisfied.

A milestone is considered substantive if it meets all of the following criteria: (a) the payment is commensurate with either the Company's performance to achieve the milestone or with the enhancement of the value of the delivered item; (b) the payment relates solely to past performance; and (c) the payment is reasonable relative to all of the deliverables and payment terms within the arrangement. If any of these conditions is not met, the milestone payment is deferred and recognized on a straight-line basis over a period determined as discussed above.

Grant payments are recognized as grant revenue as the Company performs the work and incurs reimbursable costs in accordance with the objectives of the award.

Segment Data

The Company manages, reports and evaluates its business in the following two segments: Pharmaceutical Products (formerly named Specialty Pharmaceutical) and Partnering and Licensing. The Company's reportable operating segments have been determined in accordance with the Company's internal management structure, which is organized based on operating activities, the manner in which the Company organizes segments for making operating decisions and assessing performance and the availability of separate financial results. Unallocated operations and corporate expenses, such as depreciation, facilities costs, corporate management costs and interest expense, are represented within Corporate / Operations.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

Pharmaceutical Products — The Company utilizes its proprietary PRINT technology to develop novel drug products (such as LIQ861 and LIQ865) based on presently commercialized drug products. The Company has not commenced commercialization of its pharmaceutical drug products and has not recognized any revenues to date. The Company intends to commercialize LIQ861 independently in the United States and intends to evaluate its commercialization and development plans for LIQ865. Revenues from these licensing arrangements would be recognized in this segment. In addition, if LIQ861 or LIQ865 are approved for marketing, the Company expects to recognize any revenues from sales of that product in this segment.

Partnering and Licensing — The Company utilizes its proprietary PRINT technology to enable the development of drug products by other pharmaceutical companies. The Company assists these customers in the development of their drug products through research and development services like particle formulation and manufacturing at market billing rates. The Company also typically receives up-front fees or technology access payments and milestone payments for each phase of clinical achievement. If these drug products achieve commercialization, the Company also expects to be eligible to receive royalties from the sale of their drug products.

For the years ended December 31, 2016 and 2017, the majority of the Company's revenue from collaborating and licensing was derived from two separate agreements with GSK, namely the GSK Vaccines Collaboration and Option Agreement and the GSK Inhaled Collaboration and Option Agreement. The arrangements with GSK accounted for $11,827,426 and $6,114,311, representing 90% and 84% of total revenue for the years ended December 31, 2016 and 2017, respectively. This revenue was comprised of billings for research and development services, milestone payments and amortization of deferred revenue from up-front payments.

The Company revised its segment reporting to reflect changes in the way the Chief Operating Decision Maker ("CODM") viewed the business. These changes were in the organizational structure and accountability over certain unallocated and general research and development costs that were not directly related to a particular segment. Further, the Specialty Pharmaceutical segment was renamed the Pharmaceutical Products segment to better reflect its activities. The segment data is reflected below for the years ended December 31, 2016 and 2017, as follows:

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

	2016	2017
Revenues:		
Pharmaceutical Products	$ —	$ —
Partnering and Licensing	13,216,989	7,258,123
Total	$ 13,216,989	$ 7,258,123
Operating (loss) income:		
Pharmaceutical Products	$ (15,444,224)	$ (13,625,296)
Partnering and Licensing	7,672,946	2,303,622
Corporate / Operations	(8,091,525)	(16,706,612)
Total	(15,862,803)	(28,028,286)
Interest income	14,906	268
Interest expense	(85,865)	(13,010,475)
Derivative and warrant fair value adjustments	—	11,884,253
Net loss	$ (15,933,762)	$ (29,154,240)

Segment information by asset is not disclosed as it is not reviewed by the CODM or used to allocate resources or to assess the Company's operating results and financial performance. All long-lived assets are domiciled within the United States and all revenues were earned within the United States.

Research and Development Expense

Research and development costs are expensed as incurred and include direct costs incurred to third parties related to the salaries of, and stock-based compensation for, personnel involved in research and development activities, contractor fees, grant expenses, administrative expenses and allocations of research-related overhead costs. Administrative expenses and research-related overhead costs included in research and development expense consist of allocations of facility and equipment lease charges, depreciation and amortization of assets and insurance directly related to research and development activities.

Patent Maintenance

Liquidia is responsible for all patent costs, past and future, associated with the preparation, filing, prosecution, issuance, maintenance, enforcement and defense of United States patent applications. Such costs are recorded as general and administrative expenses as incurred. To the extent that the Company's licensees share these costs, such benefit is recorded as a reduction of the related expenses.

Stock-Based Compensation

The Company accounts for stock-based compensation under the provisions of ASC 718, *Compensation — Stock Compensation* ("ASC 718"), which requires the measurement and recognition of compensation

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

expense for all share-based payment awards made to employees and directors, including employee stock options, based on estimated fair values. ASC 718 requires companies to estimate the fair value of share-based awards on the grant date using an option pricing model. The value of the portion of the award that is ultimately expected to vest is recorded as expense over the requisite service periods in the Company's Statements of Operations and Comprehensive Loss.

The Company accounts for equity instruments issued to nonemployees in accordance with the provisions of ASC 505-50, *Equity-Based Payments to Non-Employees*, under which the stock-based compensation expense is recognized in the financial statements based on their grant date fair values. The Company values equity instruments, stock options and warrants for common stock granted to lenders and consultants using the Black-Scholes option pricing model. The measurement of non-employee stock-based compensation is recognized as an expense over the term of the related financing or the period over which services are received.

Defined Contribution Retirement Plan

The Company maintains a defined contribution 401(k) retirement plan for its employees, pursuant to which employees who have completed sixty days of service may elect to contribute a portion of their compensation on a tax-deferred basis up to the maximum amount permitted by the Internal Revenue Code, as amended. The Company provides a 4% matching contribution to eligible employee contributions. Matching contributions are made subsequent to the year to which they relate. The Company's matching contributions due were $358,037 and $377,623 and were included in Accrued Expenses in the accompanying Balance Sheets as of December 31, 2016 and 2017, respectively.

Net Loss Per Share

Basic net loss per share is computed by dividing the net loss by the weighted average number of common shares outstanding during the period.

Diluted net loss per share is computed by dividing net loss by the weighted average number of common shares adjusted for the dilutive effect of common equivalent shares outstanding during the period. Common stock equivalents consist of preferred stock, stock options and stock warrants. Net loss per share attributable to common stockholders is calculated using the two-class method, which is an earnings allocation formula that determines net loss per share for the holders of the Company's common shares and participating securities. The Company's convertible preferred stock contains participating rights in any dividend paid by the Company and are deemed to be participating securities. Net loss attributable to common stockholdres and participating preferred shares are allocated to each share on an as-converted basis as if all of the earnings for the period had been distributed. The participating securities do not include a contractual obligation to share in the losses of the Company and are not included in the calculation of net loss per share in the periods that have a net loss. Common equivalent shares are excluded from the computation in periods in which they have an anti-dilutive effect on net loss per share.

Diluted net loss per share is computed using the more dilutive of (a) the two-class method or (b) the if-converted method. In periods in which the Company reports a net loss attributable to common stockholders, diluted net loss per share attributable to common stockholders is the same as basic net loss per share attributable to common stockholders since dilutive common shares are not assumed to have been

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

issued if their effect is anti-dilutive. Diluted net loss per share is equivalent to basic net loss per share for all years presented herein because common stock equivalent shares from unexercised stock options, outstanding warrants, preferred stock and common shares expected to be issued under the Company's employee stock purchase plan were anti-dilutive. Due to their dilutive effect, the calculation of diluted net loss per share for the years ended December 31, 2016 and 2017 does not include the following common stock equivalent shares:

	2016	2017
Preferred Stock	64,165,785	76,440,945
Stock Options	12,106,088	8,368,728
Warrants	271,746	4,699,565
Total	76,543,619	89,509,238

For the years ended December 31, 2016 and 2017, there were no reconciling items between Basic and Diluted loss per share.

In February 2018, the Company received proceeds of $25.6 million in exchange for the corresponding sale of Series D Preferred Stock ("Series D") and related rights offering to new and existing investors. The applicable issue price per share for the Series D preferred stock was $0.59808, subject to adjustment as provided in the certificate of incorporation. In addition, all outstanding convertible notes, plus accrued interest, totaling $28.9 million were converted into Series D preferred stock at the same price per share without a discount. In total, 91,147,482 shares of Series D preferred stock were issued. These shares are also excluded from the per share calculations since they were not issued prior to the end of the year and they are anti-dilutive.

Fair Value of Financial Instruments

The carrying values of cash, accounts receivable, accounts payable and related party receivables at December 31, 2016 and 2017 approximated fair value due to the short maturity of these instruments.

The Company's valuation of financial instruments is based on a three-tiered approach, which requires that fair value measurements be classified and disclosed in one of three tiers. The fair value hierarchy defines a three-level valuation hierarchy for disclosure of fair value measurements as follows:

Level 1 — Quoted prices in active markets for identical assets or liabilities;

Level 2 — Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly; and

Level 3 — Unobservable inputs for the asset and liability used to measure fair value, to the extent that observable inputs are not available.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

The categorization of a financial instrument within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

The following tables present the placement in the fair value hierarchy of financial instruments measured at fair value as of December 31, 2016 and 2017:

	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Carrying Value
December 31, 2016				
Pacific Western Bank Tranche I note	$ —	$ 2,998,267	$ —	$ 3,000,000
Pacific Western Bank Tranche II note	—	2,995,536	—	3,000,000
UNC promissory note	—	2,216,337	—	2,216,337
Total	$ —	$ 8,210,140	$ —	$ 8,216,337

	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Carrying Value
December 31, 2017				
Pacific Western Bank Tranche I note	$ —	$ 2,512,301	$ —	$ 2,488,572
Pacific Western Bank Tranche II note	—	2,845,194	—	2,820,382
Pacific Western Bank Tranche III note	—	3,793,644	—	3,760,509
UNC promissory note	—	2,257,684	—	2,257,684
Convertible notes	—	—	28,702,268	9,837,984
Warrant liabilities	—	—	2,462,859	2,462,859
Total	$ —	$ 11,408,823	$ 31,165,127	$ 23,627,990

The fair value of debt was measured as the present value of the respective future cash outflows discounted at a current interest rate as of the year-end date, taking into account the remaining term of liabilities.

Convertible Instruments

The Company has utilized various types of financing to fund its business needs, including convertible debt and convertible preferred stock, in some cases with corresponding warrants. The Company considered guidance within FASB ASC 470-20, *Debt with Conversion and Other Options*, ("ASC 470-20"), ASC 480, *Distinguishing Liabilities from Equity* ("ASC 480") and ASC 815, *Derivatives and Hedging* ("ASC 815"), when accounting for the issuance of convertible securities. Additionally, the Company reviews the instruments to determine whether they are freestanding or contain an embedded derivative and, if so, whether they should be classified in permanent equity, mezzanine equity or as a liability at each reporting period until the amount is settled and reclassified into equity.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

When multiple instruments are issued in a single transaction, the Company allocates total proceeds from the transaction among the individual freestanding instruments identified. The allocation is made after identifying all the freestanding instruments and the subsequent measurement basis for those instruments. The subsequent measurement basis determines how the proceeds are allocated. Generally, proceeds are allocated based on one of the following methods:

- Fair value method — The instrument being analyzed is allocated a portion of the proceeds equal to its fair value, with the remaining proceeds allocated to the other instruments as appropriate.
- Relative fair value method — The instrument being analyzed is allocated a portion of the proceeds based on the proportion of its fair value to the sum of the fair values of all the instruments covered in the allocation.
- Residual value method — The instrument being analyzed is allocated the remaining proceeds after an allocation is made to all other instruments covered in the allocation.

Generally, when there are multiple instruments issued in a single transaction that have different subsequent measurement bases, the proceeds from the transaction are first allocated to the instrument that is subsequently measured at fair value (i.e., instruments accounted for as a derivative liabilities) at its issuance date fair value, with the residual proceeds allocated to the instrument not subsequently measured at fair value. In the event both instruments in the transaction are not subsequently measured at fair value (i.e., equity-classified instruments), the proceeds from the transaction are allocated to the freestanding instruments based on their respective fair values, using the relative fair value method.

After the proceeds are allocated to the freestanding instruments, resulting in an initial discount on the host contract, those instruments are further evaluated for embedded features (i.e., conversion options) that require bifurcation and separate accounting as a derivative financial instrument pursuant to ASC 815. Embedded derivatives are initially and subsequently measured at fair value. Under ASC 815, a portion of the proceeds received upon the issuance of the hybrid contract is allocated to the fair value of the derivative.

The Company accounts for convertible instruments in which it is determined that the embedded conversion options should not be bifurcated from their host instruments in accordance with ASC 470-20. Under ASC 470-20, the Company records, when necessary, discounts to convertible notes or convertible preferred stock for the intrinsic value of conversion options embedded in the convertible instruments based upon the differences between the fair value of the underlying common stock at the commitment date of the transaction and the effective conversion price embedded in the convertible instrument, unless limited by the proceeds allocated to such instrument.

Warrant Liabilities

The Company has classified warrants to purchase shares of Series C-1 preferred stock as a liabilities on its Balance Sheets as these warrants were free-standing financial instruments that will require the Company to issue convertible securities upon exercise. The warrants were initially recorded at fair value on date of grant, and they will be subsequently remeasured to fair value at each reporting period. Changes in fair value of the warrants are recognized as a component of other income (expense) in the Statements of Operations and Comprehensive Loss. The Company will continue to adjust the liabilities for changes in fair value at each reporting period until the warrant liabilities are settled. Following an Initial Public Offering ("IPO") and the

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

conversion of preferred stock into common stock, the Company will no longer include the warrant liabilities on the Balance Sheet or recognize changes in their fair value on the Statements of Operations and Comprehensive Loss.

The Company used the Black-Scholes option pricing model, which incorporates assumptions and estimates, to value the preferred stock warrants. The Company assessed these assumptions and estimates on a quarterly basis as additional information impacting the assumptions was obtained. Estimates and assumptions impacting the fair value measurement included the fair value per share of the underlying Series C-1 preferred stock, the remaining contractual term of the warrant, the risk-free interest rate, the expected dividend yield and the expected volatility of the price of the underlying preferred stock. The Company determined the fair value per share of the underlying preferred stock by taking into consideration the most recent sales of its convertible preferred stock, results obtained from third-party valuations and additional factors that were deemed relevant. The Company estimated its expected stock volatility based on the historical volatility of publicly traded peer companies for a term equal to the remaining contractual term of the warrant. The risk-free interest rate was determined by reference to the U.S. Treasury yield curve for time periods approximately equal to the remaining contractual term of the warrant. Expected dividend yield was based on the fact that the Company has never paid cash dividends and does not expect to pay any cash dividends in the foreseeable future.

Embedded Derivatives

Embedded derivatives that are required to be bifurcated from the underlying instrument are accounted for and valued as a separate financial instrument. In conjunction with the Company's Convertible Instruments, embedded derivatives exist associated with the future consummation of a qualified financing event, as defined, and a subsequent discounted conversion of the instrument to capital stock. The embedded derivatives are bifurcated and classified as derivative liabilities on the Balance Sheets and separately adjusted to their fair values at the end of each reporting period. Changes in fair values of the derivative liabilities are recognized as a component of other income (expense) in the Statements of Operations and Comprehensive Loss.

Issuance Costs Related to Equity and Debt

The Company allocates issuance costs between the individual freestanding instruments identified on the same basis as proceeds were allocated. Issuance costs associated with the issuance of stock or equity contracts (i.e., equity-classified warrants and convertible preferred stock) are recorded as a charge against the gross proceeds of the offering. Any issuance costs associated with the issuance of liability-classified warrants are expensed as incurred. Issuance costs associated with the issuance of debt (i.e., convertible debt) is recorded as a direct reduction of the carrying amount of the debt liability, but limited to the notional value of the debt. The Company accounts for debt as liabilities measured at amortized cost and amortizes the resulting debt discount to interest expense using the straight-line method over the expected term of the notes pursuant to ASC 835, *Interest* ("ASC 835"). To the extent that the reduction from issuance costs of the carrying amount of the debt liability would reduce the carrying amount below zero, such excess is recorded as interest expense.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

Income Taxes

The asset and liability method is used in the Company's accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. The Company records a valuation allowance against deferred tax assets when realization of the tax benefit is uncertain.

A valuation allowance is recorded, if necessary, to reduce net deferred taxes to their realizable values if management does not believe it is more likely than not that the net deferred tax assets will be realized.

The Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"). The FASB issued ASU 2014-09 to clarify the principles for recognizing revenue and to develop a common revenue standard for U.S. GAAP. The standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes the most current revenue recognition guidance. This guidance was originally effective for annual periods and interim periods within those annual periods beginning after December 15, 2016 and early adoption was not permitted. In August 2015, the FASB issued ASU 2015-14, *Revenue from Contracts with Customers (Topic 606) — Deferral of the Effective Date* ("ASU 2015-14"), which deferred the effective date of the guidance in ASU 2014-09 by one year to December 15, 2017 for interim and annual reporting periods beginning after that date and permitted early adoption of the standard, but not before the original effective date of December 15, 2016. This standard will be effective for the Company for the year ending December 31, 2018. In 2016, the FASB clarified the implementation guidance on principal versus agent, identifying performance obligations, licensing, narrow-scope improvements, practical expedients, and to expedite improvements to 2014-09 by issuing ASU 2016-08, *Revenue from Contracts with Customers (Topic 606) — Principal versus Agent Considerations* ("ASU 2016-08"), ASU 2016-10, *Revenue from Contracts with Customers (Topic 606) — Identifying Performance Obligations and Licensing* ("ASU 2016-10"), ASU 2016-12, *Revenue from Contracts with Customers (Topic 606) — Narrow-Scope Improvements and Practical Expedients* ("ASU 2016-12"), and ASU 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contacts with Customers* ("ASU 2016-20"). The Company will adopt this standard as of January 1, 2018 and will apply the modified retrospective method. Under this adoption method, the Company will record a cumulative adjustment to retained earnings at January 1, 2018 and apply the provisions of the ASU prospectively. The Company believes this ASU will have an impact on, but not limited to, how it identifies performance obligations for its collaborative agreements and accounts for non-refundable milestones and up-front payments. This ASU will also require new comprehensive disclosures about contracts with customers, including the significant judgments the Company has made when applying the ASU. The Company has engaged a third party specialist to assist in determining the impact and application of the ASU and management is in the process of assessing the results. The Company will finalize its accounting assessment and quantitative impact of the adoption during the first quarter of fiscal year 2018, as required.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

In August 2014, the FASB issued ASU 2014-15, *Presentation of Financial Statements — Going Concern* (Subtopic 205-40) in which management should evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are issued (or within one year after the date that the financial statements are available to be issued when applicable). When management identifies conditions or events that raise substantial doubt about an entity's ability to continue as a going concern, management should assess whether its plans that are intended to mitigate those relevant conditions or events will alleviate the substantial doubt. This update is effective for annual periods ending after December 15, 2016, and early application is permitted for any annual or interim period thereafter. The Company adopted this standard effective as of January 1, 2016. Refer to Note 2 for the related disclosure.

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments — Overall (Subtopic 825-10) — Recognition and Measurement of Financial Assets and Financial Liabilities* ("ASU 2016-01"). The provisions of ASU 2016-01 make targeted improvements to enhance the reporting model for financial instruments to provide users of financial statements with more useful information, including certain aspects of recognition, measurement, presentation and disclosure of financial instruments. The guidance is effective for public companies with annual periods and interim periods within those annual periods beginning after December 15, 2017, and is expected to be effective for the Company for the year ending December 31, 2018. The Company will be adopting this standard for the year ending December 31, 2018. The adoption of this standard is not expected to have a material impact on the Company's financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)* ("ASU 2016-02"). The provisions of ASU 2016-02 set out the principles for the recognition, measurement, presentation and disclosure of leases for both lessees and lessors. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for in a similar manner as under existing guidance for operating leases. ASU 2016-02 supersedes the previous lease standard, Topic 840, *Leases*. The guidance is effective for public companies with annual periods and interim periods within those annual periods beginning after December 15, 2018, and is expected to be effective for the Company for the year ending December 31, 2019. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's financial statements.

In March 2016, the FASB issued ASU No. 2016-09, *Stock Compensation* (Topic 718), which includes provisions intended to simplify various aspects related to how share-based payments are accounted for and presented in the financial statements. The standard is effective for annual periods beginning after December 15, 2016. During the first quarter of 2017, the Company adopted this ASU. The key effects of the adoption on the Company's financial statements include that the Company will now recognize windfall tax benefits as deferred tax assets instead of tracking the windfall pool and recording such benefits in equity. Additionally, the Company has elected to continue to estimate forfeitures at the time of grant rather than as they occur. Adoption of this standard did not have a material impact on our financial statements.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

2. Significant Accounting Policies (Continued)

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230) — Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"). The provisions of ASU 2016-15 address eight specific cash flow issues and how those certain cash receipts and cash payments are presented and classified in the statement of cash flows under Topic 230, *Statement of Cash Flows*, and other Topics. The guidance is effective for public companies with annual periods and interim periods within those annual periods beginning after December 15, 2017, with early adoption permitted, and is expected to be effective for the Company for the year ending December 31, 2018. The adoption of this standard is not expected to have a material impact on the Company's financial statements.

In May 2017, the FASB issued ASU 2017-09, *Compensation-Stock Compensation* (Topic 718): Scope of Modification Accounting, which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. The standard is effective for interim and annual reporting periods beginning after December 15, 2017, with early adoption permitted. The adoption of this standard is not expected to have a material impact on the Company's financial statements.

In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share* (Topic 260), Distinguishing Liabilities from Equity (Topic 480) and Derivatives and Hedging (Topic 815): I. Accounting for Certain Financial Instruments with Down Round Features; II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception. Part I of this update addresses the complexity of accounting for certain financial instruments with "down round" features. Down round features are features of certain equity-linked instruments (or embedded features) that result in the strike price being reduced on the basis of the pricing of future equity offerings. Current accounting guidance creates cost and complexity for entities that issue financial instruments (such as warrants and convertible instruments) with down round features that require fair value measurement of the entire instrument or conversion option. Part II of this update addresses the difficulty of navigating Topic 480, *Distinguishing Liabilities from Equity*, because of the existence of extensive pending content in the FASB Accounting Standards Codification. This pending content is the result of the indefinite deferral of accounting requirements about mandatorily redeemable financial instruments of certain nonpublic entities and certain mandatorily redeemable noncontrolling interests. The amendments in Part II of this update do not have an accounting effect. This ASU is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. The Company is evaluating the effect that ASU 2017-11 will have on its financial statements and related disclosures.

3. Common and Preferred Stock

Authorized Capital

As of December 31, 2017, in connection with the issuances of convertible notes during 2017, the authorized capital was increased to 291,862,657 shares of capital stock, $0.001 par value per share, of which 175,000,000 shares were designated as Class A voting common stock ("Class A"), 330,664 shares were designated as Class B nonvoting common stock ("Class B") and 116,531,993 shares were designated as preferred stock. Of the designated preferred stock, 1,974,430 shares were designated as Series A Preferred Stock ("Series A"), 1,834,862 shares were designated as Series A-1 Preferred Stock ("Series A-1"), 4,620,123 shares were designated as Series B Preferred Stock ("Series B"),

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

3. Common and Preferred Stock (Continued)

17,102,578 shares were designated as Series C Preferred Stock ("Series C") and 91,000,000 shares were designated as Series C-1 Preferred Stock ("Series C-1").

In June 2015, the Board approved an extension of the term of the Liquidia Technologies, Inc. Stock Option Plan (the "2004 Plan") by two additional years and an expansion of the pool of available shares by 5,000,000 shares, of which 3,374,000 were approved for grant to existing management. The Company had reserved a total of 18,299,642 shares of Class A Voting common stock for issuance under the 2004 Plan.

In May 2016, the Board approved a new second stock option plan (the "2016 Plan"). The option pool of shares available to issue under the 2016 Plan was established as 1,400,000 shares. Of this amount, 524,887 shares are available for future stock option grants as of December 31, 2017.

In January and February 2017, the Company entered into a series of Convertible Note and Warrant Purchase Agreements and issued an aggregate total of $11.8 million in principal amount of unsecured convertible promissory notes (the "January and February Notes") bearing interest at a rate of 8% per annum with a maturity date of December 31, 2018 (amended from June 30, 2018 in May 2017). This financing included warrants to purchase a total of 3,698,128 shares of the Company's Series C-1 Preferred Stock. The January and February Notes were issued to current and new stockholders of the Company. Since this transaction contained equity and debt components, a fair value measurement of the financial instruments that represent additional obligations was conducted. The fair value of the warrants and other embedded financial instruments as of the date of issuance of the convertible promissory notes are recorded separately from the underlying convertible notes (see Note 11).

In July 2017, the Company entered into a series of unsecured convertible note agreements of $10.4 million in the aggregate (the "July Notes"). The July Notes bear interest at a rate of 8% per annum with a maturity date of December 31, 2018. Principal plus accrued interest convert into either preferred or common stock at the time of a qualified financing, as defined, at a discount to the share price, depending on the financing. In conjunction with the July Notes, the Company also entered into a commitment with an advisor in the form of a convertible note amounting to $442,356 with terms similar to the related transaction, which is included in the aggregate amount of July Notes.

In November 2017, the Company issued a series of unsecured subordinated convertible notes with an aggregate principal amount of $5.2 million to new investors (the "November Notes"). The November Notes bear interest at a rate of 8% per annum with a maturity date of December 31, 2018. Principal plus accrued interest convert into either preferred or common stock at the time of a qualified financing, as defined, at a discount to the share price, depending on the type of financing.

In February 2018, the Company received proceeds of $25.6 million in exchange for the corresponding sale of Series D Preferred Stock ("Series D") and related rights offering to new and existing investors. The applicable issue price per share for the Series D preferred stock was $0.59808, subject to adjustment as provided in the certificate of incorporation. In addition, all outstanding convertible notes, plus accrued interest, totaling $28.9 million were converted into Series D preferred stock at the same price per share without a discount. In total, 91,147,482 shares of Series D preferred stock were issued. Each share of Series D preferred stock is voting and is convertible at any time into a share of Class A voting common stock with such conversion ratio subject to future adjustment. Conversion is automatic upon a qualified financing, as defined. Each series of preferred stock has anti-dilution protection in the event of a dilutive

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

3. Common and Preferred Stock (Continued)

issuance, as defined in the certificate of incorporation. The Series D stock bears an 8% per annum noncumulative dividend ($0.0478 per Series D preferred share) when and if declared. The Series D has a liquidation preference equal to the aggregate of the proceeds and the note conversions, or $54.5 million plus accrued but unpaid dividends, after which holders of Series D participate with all other stockholders in the remainder of liquidation proceeds on an as converted basis. The Series D is senior to all other series of preferred stock.

In conjunction with the Series D financing, the authorized capital was increased such that following this financing, the Company is authorized to issue 449,540,280 shares of capital stock, $0.001 par value per share, of which 265,000,000 shares are designated as Class A, 330,664 shares are designated as Class B and 184,209,616 are designated as preferred stock, of which 1,974,430 shares are designated as Series A, 1,834,862 shares are designated as Series A-1, 4,620,123 shares are designated as Series B, 17,102,578 shares are designated as Series C, 21,254,306 shares are designated as Series C-1, and 137,423,317 shares are designated as Series D.

Common Stock

Upon any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Company, the holders of the Class A voting common stock shall be entitled to receive that portion of the remaining funds to be distributed to the stockholders, subject to the liquidation preferences of the preferred stock, on a pro-rata basis with the holders of the Class B nonvoting common stock. Such funds shall be paid to the holders of the Class A voting common stock and Class B nonvoting common stock on the basis of the number of shares so held by each of them.

The Class B nonvoting common stock has mandatory conversion provisions (one-for-one) into Class A voting common stock, as declared by the Board of Directors and approved by the holders of a majority of the then issued and outstanding shares of Class A voting common stock, or immediately prior to an IPO.

Preferred Stock

The following summarizes the significant terms of existing Preferred Stock as of December 31, 2017:

Each share of preferred stock is voting and is convertible at any time into voting common stock at the applicable conversion ratio. Conversion is automatic upon the earlier of a qualified financing, such as an IPO of at least $35 million and a price per share that exceeds $0.71767 pursuant to a registration statement on Form S-1 under the Securities Act of 1933, as amended, or upon the vote of a majority of the outstanding Series C and C-1 preferred stock on an as-if-converted basis to Class A common stock. Each series of preferred stock has anti-dilution protection in the event of a dilutive issuance, as defined in the certificate of incorporation. As a result of prior anti-dilution adjustments, the conversion ratio for the Series A, Series A-1, Series B, Series C and Series C-1 preferred stock was adjusted to 1.4814-for-1, 2.1351-for-1, 2.1913-for-1, 2.0058-for-1, and 1.0942-for-1, respectively, as of December 31, 2017. As a result of the Series D financing in February 2018, the conversion ratios were modified for anti-dilution adjustments such that the conversion ratio for the Series A, Series A-1, Series B, Series C and Series C-1 preferred stock was adjusted to 1.6087 for 1, 2.3185 for 1, 2.3795 for 1, 2.1781 for 1, and 1.1882-for-1, respectively. The conversion ratio for Series D was 1 for 1 at the time of closing.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

3. Common and Preferred Stock (Continued)

Each series of preferred stock bears an 8% per annum noncumulative dividend when and if declared, or $0.1064 per Series A preferred share, $0.2616 per Series A-1 preferred share, $0.2847 per Series B preferred share, $0.1169 per Series C preferred share, $0.0638 per Series C-1 preferred share, and $0.0478 per Series D preferred share. Through December 31, 2017, no dividends have been declared on any preferred stock nor have any been accrued. Each series of preferred stock has a liquidation preference to the holders of common stock equal to the original purchase price plus declared but unpaid dividends. The Series D preferred stock is senior to all other series of preferred stock. The Series C and C-1 preferred stock, on a pari passu basis, are senior to the Series B, Series A and Series A-1 preferred stock. The Series B preferred stock is senior to the Series A and Series A-1 preferred stock, and the Series A-1 preferred stock is senior to the Series A preferred stock. Following payment of the liquidation preference, remaining proceeds are shared ratably between the common stockholders and the Series A, Series A-1, Series B, Series C and Series C-1 preferred stockholders on an as-converted basis until the holders of the Series A, Series A-1, Series B, Series C and Series C-1 preferred stockholders have received two times the applicable issue price plus accrued but unpaid dividends. The applicable issue price for the Series A, Series A-1, Series B, Series C and Series C-1 preferred stock is $1.33, $3.27, $3.558, $1.46177 and $0.79744, respectively, subject to adjustment as defined in the certificate of incorporation. The aggregate liquidation preferences of the Series A, Series A-1, Series B, Series C and Series C-1 preferred stock totaled $2,625,992, $6,000,000, $16,000,000, $25,000,035 and $14,000,000 at December 31, 2017, respectively. The liquidation preference of Series D is $54,513,495.

Warrants

In connection with historical private placement offerings, the Company issued warrants to purchase its preferred stock with an exercise term of ten years from the date of issuance. Pursuant to the terms of the warrants, upon the conversion of the preferred stock underlying the warrant into common stock, the warrants automatically become exercisable for common stock based upon the conversion ratio of the underlying preferred stock. At December 31, 2017, the Company had 123,215 share purchase warrants outstanding for Series B Preferred stock with an exercise price of $3.56 per share expiring March 28, 2018.

The warrants for 123,215 shares of Series B preferred stock convert into warrants for 293,951 shares of Class A common stock at the same time as all outstanding Series B preferred shares have been converted to Class A common stock. During the year ended December 31, 2017, 20,000 warrants were exercised for the purchase of common stock for total proceeds of $10,000. The Company did not record any stock-based compensation expense pertaining to the warrants during the years ended December 31, 2016 and 2017. All outstanding warrants are currently exercisable.

The January and February Notes financing included warrants to purchase a total of 3,698,128 shares of the Company's Series C-1 preferred stock at an initial exercise price of $.79744 per share, subject to adjustments related to achieving future financing milestones, as defined. As of December 31, 2017, the warrants for 3,698,128 shares of Series C-1 preferred stock convert into warrants for 4,405,614 shares of Class A common stock at the same time as all outstanding Series C-1 preferred shares have been converted to Class A common stock. In August 2017, as a result of the financing milestones not being achieved, the exercise price of the Series C-1 warrants was reduced to $0.001 per share.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

3. Common and Preferred Stock (Continued)

The Series C-1 and Series B convertible preferred stock will automatically convert into common stock immediately prior to the closing of an IPO of the Company's stock, if such warrants have not previously expired.

4. Stock Options

In November 2004, the Board of Directors adopted, and the stockholders approved, the Plan to create an additional incentive for employees, directors, consultants and advisors. The Plan authorized the issuance of stock options to be granted as incentive stock options along with nonqualified stock options, restricted stock and other stock-based awards. The Board of Directors determines the exercise price of all options granted. The options vest based on terms provided for in the individual stock option agreements issued pursuant to the 2004 Plan. Options generally vest on a monthly basis over a period of up to 4 years and have a contractual life of ten years. The 2016 Plan is the successor to the 2004 Plan. The terms of the 2016 Plan are similar to the 2004 Plan. The 2016 Plan provides for accelerated vesting under certain change of control transactions.

Determining the appropriate fair value model and the related assumptions requires judgment. The fair value of each option grant is estimated using a Black-Scholes option pricing model. The following table summarizes the assumptions used for estimating the fair value of stock options granted during:

	Year Ended December 31,	
	2016	2017
Expected dividend yield	0%	0%
Risk-free interest rate	1.34% - 2.013%	1.344% - 1.988%
Volatility	72% - 98%	69% - 100%
Expected life	6.25 years	6.25 years
Weighted-average fair value per share	$0.29	$0.83

The Company considers many factors when estimating expected forfeitures, including the employee or consultant class and historical experience. The Company does not maintain an internal market for its shares, and its shares are not traded privately or publicly. Therefore, the Company estimates volatility based upon the identification of similar public entities for which option price information is available to consider the historical, expected or implied volatility of those entities' share prices in estimating the Company's expected volatility. The expected term of options and warrants granted represents the period that options and warrants granted are expected to be outstanding. The risk-free interest rate for periods within the contractual life of the option and warrant is based on the yield of the U.S. Treasury securities at the time of grant. The Company amortizes the fair value, net of estimated forfeitures, over the remaining vesting term on a straight-line basis.

The weighted-average grant date price per share was $0.40 and $1.21 per share for the shares issued during the years ended December 31, 2016 and 2017, respectively.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

4. Stock Options (Continued)

The intrinsic value of options exercised was $592,521 and $222,172 for the years ended December 31, 2016 and 2017, respectively. At December 31, 2017, the intrinsic value of options and warrants outstanding and exercisable was $655,709. The weighted average remaining contractual term of options and warrants outstanding and exercisable is 5.89 years as of December 31, 2017.

The following table summarizes stock option activity under the 2004 Plan and the 2016 Plan:

	Shares Available for Issuance	Options Outstanding	Weighted Average Exercise Price
Outstanding at December 31, 2015	716,040	14,275,613	$ 0.23
Shares reserved for future issuance	1,149,475	—	—
Granted	(1,513,373)	1,513,373	$ 0.40
Exercised	—	(3,123,153)	$ 0.16
Cancelled/expired	409,745	(409,745)	$ 0.28
Outstanding at December 31, 2016	761,887	12,256,088	$ 0.26
Shares reserved for future issuance	—	—	—
Granted	(237,000)	237,000	$ 1.21
Exercised	—	(255,268)	$ 0.34
Cancelled/expired	—	(991,835)	$ 0.13
Outstanding at December 31, 2017	524,887	11,245,985	$ 0.27

The following summarizes certain information about stock options vested and expected to vest as of December 31, 2017:

	Number of Options	Weighted-Average Remaining Contractual Life (In Years)	Weighted-Average Exercise Price
Outstanding and expected to vest	10,714,531	5.89	$ 0.27
Vested and exercisable	8,459,019	5.03	$ 0.27

During the year ended December 31, 2016, 3,123,153 stock options were exercised for the purchase of common stock for total proceeds of $500,468. The intrinsic value for the options exercised approximated $592,521. During the year ended December 31, 2017, 255,268 stock options were exercised for the purchase of common stock for total proceeds of $86,703. The intrinsic value for the options exercised was $222,172.

During 2016 and 2017, stock-based compensation expense for employee stock option awards totaled $347,444 and $514,092, respectively. As of December 31, 2017, there was $968,372 of total unrecognized compensation cost related to non-vested stock option grants, which is expected to be recognized over a weighted-average period of 1.60 years.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

5. License Agreements

Liquidia performs research under a license agreement with the UNC as amended to date, ("UNC Letter Agreement"). As part of the UNC Letter Agreement, Liquidia holds an exclusive license to certain research and development technologies and processes in various stages of patent pursuit, for use in its research and development and commercial activities, with a term until the expiration date of the last to expire patent subject to the UNC Letter Agreement, subject to industry standard diligence milestones. Under the UNC Letter Agreement, Liquidia is obligated to pay UNC royalties equal to a low single-digit percentage of all net sales of Liquidia drug products whose manufacture, use or sale includes any use of the technology or patent rights covered by the UNC Letter Agreement. Liquidia may grant sublicenses of UNC licensed intellectual property in return for specified payments based on a percentage of any fee, royalty or other consideration received.

In connection with the development and collaboration agreements (see Note 6) entered into with GSK in June 2012, Liquidia paid sublicense fees to UNC and amortized each into research and development expense over the period of specific performance with GSK. Also in connection with that sublicense fee, Liquidia agreed to issue $1,200,000 of Series C-1 preferred shares to UNC under the same terms provided to other Series C-1 holders and an unsecured promissory note for $600,000. Refer to Note 11 for additional details on the unsecured promissory note.

In 2012 and 2015, GSK Vaccines and GSK Inhaled made up-front payments to the Company of $14,000,000 and $20,000,000 combined, respectively. On such payments, the Company incurred sublicense fees to UNC of $2,800,000 and $2,500,000, respectively, which are being amortized into Cost of Sales in the accompanying Statements of Operations and Comprehensive Loss on a straight-line basis over the corresponding periods of revenue recognition of the related payments. As of December 31, 2016, the balances of these unamortized fees included in current and long-term prepaid expenses and other assets was $319,758 and $872,488, respectively. As of December 31, 2017, the balances of these unamortized fees included in current and long term prepaid expenses and other assets was $319,758 and $552,730, respectively.

In June 2016, Liquidia entered into an amendment to the UNC Letter Agreement, whereby the date for completion of a milestone requiring launch of a commercial product was extended from January 1, 2018 to December 31, 2020. In addition, a 2016 letter agreement was accepted by UNC that detailed Liquidia's efforts in satisfying the obligations of two milestones related to developing and commercializing the licensed technology under the UNC Letter Agreement as of December 31, 2015, and accepted such efforts as satisfying the two milestones dated January 1, 2016. The 2016 letter agreement also included extending the maturity date of the promissory note (see Note 11) to December 31, 2017 and payment of an additional $1,500,000 fee in exchange for modifying these progress milestones required under the UNC Letter Agreement. Even though this amount was added to the outstanding balance of the promissory note in 2016, for the year ended December 31, 2015, the Company accrued the $1,500,000 in research and development expense. In December 2017, the Company executed an amendment to the UNC Letter Agreement that extends the maturity date of the promissory note from December 31, 2017 to June 30, 2018.

6. Revenue From License and Collaboration Agreements

The Company's collaboration and licensing agreements provide for multiple deliverables to be delivered by the Company and include a license to the Company's technology in a particular field of study, participation

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

6. Revenue From License and Collaboration Agreements (Continued)

in collaboration committees, performance of certain research and development services and obligations for certain manufacturing services. Up-front consideration related to the licensing of technology is recognized over the estimated period of the Company's substantive performance obligations.

The Company recognizes the payments received for research and development services in the period when the services are performed and collection is reasonably assured. Royalties related to product sales will be recognized when earned since payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

The following tables summarize the amounts recorded as revenue in the Statements of Operations and Comprehensive Loss for each significant collaboration and licensing agreement for the years ended December 31, 2016 and 2017:

	2016 Revenue Recognized From Non-Refundable Payments			
	Milestones	Up-front Payments	Research and Development Services	Total
GSK Vaccines	$ —	$ 1,538,465	$ 1,347,369	$ 2,885,834
GSK Inhaled	3,000,000	3,000,000	2,941,592	8,941,592
Gates Foundation	—	145,631	—	145,631
Other	—	110,868	1,133,064	1,243,932
Total	$ 3,000,000	$ 4,794,964	$ 5,422,025	$ 13,216,989

	2017 Revenue Recognized From Non-Refundable Payments			
	Milestones	Up-front Payments	Research and Development Services	Total
GSK Vaccines	$ —	$ —	$ —	$ —
GSK Inhaled	—	3,000,000	3,114,311	6,114,311
Gates Foundation	—	145,631	—	145,631
Other	—	197,585	800,596	998,181
Total	$ —	$ 3,343,216	$ 3,914,907	$ 7,258,123

GSK Vaccines

In June 2012, the Company entered into a Development and Collaboration Agreement (the "Collaboration Agreement") with GSK Vaccines, which is based in Belgium. In connection with the Collaboration

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

6. Revenue From License and Collaboration Agreements (Continued)

Agreement, GSK Vaccines received an exclusive worldwide license of Liquidia's rights to certain substrate technology in a specific biotechnological field. In addition, the Collaboration Agreement included material supply provisions for which the Company received reimbursement payments for research and development services provided and manufacturing services for Company materials provided to GSK Vaccines during the Collaboration Agreement. The initial term of the Collaboration Agreement was three years.

In March 2015, GSK Vaccines extended the Collaboration Agreement through April 30, 2016 for up-front consideration to Liquidia of $5,000,000. Also during 2014 and 2015, the Company entered into other agreements under the collaboration, primarily for research services. In April 2016, GSK Vaccines did not extend this collaboration or exercise their option for a license.

GSK Inhaled

In June 2012, the Company entered into a collaboration, as well as a license option and equity agreement, with GSK Inhaled, which is based in the United Kingdom. The agreements included up-front payments for option license rights to certain life science fields, research and development and manufacturing funding amounting to $14,000,000 for up to three years, and key license terms, including extension and license fees, milestone payments and royalties on product sales. The Company recognized the non-refundable up-front fees into revenue over three years, in line with the term of the original agreement. In 2012, in connection with GSK's interest in the Company's technology, GSK invested $3,799,999 in a Series C-1 preferred stock financing.

In September 2015, GSK Inhaled exercised the option to permanently license the technology for a non-refundable payment to the Company of $15,000,000. The Company is recognizing the non-refundable up-front fees into revenue over five years based on the estimated development period. Pursuant to the license provisions of the collaboration agreement, GSK Inhaled is potentially required to pay Liquidia for certain milestones reached in the aggregate maximum amount of $158,000,000, and GSK Inhaled is required to pay Liquidia tiered royalties on the worldwide sales of the licensed products at percentages in the mid-single digits, based on net revenues from nonproprietary and proprietary products. Also during 2014 and 2015, the Company entered into other agreements under this collaboration, primarily for research services.

In December 2017, GSK Inhaled made the Company aware of its modified plans under the GSK Inhaled Collaboration and Option Agreement, and the reduced requirement and budget for Liquidia support, commensurate with its research and development plans related to PRINT for 2018. As a result, in December 2017, the Company committed to a plan to reduce its workforce which was communicated to the workforce in January 2018. The expense resulting from this plan is approximately $400,000, for which $0 was accrued in the Balance Sheets as of December 31, 2017.

Gates Foundation

In February 2011, the Company entered into a collaboration agreement with the Bill & Melinda Gates Foundation, primarily for research services related to developing vaccines targeted at developing markets. The Company is recognizing the up-front fee into revenue over the 6.75 year term of the agreement.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

6. Revenue From License and Collaboration Agreements (Continued)

Other:

G&W Laboratories

In June 2016, the Company entered into a development and license agreement with G&W Laboratories to develop multiple products for topical delivery in dermatology using the Company's PRINT technology. The first non-refundable up-front fee of $1,000,000 was received in June 2016. This up-front fee was deferred and is being amortized into revenue over a period of five years, expected to correspond with the collaboration term. Research and development services commenced in July 2016 on the first program pursuant to this agreement.

Governmental Grant Awards

Income received from governmental grant awards are recognized as revenue under a cost-plus-fixed fee ("cost-plus") contract which provides for payment of a negotiated fee that is fixed at the inception of the contract. Grants are typically multi-year and the fees may be changed as a result of changes in the scope of work to be performed. Revenue on cost-plus contracts are recognized as costs are incurred at amounts billable to the organization. Revenue from governmental grant awards for the years ended December 31, 2016 and 2017 was $472,363 and $235,858, respectively.

7. Property, Plant and Equipment

Property, plant and equipment consisted of the following at December 31, 2016 and 2017:

	2016	2017
Lab equipment	$ 3,384,149	$ 3,847,546
Grant equipment	1,115,044	1,143,701
Office equipment	111,698	123,655
Furniture and fixtures	205,051	205,051
Computer equipment	637,327	677,569
Leasehold improvements	5,428,860	7,218,687
Construction-in-progress	337,255	2,830,407
Total property, plant and equipment	11,219,384	16,046,616
Accumulated depreciation	(6,871,673)	(7,803,604)
Property, plant and equipment, net	$ 4,347,711	$ 8,243,012

The Company recorded depreciation expense of $651,560 and $931,931, respectively, for the years ended December 31, 2016 and 2017. Maintenance and repairs are expensed as incurred and were $203,466 and $244,885, respectively, for the years ended December 31, 2016 and 2017.

During 2015, the Company commenced construction on improvement within its current facilities of approximately $2,400,000, which included both facility construction and implementation of specialized lab equipment. The following table details the activity of Construction-in-Progress ("CIP") in 2016 and 2017

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

7. Property, Plant and Equipment (Continued)

and the associated transfer to Leasehold Improvements and Lab Equipment when the assets were placed in service:

	Leasehold Improvements	Lab Equipment	Total
Balance as of December 31, 2015	$ 237,407	$ —	$ 237,407
Add: Purchases related to CIP	2,484,711	99,047	2,583,758
Less: Transfer due to placed in service	(2,384,863)	(99,047)	(2,483,910)
Balance as of December 31, 2016	337,255	—	337,255
Add: Purchases related to CIP	3,108,809	812,205	3,921,014
Less: Transfer due to placed in service	(1,427,862)	—	(1,427,862)
Balance as of December 31, 2017	$ 2,018,202	$ 812,205	$ 2,830,407

The Construction in Progress balance includes $76,844 and $57,625 of capitalized interest costs for the years ended December 31, 2016 and 2017, respectively.

In December 2016, the Company executed an agreement with a commercial manufacturer to build a PRINT Particle Fabrication Line for the production of cGMP particles for Pharmaceutical Products. The cost is expected to be approximately $1,500,000. The Company financed this transaction with a 3rd party vendor ("Lessor") capital lease. The Lessor is making scheduled payments to the manufacturer per the payment schedule in the agreement as the asset is built. The Lessor charges the Company a monthly lease rate on the scheduled payments made to the manufacturer until the asset is completed and placed in service. The lease commenced upon completion of construction on March 1, 2018.

In accordance with ASC 840, *Leases*, for build-to-suit arrangements where the Company is involved in the construction of an asset prior to the commencement of the lease or takes some level of construction risk, the Company is considered the accounting owner of the assets during the construction period. Accordingly, during construction activities, the Company recorded a Construction in progress asset within Property, plant and equipment and a corresponding deferred financing obligation liability for contributions by the lessor toward construction. Upon completion of the construction, since the lease met "sale-leaseback" criteria, the Company removed the asset and related financial obligation from the Balance Sheets and treated the equipment lease as a capital lease. As of December 31, 2017, $1,341,810 for a build-to-suit asset is included in Property, plant and equipment, net, and the corresponding financial obligation of $1,341,810 in deferred financing obligation in the accompanying Balance Sheets.

8. Income Taxes

No provision for federal and state income tax expense has been recorded for the years ended December 31, 2016 and 2017 due to the valuation allowance recorded against the net deferred tax asset and recurring losses.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

8. Income Taxes (Continued)

On December 22, 2017, the Tax Cuts and Jobs Act (the "TCJA") was enacted into law. This new law includes significant changes to the U.S. corporate income tax system, including a permanent reduction in the corporate income tax rate from 35% to 21%, limitations on the deductibility of interest expense and executive compensation and the transition of U.S. international taxation from a worldwide tax system to a territorial tax system. The TCJA also limits interest expense deductions to 30% of taxable income before interest, depreciation and amortization from 2018 to 2021 and then taxable income before interest thereafter. The TCJA permits disallowed interest expense to be carried forward for five years. The Company has calculated its best estimate of the impact of the TCJA in its year-end income tax provision in accordance with its understanding of the TCJA and guidance available at the time. The overall impact of the TCJA resulted in a decrease to the deferred tax assets and a corresponding decrease to the valuation allowance of $14.1 million. Using the guidance issued by the SEC staff in Staff Accounting Bulletin No. 118, the Company expects to complete the accounting for the TCJA when the 2017 U.S. federal income tax return is filed in 2018.

Deferred income taxes reflect the net tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows at December 31, 2016 and 2017:

	2016	2017
Non-current deferred income tax assets:		
Tax loss carryforwards	$ 24,330,103	$ 22,274,378
Deferred revenue	4,022,192	2,098,191
Research and development credits	2,382,047	2,382,047
Stock-based compensation	414,409	277,948
Bad debt	17,309	11,053
Compensation	87,658	9,766
Fixed assets	76,545	63,570
Patent amortization	180,734	106,622
Other	349,132	768,936
Valuation allowance	(31,860,129)	(27,992,511)
Total non-current deferred income tax assets	$ —	$ —

At December 31, 2016 and 2017, the Company established a full valuation allowance against its net deferred tax assets since, at the time, the Company could not assert that it was more likely than not that its deferred tax assets would be realized. As a result, there was an increase in the valuation allowance in 2016 of $5,267,135 and a decrease in 2017 of $3,934,784.

At December 31, 2017, the Company had federal and state income tax loss carryforwards of $96,856,855 and $97,946,266, respectively, which begin to expire in 2027 for federal purposes and in 2022 for state

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

8. Income Taxes (Continued)

purposes. The utilization of the loss carryforwards to reduce future income taxes will depend on the Company's ability to generate sufficient taxable income prior to the expiration of the loss carryforwards.

The Internal Revenue Code of 1986, as amended, contains provisions which limit the ability to utilize the net operating loss carryforwards in the case of certain events, including significant changes in ownership interests. If the Company's net operating loss carryforwards are limited, and the Company has taxable income which exceeds the permissible yearly net operating loss carryforwards, the Company would incur a federal income tax liability even though net operating loss carryforwards would be available in future years.

The reasons for the difference between actual income tax expense for the years ended December 31, 2016 and 2017 and the amount computed by applying the statutory federal income tax rate to income before income tax are as follows:

	2016		2017	
	Amount	% of Pretax Earnings	Amount	% of Pretax Earnings
Income tax benefit at statutory rate	$ (5,417,479)	34.0%	$ (9,912,442)	34.0%
State income taxes, net of federal tax benefit	(314,219)	2.0	(581,901)	2.0%
Non-deductible expenses	2,616	(0.1)	12,757	(0.1)%
Stock-based compensation	83,957	(0.5)	153,033	(0.5)%
Non-deductible interest expense	—	—	3,795,060	(13.0)%
Derivative and warrant fair value adjustments	—	—	(4,040,646)	13.9%
Change in federal rate	—	—	14,113,550	(48.4)%
Change in state rate	442,782	(2.8)	371,138	(1.3)%
Other	(64,792)	0.4	24,235	(0.1)%
Change in valuation allowance	5,267,135	(33.0)	(3,934,784)	13.5%
Provision for income taxes	$ —	0.0%	$ —	0.0%

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. As of December 31, 2017, the Company had no unrecognized tax benefits. The Company's policy for recording interest and penalties related to uncertain tax provisions is to record them as a component of the provision for income taxes. The Company did not have any accrued interest or penalties associated with any unrecognized tax positions as of December 31, 2016 and 2017, and there were no such interest or penalties recognized during the years ended December 31, 2016 and 2017.

The Company has all tax years open to examination by federal tax and state tax jurisdictions. No income tax returns are currently under examination by taxing authorities.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

9. Related-Party Transactions

Envisia

Through June 2016, Liquidia was party to shared service agreements with Envisia and LQ3, whereby they shared facilities, patent costs, management services and manufacturing in exchange for monetary consideration.

For shared services provided by Liquidia to Envisia, Liquidia recorded the following as a reduction of Research and Development Expenses in the accompanying Statements of Operations and Comprehensive Loss for the years ended December 31, 2016 and 2017:

- Facilities shared services of $462,000 and $0, respectively; and
- Sharing of patent costs of $152,893 and $105,623, respectively.

In 2015, Liquidia entered into custom manufacturing agreements with Envisia to provide cGMP material. Revenue is recognized as costs are incurred at amounts billable to the organization. Revenue recognized by Liquidia under these agreements totaled $172,358 and $0 for the years ended December 31, 2016 and 2017, respectively.

In May 2016, net shared service costs that remained unpaid by Envisia at the time were converted into a promissory note with principal amount of $985,594, bearing interest at the rate of 5.00% per annum that was recorded as a Note Receivable. Principal and interest payments were scheduled to be paid in eight equal monthly installments, maturing on December 31, 2016.

Full payment of the promissory note was received in August 2016, and accordingly the Company issued a full release and discharge of the note.

Liquidia had a total net receivable from Envisia of $49,783 and $0 as of December 31, 2016 and 2017, respectively.

In May 2015, the license related to the field of dermatology and articular was purchased back by the Company from Envisia in exchange for 50,000 shares of its Envisia common stock. The purchase price (license consideration) of 50,000 shares of Envisia common stock was based upon third-party appraisals of the value of the Envisia common stock at the transaction date.

In March 2017, the license related to the Otic field, along with other intellectual property rights, as defined, was purchased back by the Company from Envisia in exchange for 75,000 shares of its Envisia common stock.

LQ3

Liquidia charged LQ3 through February 28, 2016 for facilities shared services of $10,400, which were recorded as a reduction of Research and Development Expenses in the accompanying Statements of Operations and Comprehensive Loss.

Liquidia did not have any receivable or payable balances with LQ3 as of December 31, 2016 and 2017.

Note Receivable from Related Party

In September 2016, the Company's Chief Executive Officer entered into a loan agreement with the Company to finance the exercise of stock options to purchase 500,000 shares for $94,271, with a maturity date upon the earlier of (i) immediately prior to the Company's public filing of a prospectus or other offering document relating to an IPO of securities or (ii) September 19, 2017. Interest accrues at 1.00% per annum. This loan receivable was recorded in the Company's 2016 Balance Sheet at that date as a $55,000

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

9. Related-Party Transactions (Continued)

offset to stockholders' equity and $39,534 within related party receivables. The note receivable was repaid in full in 2017.

10. Commitments and Contingencies

Operating Leases

The Company conducts its operations from leased facilities in Morrisville, North Carolina, the leases for which expire in 2022. In June 2007, the Company entered into an 84-month operating lease agreement, commencing in November 2007, for general office, laboratory, research and development and light manufacturing space. The lease agreements require the Company to pay property taxes, insurance, common area expenses and maintenance costs.

In November 2014 and November 2015, the Company executed the first and second extension period clauses, respectively, resulting in additional months to the lease for the related premises extending until October 2022. As part of these extensions, the Company received tenant allowances of $228,973 and $392,020, respectively, for expansion of laboratory and office space.

In January 2017, the Company signed a second extension to the lease of its primary building for an additional 48 months and expiring October 31, 2026. A tenant allowance of approximately $2,000,000 was also made available for use to help fund the expansion and build out of the primary building. This allowance was fully utilized as of December 31, 2017.

These allowance amounts were recorded as a long-term deferred rent liability and amortized as a reduction in rent expense over the remaining term of the lease. The balance of all unamortized deferred rent and allowances totaled $665,817 and $2,881,180 as of December 31, 2016 and 2017, respectively.

The Company also leases copier equipment under an operating lease, which expires in 2019.

As of December 31, 2017, future minimum lease payments under operating leases having initial or remaining non-cancelable lease terms in excess of one year were as follows:

2018	$	968,464
2019		994,408
2020		1,023,949
2021		1,054,558
2022		1,073,086
Therafter		4,159,141
Total	$	9,273,606

Rent expense, including other facility expenses, for the years ended December 31, 2016 and 2017 was $705,107 and $1,046,721, respectively.

In March 2012, the Company entered into an agreement, as amended, with Chasm Technologies, Inc. for manufacturing consulting services related to the Company's manufacturing capabilities during the term of the agreement. As future contingent consideration under the agreement, the Company agreed to pay $400,000 related to the timing of the Company's first Phase 3 clinical trial which commenced in December

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

10. Commitments and Contingencies (Continued)

2017. The consideration of $400,000 is comprised of initial consideration of $20,000 paid in 2017, $80,000 to be paid upon first dosing of the first patient in the Phase 3 clinical trial, and $300,000 due no later than December 31, 2018. In addition, the Company also agreed to pay future contingent royalties on net sales totaling no more than $1,500,000. As of December 31, 2016 and 2017, $0 and $380,000, respectively, was accrued and is included in Accrued Expenses in the accompanying Balance Sheets.

Capital Leases

The Company leases specialized lab equipment under leases classified as capital leases. The related capitalized assets are amortized on a straight-line basis over the estimated useful life of the asset. The interest rates related to these lease obligations range from 0.2% to 12.2%. The following table shows the future minimum lease payments under the capital leases by year and the present value of the minimum lease payments:

Year ending December 31:	
2018	$ 489,022
2019	313,856
2020	215,841
Thereafter	—
Total minimum lease payments	1,018,719
Less: Amount representing interest	(38,296)
Present value of minimum lease payments	$ 980,423

The net book value of assets under capital leases was $915,300 as of December 31, 2017. At December 31, 2017, the present value of minimum lease payments due within one year was $489,022.

Other

In June 2017, the Company was served with a lawsuit filed by Allergan, Inc., in the United States District Court for the Central District of California, naming Liquidia and Envisia as defendants. The lawsuit alleged that Envisia's development efforts of one of its product candidates misused Allergan confidential information. The Company's involvement results from its possibly related activities that occurred prior to November 8, 2013, the date of formation of Envisia. In October 2017, the Company settled the litigation with Allergan, Inc., with no financial payments due from the Company or other consideration that materially affects the operation of the Company. There was no accrual for this in the Balance Sheets as of December 31, 2016 and 2017.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

11. Long-Term Debt

Long-term debt consisted of the following as of:

	Maturity Date	December 31, 2016	December 31, 2017
Pacific Western Bank Tranche I note	December 8, 2019	$ 2,974,240	2,488,572
Pacific Western Bank Tranche II note	October 10, 2020	2,974,240	2,820,382
Pacific Western Bank Tranche III note	October 10, 2020	—	3,760,509
UNC promissory note	June 30, 2018	2,165,180	2,257,684
Convertible notes, net of discounts	December 31, 2018	—	9,837,984
Less current portion		(2,898,101)	(15,608,349)
Long-term debt, less current portion		$ 5,215,559	$ 5,556,782

UNC Promissory Note

In September 2012, the Company issued an unsecured promissory note with principal amount of $600,000 as a sublicense fee to UNC, with principal and interest due in full on September 1, 2016, bearing an interest rate equal to the one-year LIBOR plus 2%, compounding annually. In June 2016, the Company (as licensee) negotiated modifications to its license agreement with UNC in exchange for an increase of $1,500,000 to the note payable and extension of the maturity to December 31, 2017. As the Company had previously recorded a contingent liability of $1,500,000 related to this license, the increase to the note payable was recorded as a reduction to the accrued expense balance at this time. In addition, the initial note of $600,000 plus accrued interest were extended under the same terms. The combined note payable interest rate was increased by 1%. The balance of the promissory note at December 31, 2016 and 2017 was $2,165,180 and $2,257,684, respectively. In December 2017, the Company executed an amendment to the UNC Letter Agreement that extends the maturity date of the promissory note from December 31, 2017 to June 30, 2018. All other terms and conditions of the Letter Agreement continue in force through the new maturity date.

Pacific Western Bank

In January 2016, the Company entered into a Loan and Security Agreement ("LSA") with Pacific Western Bank ("Pacific Western"). The LSA provides that the Company may borrow up to $3,000,000 in a term loan ("Term Loan") to supplement working capital and finance facility expansion and capital equipment purchases. The Term Loan is collateralized by a lien on all assets of the Company that are not otherwise encumbered, including a negative pledge on intellectual property prohibiting its sale without the bank's consent. The Company is also obligated to comply with various other customary covenants, including, among other things, restrictions on its ability to dispose of assets, replace or suffer the departure of the CEO or CFO without delivering 10 days' prior written notification to the bank, suffer a change on the Board of Directors which would result in the failure of at least one partner of either New Enterprise Associates or Canaan Partners or their respective affiliates to serve as a voting member, make acquisitions, be acquired, incur indebtedness, grant liens, make distributions to its stockholders, make investments, enter into certain transactions with affiliates or pay down subordinated debt, subject to specified exceptions. Amounts

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

11. Long-Term Debt (Continued)

borrowed under the Term Loan may be repaid at any time without penalty or premium. The Term Loan was interest-only through July 6, 2017, followed by an amortization period of 30 months of equal monthly payments of principal plus interest, beginning on August 6, 2017 and continuing on the same day of each month thereafter until paid in full. Any amounts borrowed under the Term Loan bore interest at 3.75% during the initial 18-month interest-only period. Following the interest-only period, the interest rate increased to 5.00%, which is fixed for the duration of the loan. At closing, the Company was granted availability of the full $3,000,000, later designated as Tranche I of the Term Loan, with proceed disbursements in the minimum principal amount of $250,000 per draw. The Tranche I loan fully matures and expires when the final payment is made on January 6, 2020.

In October 2016, the Company amended the Term Loan ("Second Amendment") to (1) increase the initial loan amount to $10,000,000 by providing a second Term Loan of $3,000,000 ("Tranche II") and a third Term Loan of $4,000,000 ("Tranche III"); and (2) amend a section of the LSA regarding incurred indebtedness. The additional term loans are both subject to the same terms and conditions as the original Term Loan under the LSA. With the Second Amendment, new covenants were enacted requiring the Company to (1) receive proceeds from a sale or issuance of equity by December 31, 2016, which was achieved; (2) file a new clinical trial authorization by December 31, 2016, which was achieved; and (3) agree to set future covenants in future amendments after achievement of the aforementioned milestones. Pursuant to the Second Amendment, Tranche II and Tranche III both bear a fixed rate of interest of 3.75% until October 12, 2017, and 5.0% per annum beginning October 13, 2017 and thereafter, followed by an amortization period of 36 months of equal monthly payments of principal plus interest, beginning on November 12, 2017. Tranche II and Tranche III loans fully mature and expire when the final payment is made on October 12, 2020. As of December 31, 2016 Tranche I, Tranche II, and Tranche III have outstanding balances of $2,974,240, $2,974,240, and $0, respectively. As of December 31, 2017 Tranche I, Tranche II, and Tranche III have outstanding balances of $2,488,572, $2,820,382, and $3,760,509, respectively.

In early 2017, the Company breached a covenant in the LSA with Pacific Western Bank by failing to set mutually agreeable financial or milestone covenants on or before January 30, 2017. On March 30, 2017, pursuant to a Fourth Amendment to the LSA entered into between the Company and Pacific Western, Pacific Western waived the breach of this covenant and the covenant remains in effect.

In October 2017, the Company breached a covenant in its LSA with Pacific Western by failing to maintain minimum levels of cash. On November 30, 2017, pursuant to the Eighth Amendment to the Loan and Security Agreement, Pacific Western waived the breach of this covenant and amended the LSA to require the Company to maintain a cash balance of at least $2,500,000, monitored daily, from November 30, 2017 until the Company receives at least $12,000,000 from the issuance of equity instruments by December 31, 2017. The Company was in breach of this covenant as of December 31, 2017. In February 2018, Pacific Western waived the breach of this covenant as a result of the Company receiving equity financing in excess of the requirement.

Convertible Notes

In January and February 2017, the Company issued an aggregate of $11.8 million in principal of convertible promissory notes. The January and February Notes are accompanied by warrants to purchase of up to 25% of the aggregate principal amounts of the notes, equal to 3,698,128 shares of Series C-1. The January and February Notes mature on December 31, 2018, as amended, and bear interest at eight percent

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

11. Long-Term Debt (Continued)

(8%) per annum. Interest is earned daily and computed on the actual number of days elapsed until all the amounts under the notes have been paid in full. All unpaid principal and all accrued, but unpaid interest of each investor's note is due and payable on demand at the request of the investor at any time after December 31, 2018. In addition, upon the consummation of an asset sale, acquisition, or IPO, as defined, the investors may elect to accelerate the repayment of the note or convert into Class A or Series C-1 based on the following scenarios:

Singapore IPO

Upon the consummation of an IPO of the Company's capital stock registered on the Singapore Exchange Securities Trading Limited (a "Singapore IPO") after August 1, 2017, the holders have the right to elect to (i) receive payment from the Company equal to the outstanding principal plus all accrued but unpaid interest or (ii) convert the outstanding principal and accrued but unpaid interest into such shares of the Company's capital stock at a price per share that is equal to 70% of the price per share paid by the purchasers of such shares in such IPO.

Domestic IPO

Upon the consummation of an IPO of the Company's Common Stock registered under the Securities Act of 1933, after which such Common Stock is listed for trading on a United States national securities exchange (a "Domestic IPO"), the holders have the right to elect to (i) receive payment from the Company equal to the outstanding principal plus accrued but unpaid interest or (ii) convert all outstanding principal and accrued but unpaid interest into shares of the Company's Common Stock at a price per share that is equal to 75% of the price per share paid by the purchasers of the shares in such IPO.

Automatic Conversion upon Qualified Financing

The principal and accrued but unpaid interest automatically convert into shares of Preferred Stock issued in a Qualified Financing, as defined. The number of shares of Preferred Stock issued will be equal to the quotient of (i) the principal amount plus accrued but unpaid interest and (ii) 75% of the lowest price per share paid by investors participating in the Qualified Financing. If a Qualified Financing had not occurred prior to December 31, 2017, the holders of the notes had the right to elect to convert the outstanding principal plus accrued but unpaid interest into shares of the Company's Series C-1 at $0.59808 per share. The holders did not exercise this right.

Conversion upon Non-Qualified Financing

The holders may to elect to convert the outstanding principal and accrued but unpaid interest on the notes into any shares of the Company's capital stock that are issued in any financing transaction other than a Qualified Financing, a Domestic IPO or a Singapore IPO (a "Non-Qualified Financing"). The number of shares issued will be equal to the quotient of (i) the sum of the principal amount plus accrued but unpaid interest and (ii) 75% of the lowest price per share paid by investors participating in the Non-Qualified Financing.

Strategic Transaction

Upon the consummation of an asset sale of all or substantially all of the Company's assets or an acquisition, merger or change in control (a "Strategic Transaction"), the holders of the notes have the right to elect to (i) receive a payment from the Company equal to the sum of (1) 200% of the then outstanding principal and (2) accrued but unpaid interest or (ii) convert the outstanding principal and accrued but unpaid interest into shares of the Company's Series C-1 at $0.59808 per share.

Additionally, upon the occurrence of certain Events of Default, as defined in the notes, each investor may elect to accelerate the repayment of all unpaid principal and accrued interest under each note and the

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

11. Long-Term Debt (Continued)

notes provide for automatic redemption upon the occurrence of certain bankruptcy related Events of Default, as defined in the notes.

In July 2017, the Company entered into a series of unsecured convertible note agreements of $10.4 million in the aggregate. The July Notes bear interest at a rate of 8% per annum with a maturity date of December 31, 2018. In conjunction with this financing, the Company also entered into a commitment with an advisor in the form of a convertible note amounting to $442,356 with terms similar to the related transaction. The July Notes were not accompanied by warrants. Principal plus accrued interest convert into either preferred or common stock at the time of a Qualified Financing at a discount to the share price, depending on the financing similar to the January and February Notes. Conversion discounts on these convertible notes were largely similar to the January and February Notes except that the discount for a Singapore and Domestic IPO were both 50%.

In November 2017, the Company issued a series of unsecured subordinated convertible notes with an aggregate principal amount of $5.2 million to new and existing investors. The November Notes bear interest at a rate of 8% per annum with a maturity date of December 31, 2018. Principal plus accrued interest convert into either preferred or common stock at the time of a qualified financing, as defined, at a discount to the share price, depending on the financing. In conjunction with this financing, the Company also incurred fees of $392,000. The November Notes were not accompanied by warrants. Conversion discounts on these convertible notes were largely similar to the July Notes except that there was no discount upon mandatory conversion into a private financing round. In addition, at maturity, the November Notes (principal plus accrued but unpaid interest) convert into shares of the Company's Series C-1 at $0.72877 per share.

Accounting for Convertible Notes

The Company accounts for debt as liabilities measured at amortized cost and amortizes the resulting debt discount from allocation of proceeds to interest expense using the straight-line method over the expected term of the notes pursuant to ASC 835, *Interest* (ASC 835).

In connection with the issuance of the convertible notes and warrants, the Company recorded discounts equal to the full amount of each series of notes based on an allocation of proceeds to the warrants, an allocation to bifurcated derivatives which consist of a contingent put option upon a change of control or acceleration upon event of default and a contingent call option upon a change of control included in the notes, and a beneficial conversion feature, before issuance costs, based on the difference between the fair value of the underlying common stock at the commitment date of each note transaction and the effective conversion price of the notes, as limited by the proceeds allocated to the notes. Since the initial carrying value of all three series of convertible notes was $0, the combined debt issuance costs of $1,397,628 were charged to Interest Expense in the accompanying Statements of Operations and Comprehensive Loss. See Note 2 for discussion of the Company's policies for accounting for convertible instruments with detachable liability-classified warrants.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

11. Long-Term Debt (Continued)

The following is a summary of the liability component of Convertible Notes as of December 31, 2017:

	January and February Notes	July Notes	November Notes	Total
Principal amount of Convertible Notes	$ 11,796,168	$ 10,442,356	$ 5,150,000	$ 27,388,524
Unamortized discount on the notes	(5,504,878)	(7,291,816)	(4,753,846)	(17,550,540)
	$ 6,291,290	$ 3,150,540	$ 396,154	$ 9,837,984

The debt discount is being amortized as interest expense through the date of maturity, December 31, 2018. As of December 31, 2017, stated coupon interest accrued for convertible notes was $1,323,958 and amortization of debt discount and debt issuance costs were $9,837,984 and both are included in interest expense in the Statements of Operations and Comprehensive Loss.

Accounting for the Warrant Liabilities

The Company's liability-classified warrants were recorded as liabilities at their estimated fair value at the date of issuance, with the subsequent changes in estimated fair value recorded in derivative and warrant fair value adjustments in the Company's Statements of Operations and Comprehensive Loss. The warrants, with a fair value of $4,474,122 at inception, were initially recorded as warrant liabilities on the Balance Sheets with a corresponding discount to the notes. The change in the estimated fair value of the warrant liabilities for the year ended December 31, 2017 resulted in a fair value adjustment of $2,011,263 and is included in derivative and warrant fair value adjustments in the Statements of Operations and Comprehensive Loss. Changes in the values of the warrant liabilities are summarized below:

	Warrant Liabilities
Fair value at issuance in February 2017	$ 4,474,122
Change in fair value	(2,011,263)
Fair value at December 31, 2017	$ 2,462,859

Assumptions Used in Determining Fair Value of Liability Classified Warrants

To estimate the fair value of the warrants, the Company used a combination of the Current Value Method, Option Pricing Method ("OPM"), and Black-Scholes Option Pricing Model, in a Probability-Weighted Expected Return Method ("PWERM") context, or the Hybrid Method ("Hybrid Method"). The Company estimated the fair value of Series C-1 and estimated the fair value of Class A in the Singapore IPO and Domestic IPO scenarios. The Company used a Black-Scholes option pricing model to estimate the fair value of the warrants using the life of the warrants, assuming a Strategic Transaction does not occur, and the fair value of underlying equity values from the first step. The Company probability-weighted each scenario to arrive at an estimated fair value of the warrants.

Depending upon the scenario, warrants could be exercised to purchase either Class A or Series C-1 stock. To value the warrants in each scenario, the Company used either an OPM or the Black-Scholes option

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

11. Long-Term Debt (Continued)

pricing model. The hybrid method is a useful alternative to explicitly modeling all PWERM scenarios in situations when the Company has transparency into one or more near-term exits but is unsure about what will occur if the current plans fall through.

Key assumptions in the hybrid method include:

- OPM-Stay Private, US IPO or Singapore IPO
- Probability
- Timing (Each IPO)
- Enterprise value
- Type of Security
- Estimated security value
- Methodology of valuing warrant OPM

Accounting for the Derivative Liabilities

Management determined that the various conversion features discussed above represent, in substance, a put option (redemption feature) designed to provide the investor with a fixed monetary amount, settled in shares. Management determined that this put option and the Contingent Interest should be separated from the notes and accounted for as a compound derivative liability primarily because the notes were issued at a substantial discount because the warrants, put option, and the Contingent Interest meet the net settlement criterion. The compound derivative liabilities were initially recorded as a derivative liabilities on the Balance Sheets and a corresponding discount to the notes. The change in the estimated fair value of the derivative liabilities for the year ended ended December 31, 2017 resulted in a fair value adjustment of $9,872,990 and is included in derivative and warrrant fair value adjustments in the Statements of Operations and Comprehensive Loss.

Changes in the values of the derivative liabilities are summarized below:

	Derivative Liabilities related to the			
	January and February Notes	July Notes	November Notes	Total
Fair value at issuance	$ 4,365,880	$ 5,507,110	$ —	$ 9,872,990
Change in fair value	(4,365,880)	(5,507,110)	—	(9,872,990)
Fair value at December 31, 2017	$ —	$ —	$ —	$ —

Assumptions Used in Determining Fair Value of Compound Bifurcated Derivative

The Company assessed the accounting for the Convertible Notes and determined that there were several embedded derivatives that required bifurcation from the host debt instrument at fair value in accordance with ASC 815, *Derivatives and Hedging.* These embedded derivatives are more like equity instruments, and thus not "clearly and closely related" to the economic characteristics of the Convertible Notes. Further, they were determined not to meet the definition of being indexed to the Company's own stock due to the variable number of shares to be converted under different scenarios. When a host instrument has multiple embedded derivative features that require bifurcation, ASC 815 requires that they be bundled as one and accounted for separately from the Convertible Notes at fair value.

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

11. Long-Term Debt (Continued)

To determine the fair value of such derivatives, the Company compared i) the expected payout from the different conversion scenarios upon their expected date of occurrence, discounted to present value at a risk-free rate, to 2) the fair value of the Convertible Notes if it were paid in cash or converted into Series C-1 on December 31, 2017. The difference between these two results represents the fair value of the bundled derivative.

First, the Company estimated the expected payout under the Singapore IPO, Domestic IPO and Qualified Financing scenarios. The principal and accrued interest on the Convertible Notes were calculated through the expected payout date, and divided by the stated conversion price discount to determine the amount that would be paid upon occurrence of the event. The payoff from each scenario was then discounted to present value at the risk-free rate and the Company probability-weighted each scenario to arrive at the expected payout value for purposes of the valuation. Next, it was assumed that if conversion under the IPO or Financing scenarios did not occur by December 31, 2017, it would be most advantageous for the investors to convert the Convertible Notes into Series C-1 or request payment of principal and interest in cash. The value of the Convertible Note under these scenarios was modeled using the OPM. The difference between the payout value under the various conversion scenarios and the value of the Convertible Notes under the OPM, assuming the Convertible Notes are not converted or paid until December 31, 2017, results in the fair value of the bundled derivative.

Accounting for the Beneficial Conversion Feature

The Company did not separate from the notes the conversion feature in which the holders may convert the principal and interest on the notes into shares of the Company's Series C-1 Preferred Stock at $0.59808 per share if a Qualified Financing has not occurred prior to December 31, 2017. The Company concluded that this conversion feature is a beneficial conversion feature that should be recognized separately and measured initially at its intrinsic value. Since the intrinsic value of this beneficial conversion feature is greater than the proceeds allocated to the notes, the amount of the discount assigned to the beneficial conversion feature is limited to the amount of the proceeds allocated to the notes. The Company recorded the beneficial conversion feature of $2,956,166, $4,935,246, and $5,150,000 as additional paid-in capital and a corresponding discount to the notes on the Balance Sheets for the January and February Notes, July Notes and November Notes, respectively.

Scheduled maturities of long-term debt as of December 31, 2017 are as follows:

Year ending December 31:	
2018	$ 33,179,542
2019	3,533,333
2020	2,044,444
Total	38,757,319
Less: Unamortized discount	(17,550,541)
Less: Unamortized debt issuance costs	(41,647)
Less: Current portion of long-term debt	(15,608,349)
	$ 5,556,782

Liquidia Technologies, Inc.

Notes to Financial Statements (Continued)

December 31, 2016 and 2017

12. Subsequent Events

Subsequent events have been evaluated for disclosure through March 14, 2018, the date the Company's financial statements were available to be issued.

In February 2018, the Company received proceeds of $25.6 million in exchange for the corresponding sale of Series D Preferred Stock at a price per share of $0.59808 and related rights offering. In addition, all outstanding convertible notes, plus accrued interest, totaling $28.9 million, were converted into Series D preferred stock at the same price per share (see Note 3).

As mentioned in Note 11, as of December 31, 2017, the Company was in breach of a certain covenants under its LSA with Pacific Western. In February 2018, Pacific Western waived the breach of this covenant as a result of the Company receiving equity financing in excess of the requirement (see Note 11).

On March 7, 2018, the Board approved the grants of 13,645,767 stock options and 2,146,767 restricted stock units all with an exercise price of $0.55 per share.

In March 2018, the Company completed construction and placed in service of its new PRINT Particle Fabrication Line, which was being financed with Lessor. Upon completion, the lease commenced in the same month (see Note 7).

13. Subsequent Event (Unaudited)

Additional subsequent events have been evaluated for disclosure through April 9, 2018, the date the Company's financial statements were reissued.

On March 29, 2018, the Company and Pacific Western executed the Ninth Amendment to the LSA (the "Ninth Amendment"). With the Ninth Amendment, new covenants were enacted requiring the Company to (1) at all times maintain a balance of cash at Pacific Western of at least $8.0 million, an increase of $5.5 million from its prior cash balance covenant, and (2) not observe any materially adverse data from its LIQ861 Phase 3 study on or before December 31, 2018. Pursuant to this Ninth Amendment, the interest-only period for the Tranche I loan was amended to include the period from January 7, 2018 to July 6, 2018, and the interest-only period for the Tranche II and Tranche III loans was amended to include the period from January 13, 2018 to July 12, 2018. Prior to executing the amendment, the Company had made principal payments of $0.6 million inside of the defined interest-only period, which were subsequently refunded on the same day.

Table of Contents

Shares

Liquidia Technologies, Inc.

Common Stock

PRELIMINARY PROSPECTUS

Joint Book-Running Managers

Jefferies
Cowen

Co-Managers

Needham & Company
Wedbush PacGrow

, 2018

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. ***Other Expenses of Issuance and Distribution***

The following table indicates 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 estimated except the U.S. Securities and Exchange Commission, or the SEC, registration fee, the FINRA filing fee and Nasdaq listing fee.

	Amount
SEC registration fee	$ *
FINRA filing fee	*
Nasdaq listing fee	*
Accountants' fees and expenses	*
Legal fees and expenses	*
Blue Sky fees and expenses	*
Transfer agent's fees and expenses	*
Printing and engraving expenses	*
Miscellaneous	*
Total expenses	$ *

* To be filed by amendment.

Item 14. ***Indemnification of Directors and Officers.***

Section 102 of the Delaware General Corporation Law, or the DGCL, permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his 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 amended and restated certificate of incorporation will provide that no director of the Registrant shall be personally liable to it or its 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 DGCL prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he 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 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 amended and restated certificate of incorporation and amended and restated bylaws will provide indemnification for our directors and officers to the fullest extent permitted by the DGCL. 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 (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, a 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 Indemnitee), 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 Indemnitee 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 amended and restated certificate of incorporation and amended and restated bylaws will provide that we will indemnify any Indemnitee 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 Indemnitee is or was, or has agreed to become, a 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 Indemnitee 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 Indemnitee 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 in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

Prior to the completion of this offering, we intend to enter into separate indemnification agreements with each of our directors and certain officers. Each indemnification agreement will provide, among other things, for indemnification to the fullest extent permitted by law and our amended and restated certificate of incorporation and amended and restated bylaws against any and all expenses, judgments, fines, penalties and amounts paid in settlement of any claim. The indemnification agreements will provide for the advancement or payment of all expenses to the indemnitee and for the reimbursement to us if it is found that such indemnitee is not entitled to such indemnification under applicable law and our amended and restated certificate of incorporation and amended and restated bylaws.

We maintain a general liability insurance policy that covers certain liabilities of directors and officers of our corporation arising out of claims based on acts or omissions in their capacities as directors or officers.

In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act of 1933, as amended, or the Securities Act, against certain liabilities.

Item 15. ***Recent Sales of Unregistered Securities.***

The following sets forth information as to all securities we have sold since April 1, 2015, which were not registered under the Securities Act.

Series D Preferred Stock

On February 2, 2018, we issued and sold an aggregate of 82,560,006 shares of Series D preferred stock at a price per share equal to $0.59808. Of the 27 investors which participated in the initial closing of this offering, six investors purchased an aggregate of 34,276,349 shares of Series D preferred stock for an aggregate of $20.5 million and 26 holders of outstanding convertible notes in the aggregate amount of $28.9 million converted into an aggregate of 48,283,657 shares of Series D preferred stock.

Pursuant to the terms of the Series D Preferred Stock Purchase Agreement, on February 15, 2018 we sold 8,360,085 shares of Series D preferred stock to an accredited investor for a total purchase price of $5.0 million.

Additionally, pursuant to the terms of the Series D Preferred Stock Purchase Agreement, we offered our existing stockholders who are accredited investors the opportunity to purchase their pro rata portion of the Series D preferred stock in a rights offering. On February 28, 2018, we sold an aggregate of 227,391 shares of Series D preferred stock for an aggregate purchase price of $135,998.

We claimed an exemption from registration under the Securities Act for the issuance and sale of the Series D preferred stock under Section 4(a)(2) of the Securities Act in that such sales and issuances do not involve a public offering.

Unsecured Subordinated Convertible Promissory Notes

In a series of closings from January 9, 2017 to November 29, 2017, we issued and sold an aggregate of approximately $27.4 million underlying a total of 27 unsecured subordinated convertible promissory notes, each accruing simple interest at a rate of 8% per annum, or the Notes. See "Description of Capital Stock — Common Stock" for more information.

We claimed an exemption from registration under the Securities Act for the issuance and sale of the Notes under Section 4(a)(2) of the Securities Act in that such sales and issuances did not involve a public offering.

Warrants

In connection with the closings of the Notes from January 9, 2017 to February 17, 2017, we issued and sold 17 warrants to purchase an aggregate of 3,698,128 shares of our Series C-1 preferred stock at an exercise price of $0.001 per share which are convertible into an aggregate of 4,394,914 shares of common stock. See "Description of Capital Stock — Warrants" for more information.

We claimed an exemption from registration under the Securities Act for the issuance and sale of such Warrants under Section 4(a)(2) of the Securities Act in that such sales and issuances did not involve a public offering.

Options

On May 13, 2015, we granted incentive stock options to five employees to purchase an aggregate of 58,000 shares of common stock under our 2004 Plan, with an exercise price equal to $0.28 per share.

On May 21, 2015, we granted incentive stock options to 17 employees to purchase an aggregate of 3,374,000 shares of common stock under our 2004 Plan, with an exercise price equal to $0.28 per share.

145,417 of such option shares have subsequently been exercised for common stock and 197,083 option shares were terminated without being exercised.

On August 27, 2015, we granted incentive stock options to nine employees to purchase an aggregate of 960,362 shares of common stock under our 2004 Plan, with an exercise price equal to $0.28 per share. 239,766 of such option shares have subsequently been exercised for common stock.

On November 3, 2015, we granted incentive stock options to nine employees to purchase an aggregate of 713,161 shares of common stock under our 2004 Plan, with an exercise price equal to $0.28 per share. 30,000 of such option shares have subsequently been exercised for common stock. 168,400 of such option shares were terminated without being exercised.

On February 10, 2016, we granted incentive stock options to six employees to purchase an aggregate of 662,756 shares of common stock under our 2004 Plan, with an exercise price equal to $0.35 per share. 17,617 of such option shares were terminated without being exercised.

On August 10, 2016, we granted incentive stock options to eight employees to purchase an aggregate of 465,617 shares of common stock under the Liquidia Technologies, Inc. 2016 Equity Incentive Plan, as amended, or the 2016 Plan, with an exercise price equal to $0.35 per share.

On August 30, 2016, we granted incentive stock options to three employees to purchase an aggregate of 235,000 shares of common stock under the 2016 Plan, with an exercise price equal to $0.35 per share.

On December 7, 2016, we granted a non-statutory stock option to Arthur Kirsch, a director, to purchase 150,000 shares of common stock under the 2016 Plan, with an exercise price equal to $1.21 per share.

On March 15, 2017, we granted incentive stock options to seven employees to purchase an aggregate of 219,000 shares of common stock under the 2016 Plan, with an exercise price equal to $1.21 per share. 9,000 of such option shares were terminated without being exercised.

On May 31, 2017, we granted an incentive stock option to an employee to purchase 18,000 shares of common stock under the 2016 Plan, with an exercise price equal to $1.21 per share.

On March 7, 2018, we granted incentive stock options to 64 employees to purchase an aggregate of 11,835,767 shares of common stock under the 2016 Plan, with an exercise price equal to $0.55 per share. Included in these 64 grants were grants to: (i) Neal Fowler, our Chief Executive Officer, for 3,900,000 shares; (ii) Kevin Gordon, our President and Chief Financial Officer, for 2,146,767 shares; (iii) Robert Lippe, our Chief Operations Officer, for 735,000 shares; (iv) Dr. Robert Roscigno, our Senior Vice President, Product Development, for 600,000 shares; (v) Dr. Benjamin Maynor, our Senior Vice President, Research and Development, for 700,000 shares; (vi) Jason Adair, our Vice President, Business Development and Strategy, for 350,000 shares; and (vii) Timothy Albury, our Senior Vice President, Chief Accounting Officer, for 514,000 shares.

On March 7, 2018, we also granted non-statutory stock options to four directors to purchase an aggregate of 1,810,000 shares of common stock under the 2016 Plan, with an exercise price equal to $0.55 per share. These four grants comprised grants to: (i) Arthur Kirsch, for 135,000 shares; (ii) Dr. Seth Rudnick, for 930,000 shares; (iii) Dr. Ralph Snyderman, for 460,000 shares; and (iv) Raman Singh, for 285,000 shares.

On March 7, 2018, in connection with his employment agreement, we granted Mr. Gordon 2,146,767 restricted stock units, equal to one percent of our issued and outstanding capital stock on a fully-diluted basis on the date of grant. Further, pursuant to his employment agreement, on the date of execution of the underwriting agreement Mr. Gordon is also entitled to (i) a stock option award under the Liquidia Technologies, Inc. 2018 Long-Term Incentive Plan, or the 2018 Plan, to purchase shares of our common stock equal to 1% of our capital stock on a fully-diluted basis on the date of grant (shares assuming

we sell shares in this offering) with an exercise price per share equal to the initial public offering price, and (ii) a restricted stock unit award equal to 1% of our capital stock on a fully-diluted basis on the date of grant (shares assuming we sell shares in this offering).

We claimed exemption from registration under the Securities Act for the sales and issuances of securities in the transactions described above under Section 4(a)(2) of the Securities Act in that such sales and issuances did not involve a public offering or under Rule 701 promulgated under the Securities Act, or Rule 701, in that they were offered and sold either pursuant to written compensatory plans or pursuant to a written contract relating to compensation, as provided by Rule 701.

On the date of execution of the underwriting agreement, in addition to the option to be granted to Mr. Gordon upon the closing of this offering we expect to grant, under the 2018 Plan to certain of our officers and directors, an aggregate of shares of common stock issuable upon the exercise of stock options.

On March 27, 2018, we granted incentive stock options to two employees to purchase an aggregate of 25,000 shares of Common Stock under our 2016 Plan, with an exercise price equal to $0.55 per share.

All of the foregoing securities are deemed restricted securities for purposes of the Securities Act. All certificates representing the issued securities described in this Item 15 included appropriate legends setting forth that the securities had not been registered and the applicable restrictions on transfer.

Item 16. ***Exhibits and Financial Statement Schedules.***

(a) The following exhibits are filed as part of this Registration Statement:

Exhibit Number	Description
1.1*	Form of Underwriting Agreement.
3.1**	Amended and Restated Certificate of Incorporation currently in effect.
3.2**	Certificate of Correction to the Amended and Restated Certificate of Incorporation currently in effect.
3.3*	Form of Amended and Restated Certificate of Incorporation, to be in effect after the consummation of this offering.
3.3**	Bylaws, as amended, currently in effect.
3.4*	Form of Amended and Restated Bylaws, to be in effect after the consummation of this offering.
4.1**	Form of Specimen Common Stock Certificate.
4.2**	2016 Letter Agreement Promissory Note, issued by the Company to The University of North Carolina at Chapel Hill on June 10, 2016, as amended on December 2, 2017.
4.3**	Form of Warrant to Purchase Shares of Series B Preferred Stock, issued by the Company on March 28, 2008.
4.4**	Form of Warrant to Purchase Shares of Series C-1 Preferred Stock, issued by the Company in January 2017 and February 2017.
4.5**	Seventh Amended and Restated Investors' Rights Agreement, dated as of February 2, 2018, by and among the Company, the Investors party thereto and the Common Holders party thereto.
5.1*	Opinion of DLA Piper LLP (US).
10.1**	Liquidia Technologies, Inc. Stock Option Plan (2004), as amended, and forms of award agreements thereunder.

Exhibit Number	Description
10.2**	Liquidia Technologies, Inc. 2016 Equity Incentive Plan, as amended, and forms of award agreements thereunder.
10.3*	Liquidia Technologies, Inc. 2018 Long-Term Incentive Plan, and forms of award agreements thereunder.
10.4*	Form of Indemnification Agreement with the Company's executive officers and directors.
10.5**	Loan and Security Agreement, dated as of January 6, 2016, by and between the Company and Pacific Western Bank.
10.6**	Second Amendment to Loan and Security Agreement, dated as of October 12, 2016, by and between the Company and Pacific Western Bank.
10.7**	Third Amendment to Loan and Security Agreement, dated as of December 28, 2016, by and between the Company and Pacific Western Bank.
10.8**	Fourth Amendment to Loan and Security Agreement, dated as of March 30, 2017, by and between the Company and Pacific Western Bank.
10.9**	Fifth Amendment to Loan and Security Agreement, dated as of April 28, 2017, by and between the Company and Pacific Western Bank.
10.10**	Sixth Amendment to Loan and Security Agreement, dated as of June 14, 2017, by and between the Company and Pacific Western Bank.
10.11**	Seventh Amendment to Loan and Security Agreement, dated as of October 27, 2017, by and between the Company and Pacific Western Bank.
10.12**	Eighth Amendment to Loan and Security Agreement, dated as of November 30, 2017, by and between the Company and Pacific Western Bank.
10.13**	Ninth Amendment to Loan and Security Agreement, dated as of March 29, 2018 by and between the Company and Pacific Western Bank.
10.14+**	Inhaled Collaboration and Option Agreement, dated as of June 15, 2012, by and between the Company and Glaxo Group Limited.
10.15+**	Amendment No. 1 to the Inhaled Collaboration and Option Agreement, dated as of May 13, 2015, by and between the Company and Glaxo Group Limited.
10.16+**	Second Amendment to the Inhaled Collaboration and Option Agreement, dated as of November 19, 2015, by and between the Company and Glaxo Group Limited.
10.17+**	Development and License Agreement, dated as of June 8, 2016, by and between the Company and G&W Laboratories, Inc.
10.18+**	Amendment 1 to the Development and License Agreement, dated as of November 8, 2016, by and between the Company and G&W Laboratories, Inc.
10.19+**	Amended and Restated License Agreement, dated as of December 15, 2008, as amended, by and between the Company and The University of North Carolina at Chapel Hill.
10.20+**	First Amendment to Amended and Restated License Agreement, dated as of June 8, 2009, by and between the Company and The University of North Carolina at Chapel Hill.
10.21**	Sixth Amendment to Amended and Restated License Agreement, dated as of June 10, 2016, by and between the Company and The University of North Carolina at Chapel Hill.
10.22+**	Manufacturing Development and Scale-up Agreement, dated as of March 19, 2012, by and between the Company and Chasm Technologies, Inc.

Exhibit Number	Description
10.23+**	1st Amendment to Manufacturing Development and Scale-up Agreement, dated as of May 25, 2017, by and between the Company and Chasm Technologies, Inc.
10.24#**	Amended and Restated Executive Employment Agreement, dated as of January 31, 2018, by and between the Company and Neal Fowler.
10.25#**	Executive Employment Agreement, dated as of January 22, 2018, by and between the Company and Kevin Gordon.
10.26#	Executive Employment Agreement, dated as of April 1, 2017, by and between the Company and Robert Lippe.
10.27#**	Form of Amended and Restated Executive Employment Agreement to be entered into between the Company and Robert Lippe.
10.28#**	Amended and Restated Executive Employment Agreement, effective January 22, 2018, by and between the Company and Timothy Albury.
10.29#**	Form of Amended and Restated Executive Employment Agreement to be entered into between the Company and Timothy Albury.
10.30*	Non-Employee Director Compensation Policy.
10.31#**	Liquidia Technologies, Inc. Annual Cash Bonus Plan.
10.32#*	Executive Severance and Change in Control Plan.
10.33**	Lease Agreement, dated as of April 14, 2005, by and between the Company and Technology VII-IX, LLC, as amended.
10.34**	Lease Agreement, dated as of June 29, 2007, by and between the Company and GRE Keystone Technologies One LLC, as amended.
23.1*	Consent of PricewaterhouseCoopers LLP, independent Registered Public Accounting Firm.
23.2*	Consent of DLA Piper LLP (US) (included in Exhibit 5.1).
23.3	Consent of Decision Resources Group.
23.4	Consent of CapVal-American Business Appraisers, LLC.
24.1*	Power of Attorney (included on signature page).

* To be filed by amendment.

** Previously filed.

\+ Application has been made to the Securities and Exchange Commission for confidential treatment of certain portions. Omitted material for which confidential treatment has been requested has been filed separately with the Securities and Exchange Commission.

\# Indicates management contract or compensatory plan.

Item 17. ***Undertakings.***

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 underwriters to permit prompt delivery to each purchaser.

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 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 of 1933, as amended, and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) The registrant will provide to the underwriter at the closing as 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.

(2) 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.

(3) 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, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Town of Morrisville, State of North Carolina, on this day of , 2018.

By: _____

Name: Neal Fowler
Title: *Chief Executive Officer*

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints each of Neal Fowler and Kevin Gordon his true and lawful attorney-in-fact, with full power of substitution and resubstitution for him and in his name, place and stead, in any and all capacities to sign any and all amendments including post-effective amendments to this registration statement (including, without limitation, any additional registration statement filed pursuant to Rule 462 under the Securities Act of 1933), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorney-in-fact or his substitute, each acting alone, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Name	Position	Date
_____ Neal Fowler	Director and Chief Executive Officer (Principal Executive Officer)	, 2018
_____ Kevin Gordon	President and Chief Financial Officer (Principal Financial Officer)	, 2018
_____ Timothy Albury	Senior Vice President, Chief Accounting Officer (Principal Accounting Officer)	, 2018
_____ Seth Rudnick	Chairman of the Board of Directors	, 2018
_____ Stephen Bloch	Director	, 2018

Name	Position	Date
Edward Mathers	Director	, 2018
Isaac Cheng	Director	, 2018
Ralph Snyderman	Director	, 2018
Arthur Kirsch	Director	, 2018
Jason Rushton	Director	, 2018
Raman Singh	Director	, 2018

Exhibit 10.26

Execution Copy

EXECUTIVE EMPLOYMENT AGREEMENT

This **EXECUTIVE EMPLOYMENT AGREEMENT** (the "***Agreement***") is entered into effective April 1, 2017 (the "***Effective Date***"), by and between Robert Lippe (the "***Executive***") and Liquidia Technologies, Inc., a Delaware corporation (the "***Company***"). Each of the Company and Executive is a "***Party***" and, collectively, they are the "***Parties***."

Executive desires to continue to provide personal services to the Company in return for certain compensation under this Agreement;

The Parties desire and intend that this Agreement supersede any and all prior employment agreement and understandings between Executive and the Company, and to provide for the employment of Executive upon the terms and conditions set forth herein.

Accordingly, in consideration of the mutual promises and covenants contained herein, the parties agree to the following:

1. EMPLOYMENT BY THE COMPANY.

1.1 **At-Will Employment**. Executive shall be employed by the Company on an "at will" basis, meaning either the Company or Executive may terminate Executive's employment at any time, with or without cause or advance notice. Any contrary representations that may have been made to Executive shall be superseded by this Agreement. This Agreement shall constitute the full and complete agreement between Executive and the Company on the "at will" nature of Executive's employment with the Company, which may be changed only in an express written agreement signed by Executive and a duly authorized officer of the Company. Executive's rights to any compensation following a termination shall be only as set forth in Section 6.

1.2 **Position**. Subject to the terms set forth herein, the Company agrees to employ Executive in the position of Chief Operations Officer, and Executive hereby accepts such employment. Executive will report to the Chief Executive Officer ("***CEO***") and/or such executive designated by the CEO.

1.3 **Duties**. Executive shall faithfully perform all duties of the Company related to the position or positions held by the Executive, including but not limited to all duties set forth in this Agreement and/or in the Bylaws of the Company related to the position or positions held by the Executive and all additional duties that are reasonably prescribed from time to time by the CEO or other designated officers of the Company. Executive shall devote the Executive's full business time and attention to the performance of the Executive's duties and responsibilities on behalf of the Company and in furtherance of its best interests. Executive shall perform Executive's duties under this Agreement principally out of the Company's corporate headquarters. In addition, Executive shall make such business trips at the Company's expense to such places as may be necessary or advisable for the efficient operations of the Company.

1.4 **Company Policies**. The Executive shall comply with all Company policies, standards, rules and regulations (a "***Company Policy***" or collectively, the "***Company Policies***") and all applicable government laws, rules and regulations that are now or hereafter in effect. The Executive acknowledges receipt of copies of all written Company Policies that are in effect as of

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the date of this Agreement. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

2. COMPENSATION.

2.1 **Salary**. Executive shall receive a monthly salary of $33,105.91, which equates to $397,271.00 on an annualized basis, payable subject to standard federal and state payroll withholding requirements in accordance with the Company's standard payroll practices ("***Base Salary***"). Executive's Base Salary may be increased from time to time by the Board of Directors of the Company (the "***Board***"). Notwithstanding anything to the contrary, the Base Salary may be reduced if the Board determines such reduction is necessary and justified by the financial condition of the Company and implements an equal percentage reduction in the base salaries of all of the Company's executive officers, but in no event will such reduction be greater than ten percent (10%) of the Base Salary. A reduction in Executive's Base Salary in accordance with the immediately preceding sentence shall not constitute a material substantial diminution in base compensation as described in Section 6.4(b) of this Agreement.

2.2 **Bonus**. During the period Executive is employed with the Company, Executive shall be eligible to earn for Executive's services to be rendered under this Agreement a discretionary annual cash bonus of up to 40% of Base Salary ("***Target Amount***"), subject to review and adjustment by the Company in its sole discretion, payable subject to standard federal and state payroll withholding requirements. Whether or not Executive earns any bonus will be dependent upon (a) Executive's continuous performance of services to the Company through the date any bonus is paid; and (b) the actual achievement by Executive and the Company of the applicable performance targets and goals set by the Board in advance of, or within the first quarter of, each calendar year. The annual period over which performance is measured for purposes of this bonus is January 1 through December 31. The Board will determine in its reasonable discretion the extent to which Executive and the Company have achieved the performance goals upon which the bonus is based and the amount of the bonus, which could be below the Target Amount (and may be zero). Any bonus shall be subject to the terms of any applicable incentive compensation plan adopted by the Company. Any bonus, if earned, will be paid to Executive within the time period set forth in the incentive compensation plan, or if no such time period was established, within two and one-half months following the end of the year during which the bonus is earned.

2.3 **Benefits**. Executive will be eligible to participate on the same basis as similarly situated employees in the Company's benefit plans in effect from time to time during Executive's employment. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion.

2.4 **Expense Reimbursement**. The Company shall reimburse Executive for all customary and appropriate business-related expenses actually incurred and documented in accordance with Company policy, as in effect from time to time. For the avoidance of doubt, to the extent that any reimbursements payable to Executive are subject to the provisions of Section 409A of the Internal Revenue Code of 1986, as amended (the "***Code***"): (a) any such

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reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (b) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (c) the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

3. PROPRIETARY INFORMATION, INVENTIONS, NON-COMPETITION AND NON-SOLICITATION OBLIGATIONS. The parties have entered into a Confidentiality, Inventions and Non-Competition (the "***Confidential Information Agreement***"), which may be amended by the parties from time to time without regard to this Agreement. The Confidential Information Agreement contains provisions that are intended by the Parties to survive and do survive termination or expiration of this Agreement.

4. OUTSIDE ACTIVITIES DURING EMPLOYMENT. Except with the prior written consent of the Company, which shall not be unreasonably withheld, Executive will not, while employed by the Company, undertake or engage in any other employment, occupation or business enterprise that would interfere with Executive's responsibilities and the performance of Executive's duties hereunder, except for (i) reasonable time devoted to volunteer services for or on behalf of such religious, educational, non-profit and/or other charitable organization as Executive may wish to serve, (ii) reasonable time devoted to activities in the non-profit and business communities consistent with Executive's duties, (iii) such other activities as may be specifically approved by the Company. This restriction shall not, however, preclude Executive from owning less than one percent (1%) of the total outstanding shares of a publicly traded company, or employment or service in any capacity with Affiliates of the Company. As used in this Agreement, "***Affiliates***" means an entity under common management or control with the Company.

5. NO CONFLICT WITH EXISTING OBLIGATIONS. Executive represents that Executive's performance of all the terms of this Agreement and as an executive of the Company do not and will not breach any agreement or obligation of any kind made prior to Executive's employment by the Company, including agreements or obligations Executive may have with prior employers or entities for which Executive has provided services. Executive has not entered into, and Executive agrees that Executive will not enter into, any agreement or obligation, either written or oral, in conflict herewith.

6. TERMINATION OF EMPLOYMENT. The Parties acknowledge that Executive's employment relationship with the Company is at-will. The provisions in this Section govern the amount of compensation, if any, to be provided to Executive upon termination of employment and do not alter this at-will status.

6.1 **Termination by the Company Without Cause**.

(a) The Company shall have the right to terminate Executive's employment with the Company pursuant to this Section 6.1 at any time without "Cause" (as defined in Section 6.2(b) below) by giving notice as described in Section 7.1 of this Agreement. A termination pursuant to Sections 6.3 and 6.5 below is not a termination without "Cause" for purposes of receiving the benefits described in this Section 6.1.

(b) If the Company terminates Executive's employment at any time without Cause and provided that such termination constitutes a "separation from service" (as defined under Treasury Regulation Section 1.409A-1(h) a "***Separation from Service***"), then Executive shall be entitled to receive the Accrued Obligations (defined below) and, subject to Executive's compliance with the obligations in Section 6.1(c) below, then Executive shall also be entitled to receive (collectively, the "***Severance Benefits***"):

(i) an amount equal to Executive's then current Base Salary for six (6) months (the "***Severance Period***"), less all applicable withholdings and deductions, paid in equal installments beginning on the Company's first regularly scheduled payroll date following the Release Effective Date (as defined in Section 6.1(c) below), with the remaining installments occurring on the Company's regularly scheduled payroll dates thereafter; and

(ii) payment of the employer portion of the premiums required to continue Executive's group health care coverage under the applicable provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985 ("***COBRA***"), provided that Executive elects to continue and remains eligible for these benefits under COBRA, until the earliest of (A) the close of the Severance Period, (B) the expiration of Executive's eligibility for the continuation coverage under COBRA, or (C) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment (such period from the termination date through the earliest of (A) through (C), the "***COBRA Payment Period***"). Notwithstanding the foregoing, if at any time the Company determines in its sole discretion that the payment of the COBRA premiums would result in a violation of the nondiscrimination rules of Section 105(h)(2) of the Internal Revenue Code, as amended, or any statute or regulation of similar effect (including but not limited to the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of providing the COBRA premiums, the Company will instead pay Executive on the last day of each remaining month of the COBRA Payment Period, a fully taxable cash payment equal to the COBRA premiums for that month, subject to applicable tax withholdings for the remainder of the COBRA Payment Period, regardless of whether Executive elects COBRA coverage (the "***Special Severance Payment***"). Executive may, but is not obligated to, use such Special Severance Payment toward the cost of COBRA premiums. If Executive becomes eligible for coverage under another employer's group health plan or otherwise ceases to be eligible for COBRA during the COBRA Payment Period, Executive must immediately notify the Company of such event, and all payments and obligations under this clause will cease.

(c) Executive will be paid all of the Accrued Obligations on the Company's first payroll date after Executive's date of termination from employment or earlier if required by law. Executive shall receive the Severance pursuant to Section 6.1(b) of this Agreement if: (i) Executive signs and delivers to the Company an effective, general release of claims in favor of the Company and its affiliates and representatives, in a form acceptable to the Company (the "***Release***"), by the 60th day following the termination date or such earlier date as set forth in the Release, which cannot be revoked in whole or part (if applicable) by such date or such earlier date as set forth in the Release (the date that the Release can no longer be revoked is referred to as the "***Release Effective Date***"); (ii) if Executive holds any other positions with the Company, Executive resigns such position(s) to be effective no later than the date of Executive's termination date (or such other date as requested by the Board); (iii) Executive returns all

Company property; (iv) Executive complies with all post-termination obligations under this Agreement and the Confidential Information Agreement; and (v) Executive complies with the terms of the Release, including without limitation any non-disparagement and confidentiality provisions contained in the Release. To the extent that any severance payments are deferred compensation under Section 409A of the Code, and are not otherwise exempt from the application of Section 409A, then, if the period during which Executive may consider and sign the Release spans two calendar years, the payment of Severance will not be made or begin until the later calendar year.

(d) For purposes of this Agreement, "***Accrued Obligations***" are (i) Executive's accrued but unpaid salary through the date of termination, (ii) any unreimbursed business expenses incurred by Executive payable in accordance with the Company's standard expense reimbursement policies, and (iii) benefits owed to Executive under any qualified retirement plan or health and welfare benefit plan in which Executive was a participant in accordance with applicable law and the provisions of such plan.

(e) The Severance provided to Executive pursuant to this Section 6.1 is in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan, policy or program.

(f) Any damages caused by the termination of Executive's employment without Cause would be difficult to ascertain; therefore, the Severance for which Executive is eligible pursuant to Section 6.1(b) above in exchange for the Release is agreed to by the Parties as liquidated damages, to serve as full compensation, and not a penalty.

6.2 **Termination by the Company for Cause**.

(a) Subject to Section 6.2(c) below, the Company shall have the right to terminate Executive's employment with the Company at any time for Cause by giving notice as described in Section 7.1 of this Agreement.

(b) "***Cause***" for termination shall mean that the Company has determined in its sole discretion that the Executive has engaged in any of the following: (i) any material breach of the terms of this Agreement by Executive, or the willful failure of Executive to diligently and properly perform Executive's material duties for the Company; (ii) Executive's misappropriation or unauthorized use of the Company's tangible or intangible property that causes or is likely to cause material harm to the Company or its reputation, or material breach of the Confidential Information Agreement or any other similar agreement regarding confidentiality, intellectual property rights, non-competition or non-solicitation; (iii) any material failure to comply with the Company Policies or any other policies and/or directives of the Board; (iv) Executive's use of illegal drugs or any illegal substance, or Executive's use of alcohol in any manner that materially interferes with the performance of the Executive's duties under this Agreement; (v) any dishonest or illegal action (including, without limitation, embezzlement) or any other action, whether or not dishonest or illegal, by Executive which is materially detrimental to the interest and well-being of the Company, including, without limitation, harm to its reputation; (vi) Executive's failure to fully disclose any material conflict of interest the Executive may have with the Company in a transaction between the Company and any third party which is materially detrimental to the interest

and well-being of the Company; (vii) any adverse action or omission by Executive which would be required to be disclosed pursuant to public securities laws or which would limit the ability of the Company or any entity affiliated with the Company to sell securities under any Federal or state law or which would disqualify the Company or any affiliated entity from any exemption otherwise available to it; or (viii) Executive's violation of the Company's Policies prohibiting unlawful harassment, discrimination, retaliation or workplace violence; *provided, however*, that prior to any termination of Executive for "Cause," if the grounds for such Cause are reasonably capable of cure by Executive, the Company shall provide Executive with written notice of the grounds for Cause and provide Executive with ten (10) business days in which to cure such Cause.

(c) In the event Executive's employment is terminated at any time for Cause, Executive will not receive Severance or any other severance compensation or benefits, except that, pursuant to the Company's standard payroll policies, the Company shall pay to Executive the Accrued Obligations.

6.3 **Resignation by Executive.**

(a) Executive may resign from Executive's employment with the Company at any time by giving notice as described in Section 7.1.

(b) In the event Executive resigns from Executive's employment with the Company for any reason (other than a resignation for Good Reason as described in Section 6.4 below), Executive will not receive Severance or any other severance compensation or benefits, except that, pursuant to the Company's standard payroll policies, the Company shall pay to Executive the Accrued Obligations.

6.4 **Resignation by Executive for Good Reason.**

(a) Provided Executive has not previously been notified of the Company's intention to terminate Executive's employment, Executive may resign from employment with the Company for Good Reason (as defined in Section 6.4(b) below).

(b) "***Good Reason***" for resignation shall mean the occurrence of any of the following without Executive's prior consent: (i) a material diminution in Executive's authority, duties or responsibilities; (ii) a material diminution in Executive's base compensation; (iii) a requirement that Executive report to an employee other than the CEO; (iv) the Company materially breaches its obligations under this Agreement; or (v) Executive's principle place of employment is relocated by more than fifty (50) miles from the Company's present location in Research Triangle Park, North Carolina. In addition to any requirements set forth above, in order for any of the above events to constitute "Good Reason," Executive must (X) inform the Company of the existence of the event within ninety (90) days of the initial existence of the event, after which date the Company shall have no less than thirty (30) days to cure the event which otherwise would constitute "Good Reason" hereunder and (Y) Executive must terminate his employment with the Company for such "Good Reason" no later than ninety (90) days after the initial existence of the event which prompted the Executive's termination. Any actions taken

by the Company to accommodate a disability of Executive or pursuant to the Family and Medical Leave Act shall not be a Good Reason for purposes of this Agreement.

(c) In the event Executive resigns from Executive's employment for Good Reason, and provided that such termination constitutes a Separation from Service, then subject to Executive's compliance with the obligations in Section 6.1(c) above, Executive shall be eligible to receive the same payments and benefits as described in Section 6.1 and on the same terms and conditions set forth in Section 6.1(c) and Section 6.1(e) as if Executive had been terminated by the Company without Cause.

(d) Any damages caused by the termination of Executive's employment for Good Reason would be difficult to ascertain; therefore, the Severance for which Executive is eligible pursuant to Section 6.1(b) above in exchange for the Release is agreed to by the Parties as liquidated damages, to serve as full compensation, and not a penalty.

6.5 **Termination by Virtue of Death, Disability of Executive, or Discontinuation of Business.**

(a) In the event of Executive's death while employed pursuant to this Agreement, all obligations of the Parties hereunder shall terminate immediately, and the Company shall, pursuant to the Company's standard payroll policies, pay to Executive's legal representatives all Accrued Obligations.

(b) Subject to applicable state and federal law, the Company shall at all times have the right, upon written notice to Executive, to terminate this Agreement based on Executive's Disability. Termination by the Company of Executive's employment based on "***Disability***" shall mean termination because Executive a qualified medical doctor mutually acceptable to the Company and Executive or Executive's personal representative has certified in writing that: (A) Executive is unable, because of a medically determinable physical or mental disability, to perform the essential functions of Executive's job, with or without a reasonable accommodation, for more than one hundred and eighty (180) calendar days measured from the last full day of work; or (B) by reason of mental or physical disability, it is unlikely that Executive will be able, within one hundred and eighty (180) calendar days, to resume the essential functions of Executive's job, with or without a reasonable accommodation, and to otherwise discharge the Executive's duties under this Agreement. This definition shall be interpreted and applied consistent with the Americans with Disabilities Act, the Family and Medical Leave Act, and other applicable law. In the event Executive's employment is terminated based on Executive's Disability, Executive will not receive Severance or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall pay to Executive the Accrued Obligations.

(c) In the event the Company's business is discontinued because rendered impracticable by substantial financial losses, lack of funding, legal decisions, administrative rulings, declaration of war, dissolution, national or local economic depression or crisis or any reasons beyond the control of the Company, all obligations of the Parties hereunder shall terminate immediately, and the Company shall, pursuant to the Company's standard payroll policies, pay to Executive's legal representatives all Accrued Obligations.

6.6 **Cooperation With Company After Termination of Employment**. Following termination of Executive's employment for any reason and for a period of two years thereafter, Executive agrees to cooperate (a) with the Company in (i) the defense of any legal matter involving any matter that arose during Executive's employment with the Company, and (ii) all matters relating to the winding up of Executive's pending work and the orderly transfer of any such pending work to such other employees as may be designated by the Company; and (b) with all government authorities on matters pertaining to any investigation, litigation or administrative proceeding pertaining to the Company. The Company will reimburse Executive for any reasonable travel and out of pocket expenses incurred by Executive in providing such cooperation. The Company will also pay Executive a per diem of $1,088 for each day or partial day that Executive devotes to fulfilling his obligation to cooperate under this Section 6.6, unless Executive is then receiving continued payment of his Base Salary under 6.1(b)(i), above.

6.7 **Application of Section 409A**.

(a) It is intended that all of the severance payments payable under this Agreement satisfy, to the greatest extent possible, the exemptions from the application of Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect (collectively, "***Section 409A***") provided under Treasury Regulations Sections 1.409A-1(b)(4) and 1.409A-1(b)(9), and this Agreement will be construed in a manner that complies with Section 409A. If not so exempt, this Agreement (and any definitions hereunder) will be construed in a manner that complies with Section 409A, and incorporates by reference all required definitions and payment terms.

(b) The preceding provisions shall not be construed as a guarantee by the Company of any particular tax effect to Executive under this Agreement. The Company shall not be liable to Executive for any payment made under this Agreement which is determined to result in an additional tax, penalty or interest under Section 409A, nor for reporting in good faith any payment as an amount includible in gross income under Section 409A.

(c) No severance payments will be made under this Agreement unless Executive's termination of employment constitutes a "separation from service" (as defined under Treasury Regulation Section 1.409A-1(h)).

(d) For purposes of Section 409A (including, without limitation, for purposes of Treasury Regulations Section 1.409A-2(b)(2)(iii)), Executive's right to receive any installment payments under this Agreement (whether severance payments or otherwise) shall be treated as a right to receive a series of separate payments and, accordingly, each installment payment hereunder shall at all times be considered a separate and distinct payment.

(e) If the Company determines that the severance benefits provided under this Agreement constitutes "deferred compensation" under Section 409A and if Executive is a "specified employee" of the Company, as such term is defined in Section 409A(a)(2)(B)(i) of the Code at the time of Executive's Separation from Service, then, solely to the extent necessary to avoid the incurrence of the adverse personal tax consequences under Section 409A, the timing of the Severance will be delayed as follows: on the earlier to occur of (i) the date that is six months and one day after Executive's Separation from Service, and (ii) the date of Executive's death

(such earlier date, the "***Delayed Initial Payment Date***"), the Company will (1) pay to Executive a lump sum amount equal to the sum of the Severance that Executive would otherwise have received through the Delayed Initial Payment Date if the commencement of the payment of the Severance had not been delayed pursuant to this Section 6.7, and (2) commence paying the balance of the Severance in accordance with the applicable payment schedule set forth in Section 6.1. No interest shall be due on any amounts deferred pursuant to this Section 6.7.

7. GENERAL PROVISIONS.

7.1 **Notices**. Any notices required hereunder to be in writing shall be deemed effectively given: (a) upon personal delivery to the Party to be notified, (b) when sent by electronic mail or confirmed facsimile if sent during normal business hours of the recipient, and if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the Company at its primary office location and to Executive at Executive's address as listed on the Company payroll, or at such other address as the Company or Executive may designate by ten (10) days advance written notice to the other.

7.2 **Severability**. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

7.3 **Survival.** Provisions of this Agreement which by their terms must survive the termination of this Agreement in order to effectuate the intent of the Parties will survive any such termination, whether by expiration of the term, termination of Executive's employment, or otherwise, for such period as may be appropriate under the circumstances.

7.4 **Waiver**. If either Party should waive any breach of any provisions of this Agreement, it shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

7.5 **Complete Agreement**. This Agreement constitutes the entire agreement between Executive and the Company with regard to the subject matter hereof. This Agreement is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes any prior oral discussions or written communications and agreements. This Agreement is entered into without reliance on any promise or representation other than those expressly contained herein, and it cannot be modified or amended except in writing signed by Executive and an authorized officer of the Company. The Parties have entered into a separate Confidential Information Agreement and have entered or may enter into separate agreements related to equity. These separate agreements govern other aspects of the relationship between the Parties, have or may have provisions that survive termination of Executive's employment under this Agreement, may be amended or superseded by the Parties without regard to this

Agreement and are enforceable according to their terms without regard to the enforcement provision of this Agreement.

7.6 **Headings**. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

7.7 **Successors and Assigns**. The Company shall assign this Agreement and its rights and obligations hereunder in whole, but not in part, to any company or other entity with or into which the Company may hereafter merge or consolidate or to which the Company may transfer all or substantially all of its assets, if in any such case said Company or other entity shall by operation of law or expressly in writing assume all obligations of the Company hereunder as fully as if it had been originally made a Party, but may not otherwise assign this Agreement or its rights and obligations hereunder. The Executive may not assign or transfer this Agreement or any rights or obligations hereunder, other than to Executive's estate upon death.

7.8 **Withholding**. All amounts payable hereunder shall be subject to applicable tax withholding.

7.9 **Choice of Law**. This Agreement in all respects shall be governed by and interpreted in accordance with the laws of the State of North Carolina, both procedural and substantive, without regard to conflicts of law, except to the extent that federal laws and regulations preempt otherwise applicable law.

7.10 **Mandatory Mediation.** Prior to and as a condition of either Party's filing suit in state or federal court, the Parties shall engage in a mediated settlement conference in accordance with the North Carolina Superior Court Rules Implementing Statewide Mediation. The Parties shall mediate in good faith until settlement is reached or an impasse is declared by the mediator.

7.11 **Jurisdiction.** Each Party hereby irrevocably submits to the exclusive jurisdiction of the United States District Court located in Wake County, North Carolina, or any state court located within such state, in respect of any claim relating to this Agreement, and hereby waives, and agrees not to assert, as a defense in any action, suit or proceeding in which any such claim is made that it is not subject thereto or that such action, suit or proceeding may not be brought or is not maintainable in such courts or that the venue thereof may not be appropriate or that this Agreement may not be enforced in or by such courts. Any appellate proceedings shall take place in the appropriate courts having appellate jurisdiction over the courts set forth in this Section.

7.12 **Counterparts**. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one Party, but all of which taken together will constitute one and the same Agreement. Facsimile signatures and signatures transmitted by PDF shall be equivalent to original signatures.

[SIGNATURES TO FOLLOW ON NEXT PAGE]

Execution Copy

IN WITNESS WHEREOF, the Parties have executed this Agreement on the day and year first written above.

LIQUIDIA TECHNOLOGIES, INC.

By: /s/ Neal F. Fowler
Name: Neal F. Fowler
Title: Chief Executive Officer

Executive:

/s/ Robert Lippe
Robert Lippe

Exhibit A

CONFIDENTIALITY, INVENTIONS AND NON-COMPETITION AGREEMENT

CONFIDENTIALITY, INVENTIONS AND NON-COMPETITION AGREEMENT

THIS CONFIDENTIALITY, INVENTIONS AND NON-COMPETITION AGREEMENT (this "**Agreement**") is effective as of DATE (the "**Effective Date**") by and between NAME (hereinafter "**Employee**") and Liquidia Technologies, Inc. (the "**Company**").

STATEMENT OF PURPOSE

The Employee desires to be employed by the Company, and the Company is willing to employ Employee strictly subject to Employee's agreement to be bound by the terms of this Agreement.

IN CONSIDERATION of the Company's employment of the Employee and the compensation and other benefits that the Company may provide to Employee as an employee, the Employee, intending to be legally bound, agrees to the following:

1. For purposes of this Agreement, "**Proprietary Information**" is information (whether in written or other form or whether or not patentable or protectable by copyright, trade secret, trade dress, trademark, or the like) that: (i) has been created, invented, discovered, or developed by the Employee in connection with the Employee's employment by the Company; (ii) is non-public and has been disclosed, furnished, or communicated to the Employee in connection with the Employee's employment by the Company; or (iii) is non-public and the unauthorized disclosure of which could be detrimental to the interests of the Company. Proprietary Information includes, but is not limited to, all inventions, works of authorship, trade secrets, know how, proprietary or confidential information, including, but not limited to, research, product or business plans, products, services, projects, proposals, processes, formulas, ideas, data, compositions, technology, computer programs and related source code and object code, developments, designs, drawings, marketing information and plans, customer lists, budgets, projections, partners, cost analyses, acquisition candidates, relevant parts of analysis, reviews, compilations, studies or other records and documents, and other information owned by the Company, disclosed to the Employee, or to which the Employee has been provided access or gains access, either directly or indirectly, by any means. Proprietary Information does not include information that is or becomes generally available to the public other than as a result of a disclosure by the Employee or by any other person or entity that is under a confidentiality obligation to Company with respect to such information.

2. Nondisclosure of Proprietary Information.

2.1 The Employee acknowledges and agrees that Proprietary Information is the sole property of the Company or its designee and that the Employee shall have no right,

title, license, or interest in or to any Proprietary Information. During and after the Employee's employment by the Company, the Employee shall keep in the strictest confidence and trust all Proprietary Information and shall not directly or indirectly disclose, distribute, copy, supply, or use, in whole or in part, any Proprietary Information except as approved in advance in writing by the Company. Notwithstanding the foregoing, it is understood that, at all such times, the Employee is free (i) to use information which was known to the Employee prior to employment with the Company or which is generally known in the trade or industry through no breach of this Agreement or other act or omission by the Employee, (ii) to discuss the terms of the Employee's employment, wages and working conditions to the extent expressly protected by applicable law, (iii) to report possible violations of federal securities laws to the appropriate government enforcing agency and make such other disclosures that are expressly protected under such laws, (iv) to respond to inquiries from, or otherwise cooperate with, any governmental or regulatory investigation, or (v) to testify truthfully as compelled by lawful process or subpoena related to such testimony after the Employee has provided advance written notice of said subpoena to the Company's Chief Executive Officer and reasonably cooperates with the Company in any process to oppose said subpoena.

2.2 The Employee shall not use or disclose to the Company, or assist in the disclosure to the Company of, proprietary or confidential information belonging to any third parties, including any prior employer(s).

2.3 The Employee acknowledges and agrees that the Company has received and in the future may receive from third parties, including, but not limited to, potential collaborating partners or customers of the Company, confidential or proprietary information ("**Third Party Information**") subject to a duty on the Company's part to maintain the confidentiality of such information and to use it only for certain limited purposes. During the term of the Employee's employment with the Company and thereafter, the Employee will hold Third Party Information in the strictest confidence and will not disclose to anyone (other than Company personnel or the Company's designee who need to know such information in connection with their work for the Company or such third party) or use Third Party Information, except in connection with the Employee's work for the Company or such third party, unless expressly approved in advance in writing by the Company. The Employee further agrees to be bound by and subject to any confidentiality or nondisclosure agreements or clauses with respect to such Third Party Information between the Company and any such third party.

2.4 Pursuant to the Defend Trade Secrets Act of 2016, the Employee acknowledges that the Employee will not have criminal or civil liability under any federal or state trade secret law for the disclosure of a trade secret that (i) is made (a) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney and (b) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. In addition, if the Employee files a lawsuit for retaliation by the Company for reporting a suspected violation of law, the Employee may

disclose the trade secret to the Employee's attorney and may use the trade secret information in the court proceeding, if the Employee (x) files any document containing the trade secret under seal and (y) does not disclose the trade secret, except pursuant to court order.

3. Upon the earliest to occur of (i) termination of the Employee's employment by the Company for any reason, (ii) termination of the Employee's access to Proprietary Information, or (iii) the request of the Company, the Employee shall return to the Company (and will not keep in Employee's possession or control or deliver to anyone else) all materials belonging to the Company, whether kept at the Employee's business office, personal residence or otherwise, including, but not limited to, all materials containing or relating to any Proprietary Information in any written, tangible, electronic or other form that the Employee may have in Employee's possession or control, and any and all mobile telephones, personal digital assistants, pagers, computer and other electronic devices and credit cards. After returning the materials and equipment described in the preceding sentence to the Company, the Employee shall not retain any copies of any such materials.

4. Ownership of Proprietary Information.

4.1 All Proprietary Information and other information, which by its nature is proprietary to the Company, relating to the Company's business or the Company's anticipated business, or based on, derived from or relating to any Proprietary Information (collectively, Proprietary Information and "**Work Product**") shall be the sole property of the Company. The Employee agrees that all Proprietary Information and Work Product created, conceived, reduced to practice, made or otherwise developed by the Employee, solely or jointly, during and in any way related to the Employee's employment, shall be the exclusive property of the Company and/or its designees or assignees, and shall be deemed "works made for hire," as that term is defined in Section 101 of the U.S. Copyright Act of 1976, as amended.

4.2 If, for any reason, any Proprietary Information and Work Product does not qualify as works made for hire, the Employee shall assign and does hereby irrevocably, unconditionally, and without encumbrance of any kind assign to the Company, and forever waives and agrees never to assert, all right, title, and interest, including without limitation, all patent, trademark, copyright, trade secret, and other intellectual property (collectively, "**Intellectual Property**") rights, in and to such Proprietary Information and Work Product. The Employee shall assist the Company, or its designee, in every proper way to secure the Company's rights in the Proprietary Information and Work Product and any Intellectual Property rights relating thereto in any and all countries, including (i) the disclosure to the Company of all pertinent information and data with respect thereto, (ii) the execution of all applications, specifications, oaths, assignments and all other instruments which the Company shall deem necessary in order to apply for and obtain such rights and in order to assign and convey to the Company or its designee the sole and exclusive right, title and interest in and to the Proprietary Information and Work Product, and (iii) the defense of any claim, demand, action, litigation, suit, or other proceeding,

including, but not limited to, interference, cancellation, opposition, or other proceedings in respect of such applications or any registrations or patents issuing therefrom. The Employee shall continue such assistance after the termination of the Employee's employment by the Company.

4.3 During the Employee's employment by the Company, the Employee shall report promptly to the Company all Proprietary Information and Work Product created, conceived, reduced to practice, or otherwise developed by the Employee, solely or jointly.

4.4 If the Company is unable because of the Employee's mental or physical incapacity or for any other reason to secure the Employee's signature to apply for or to secure protection of any Proprietary Information and Work Product, then the Employee hereby designates and appoints the Company and its duly authorized officers and agents as its agents and attorneys-in-fact to execute and file any certificates, applications or documents and to do all of their lawful acts necessary to perfect and protect the Company's rights in the Proprietary Information and Work Product. The Employee expressly acknowledges that the foregoing power of attorney is coupled with an interest and is therefore irrevocable and shall survive the Employee's death or incompetency and the termination of the Employee's employment or engagement by the Company.

4.5 The Employee hereby represents and warrants that the Employee has fully disclosed to the Company on Schedule A attached hereto any idea, invention, discovery or process relating to the Company's business which, prior to the Employee's employment with the Company, the Employee conceived, reduced to practice, or developed, individually or jointly, and is to be excluded from the scope of this Agreement.

4.6 Notwithstanding anything in this Agreement to the contrary, the obligation of the Employee to assign or offer to assign the Employee's rights in an invention to the Company shall not extend or apply to an invention that the undersigned developed (i) entirely on the Employee's own time; (ii) without using Company equipment, supplies, facilities, or other resources, Proprietary Information or trade secret information unless such invention (a) relates to the Company's business or actual or demonstrably anticipated research or development, or (b) results from any work performed by the Employee for the Company. The Employee shall bear the burden of proof in establishing that the Employee's invention qualifies for exclusion under this Section 4.6.

5. Covenant Not To Compete.

5.1 For purposes of Part 5 of this Agreement, including each of its subparts, the following terms shall have the following meanings:

a. "**Competing Business**" shall mean any corporation, partnership, person, or other entity that is researching, developing, manufacturing, marketing, distributing, or selling any product, service, or technology that is competitive with any part of the Company's Business.

b. The "**Company's Business**" shall mean the development, manufacture, marketing, distribution, or sale of, including research directed to, any product, service, or technology that the Company is developing, manufacturing, marketing, distributing, or selling or to which the Company directed research at any time during Employee's employment with the Company. As of the date of this Agreement, the Company's Business includes, but is not limited to, research directed to and the development, manufacture, marketing, distribution, and/or sale of: (i) isolated size and/or shape controlled pharmaceutical or therapeutic particles fabricated from a mold, including products of or containing the isolated size and/or shape controlled pharmaceutical or therapeutic particles fabricated from a mold; (ii) size and/or shape controllable pharmaceutical or therapeutic particles molded using a polymer or low surface energy mold; (iii) film based products of or containing arrays of size and/or shape controlled structures molded from a low surface energy mold; (iv) isolated nano or micro size and/or shape controlled particles fabricated from a mold, including products of or containing the isolated size and/or shape controlled particles fabricated from a mold; (v) nano or micro size and/or shape controllable particles molded using a polymer or low surface energy mold; or (vi) patterned drum fabrication and mold for manufacturing the products of (i)-(v) above. The Employee understands that during the Employee's employment with the Company, the Company's Business may expand or change, and the Employee agrees that any such expansions or changes shall expand or contract the definition of the Company's Business and the Employee's obligations under this Agreement accordingly.

c. "**Territory**" shall mean the following severable geographic areas: (i) the world, (ii) any country in which the Company or a Competing Business is engaged in business, (iii) any country in which the Company is engaged in business, (iv) the United States, Europe, and Asia, (v) the United States, (vi) any state, including the District of Columbia, in which the Company or a Competing Business is engaged in business, (vii) any state, including the District of Columbia, in which the Company is engaged in business, (viii) North Carolina, (ix) a one hundred mile radius of the Employee's principal place of employment or work for the Company, or (x) a one hundred mile radius of the Company's corporate headquarters.

5.2 It is recognized and understood by the Employee that, through the Employee's association with the Company, the Employee shall: (i) have access to trade secrets and confidential information of the Company, including, but not limited to, valuable information about its intellectual property, business operations and methods, and the persons with which it does business in various locations throughout the world, that is not generally known to or readily ascertainable by the Company's competitors, (ii) develop relationships with the Company's customers and others with which the Company does business, and these relationships are among the Company's most important assets, (iii) receive specialized knowledge of and specialized training in the Company's Business, and (iv) gain such knowledge of the Company's Business that, during the course of the Employee's employment with the Company and for a period of one year following the termination thereof, the Employee could not perform services for a Competing Business

without inevitably disclosing the Company's trade secrets and Proprietary Information to that Competing Business.

5.3 While employed by the Company, the Employee will not, without the express written consent of an authorized representative of the Company: (i) perform services (as an employee, independent contractor, officer, director, or otherwise) for any Competing Business, (ii) engage in any activities (or assist others to engage in any activities) that compete with the Company's Business, (iii) own or beneficially own an equity interest in a Competing Business, (iv) request, induce, or solicit (or assist others to request, induce, or solicit) any existing or prospective customers, suppliers, business partners, or contractors of the Company to curtail or cancel their business with the Company or to do business within the scope of the Company's Business with a Competing Business, or (v) request, induce, or solicit (or assist others to request, induce, or solicit) any employee of the Company to terminate his or her employment with the Company.

5.4 For a period of one year following the termination of the Employee's employment with the Company, the Employee will not, without the express written consent of an authorized representative of the Company: (i) perform services (as an employee, independent contractor, officer, director, or otherwise), within the Territory for any Competing Business, that are the same or substantially similar to any services that the Employee performed for the Company or that otherwise utilize skills, knowledge, and/or business contacts and/or relationships that the Employee developed while providing services to the Company, (ii) engage in any activities (or assist others to engage in any activities) within the Territory that compete with the Company's Business, (iii) own or beneficially own an equity interest in a Competing Business, (iv) request, induce, or solicit (or assist others to request, induce, or solicit) any existing customer or any prospective customers to whom the Company has made a written proposal ("Prospective Customers"), suppliers, business partners, or contractors of the Company, during the last year of the Employee's employment with the Company, to curtail or cancel their business with the Company or to do business within the scope of the Company's Business with a Competing Business, (v) request, induce, or solicit (or assist others to request, induce, or solicit) any existing customer or Prospective Customers, suppliers, business partners, or contractors of the Company with which the Employee worked or had business contact during the last year of the Employee's employment with the Company to curtail or cancel their business with the Company or to do business within the scope of the Company's Business with a Competing Business, or (vi) request, induce, or solicit (or assist others to request, induce, or solicit) any employee of the Company to terminate his or her employment with the Company. Where a Competing Business is a large enterprise with separately operated business units, the restrictions in Section 5.4(i) shall not apply to any such business unit that has no involvement in the research, development, manufacture, marketing, distribution, or sale of a product, service, or technology that is competitive with any part of the Company's Business; *provided, however*, that this sentence does not apply to any employees in a scientific role or whose role involves the research, development or maintenance of the Company's trade secrets. These obligations will continue for the specified period regardless of whether the termination of the Employee's

employment was voluntary or involuntary or with or without cause, and the specified period shall be tolled and shall not run during any time in which the Employee fails to abide by this obligations.

5.5 The Employee shall not at any time following the termination of the Employee's employment with the Company use the name or trading style of the Company in any country, or use in any country any name or trading style which is the same as or similar to any of the trade or service marks of the Company or any brand name or proposed brand name of any of the Company's products or proposed products, or represent himself or herself as carrying on or continuing or being connected with the Company or its business for any purpose whatsoever unless otherwise agreed by the Company in writing.

5.6 While employed by the Company, the Employee shall disclose to the audit committee of the Company the Employee's interest in respect of any contract or arrangement in which the Employee has any personal material interest, directly or indirectly, or any conflicts of interest (including the conflict of interest that may arise from the Employee's directorship(s) or executive position or personal investments in any corporation(s)) that may involve the Employee. Upon such disclosure, the Employee shall abstain from voting in respect of any such contract, arrangement, proposal, transaction, or matter in which the conflict of interest arises, unless and until the audit committee has determined that no such conflict of interest exists.

5.7 As an exception to the restrictions set forth in Parts 5.3 and 5.4 herein, the Employee may own passive investments in a Competing Businesses, (including, but not limited to, indirect investments through mutual funds), provided that the securities of the Competing Business are publicly traded and the Employee does not own or control more than two percent of the outstanding voting rights or equity of the Competing Business.

5.8 In the event that a court determines that the length of time, the geographic area, or the activities prohibited under this Agreement are too restrictive to be enforceable, the Court may reduce the scope of the restriction to the extent necessary to make the restriction enforceable.

5.9 The market for the Company's services and the Company's Business is highly specialized and highly competitive such that other companies and business entities compete with the Company in various locations throughout the world. The provisions set forth in this Agreement: (i) are reasonably necessary to protect the Company's legitimate business interests, (ii) are reasonable as to the time, territory, and scope of activities that are restricted, (iii) do not interfere with the Employee's ability to earn a comparable living or secure employment in the field of the Employee's choice, (iv) do not interfere and are not inconsistent with public policy or the public interest, and (v) are described with sufficient accuracy and definiteness to enable the Employee to understand the scope of the restrictions on the Employee.

5.10 Because of the unique nature of the Proprietary Information, the Employee understands and agrees that the Company will suffer irreparable harm in the event that the Employee fails to comply with any of the Employee's obligations under this Agreement and that monetary damages will be inadequate to compensate the Company for such breach. Accordingly, the Employee agrees that the Company will, in addition to any other remedies available to it at law or in equity, be entitled to injunctive relief to enforce the terms of this Agreement.

6. The Employee hereby authorizes the Company to provide a copy of this Agreement, including any exhibits hereto, to any and all of the Employee's future employers and to notify any and all such future employers that the Company intends to exercise its legal rights arising out of or in connection with this Agreement and/or any breach or any inducement of a breach hereof.

7. The Employee agrees that, during the term of the Employee's employment with the Company, the Employee will not: (i) engage in any other employment, occupation, consulting, or other business activity that conflicts with the Employee's obligations to the Company, or (ii) engage in any other activities that conflict with the Employee's obligations to the Company.

8. Debarment Certification

8.1 The Employee represents and promises that Employee:

(a) is not presently, and during the Employee's employment will not be, debarred or convicted for a crime for which Employee can be debarred under the Generic Drug Enforcement Act of 1992 (21USC335a)(the "**Act**"); and

(b) is not presently, and during the Employee's employment will not be, indicted or otherwise criminally or civilly charged by a government entity (Federal or State) with commission of the kinds of conduct for which Employee can be debarred under the Act; and

(c) will not employ or otherwise engage any individual who has been (i) debarred or (ii) convicted of a crime for which a person can be debarred under the Act, in any capacity in connection with the activities of developing or reporting data which may become part of an application for approval of a drug or biologic.

8.2 The Employee promises that, during the Employee's employment with the Company, the Employee will promptly notify the Company upon learning of or having a belief that the Employee cannot satisfy the obligations of Section 8.1 above.

9. The Employee agrees that this Agreement shall be enforced, construed and interpreted under the law of the state of North Carolina, without regard to the conflicts of laws principles thereof. The state and federal courts in North Carolina shall be the exclusive venues for the adjudication of all disputes arising out of this Agreement, and the Employee consents to the exercise of personal jurisdiction over the Employee in any such adjudication and hereby waives any and all objections and defenses to the exercise of such personal jurisdiction.

10. The Employee agrees that: (i) the Employee's employment relationship with the Company is "at-will," which means that either the Employee or the Company can terminate the relationship at any time for any reason or no reason, with or without notice, unless the Employee and the Company are parties to a contract that expressly provides a fixed term of employment, (ii) the Employee's employment relationship with the Company is contingent upon the Employee's execution of this Agreement, which is a material inducement to the Company to offer the employment relationship to the Employee and to provide Proprietary Information to the Employee, and (iii) this Agreement shall survive any termination for any reason whatsoever of the Employee's employment relationship with the Company.

11. The Employee agrees that the Company's failure to insist upon strict compliance with any provision of this Agreement shall not be deemed a waiver of such provision or of any other provision in the Agreement. The provisions of this Agreement shall be enforceable, notwithstanding the existence of any breach of this Agreement by the Company or of any claim by the Employee against the Company, whether predicated on this Agreement or otherwise.

12. This Agreement contains the entire understanding between the parties with respect to the subject matter hereof and supersedes all prior or contemporary agreements or understandings, whether written or oral, with respect thereto, provided, however, prior to the execution of this Agreement, if Company and the Employee were parties to any agreement regarding the subject matter hereof, that agreement will be superseded by this Agreement prospectively only. This Agreement may not be modified or amended except by an agreement in writing signed by both parties.

13. The Employee agrees that this Agreement is assignable by the Company at the Company's discretion and the Employee authorizes the Company's successors and assigns to enforce this Agreement for their respective benefits.

14. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement and each other provision of this Agreement shall be severable and enforceable to the extent permitted by law.

15. The Employee agrees that a breach of any provision(s) of this Agreement will toll the running of the limitation period with respect to such provision(s) for as long as such breach occurs.

16. The Employee agrees and acknowledges that the Company's agreement to employ the Employee, in and of itself, is sufficient and adequate consideration for the Employee's promises and obligations hereunder, and that the compensation and other benefits that the Company provides the Employee during the course of the Employee's employment are, independently and collectively, sufficient and adequate consideration for the Employee's promises and obligations hereunder.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the Employee has executed this Agreement to be effective as of the date set forth above.

LIQUIDIA TECHNOLOGIES, INC.

By: _____(s)
Name:
Title:

_____(s)
NAME

SCHEDULE A

The following items are inventions, ideas, computer software programs or other equipment or technology not covered by Section 4 of this Agreement, which the undersigned conceived of or developed, wholly or in part, prior to the Employee's employment or engagement with the Company and shall be excluded from the scope of this Agreement.

If the undersigned has no such items to disclose, write "NONE" on this line: .

Description of Items: (if applicable)

Title on Document	Date on Document	Name of Witness on Document

LIQUIDIA TECHNOLOGIES, INC.

By: _____

Dated: _____

NAME

Dated: _____

Exhibit 23.3

Consent of Decision Resources Group

We hereby consent to (1) the use of and references to our name in the prospectus included in the registration statement on Form S-1 of Liquidia Technologies, Inc. (the "Company") and any amendments thereto (the "Registration Statement"), including, but not limited to, under the "Market and Industry Data," "Prospectus Summary," and "Business" sections, and (2) the filing of this consent as an exhibit to the Registration Statement by the Company for the use of our data and information cited in the above-mentioned sections with data reference points outlined and described expressly within Schedule I hereto only. Any data or information not appearing within Schedule I hereto is not authorized for use and does not form part of this consent exhibit.

The data and information used in the Registration Statement, including, but not limited to, under the "Market and Industry Data," "Prospectus Summary," and "Business" sections and described on Schedule I hereto, are obtained from our materials titled "Research Stream — Disease Landscape and Forecast — All Therapy Areas (Inc. Niche & Rare) (DLSFTA0003)".

By: /s/ Wade B. Sampson
Name: Wade B. Sampson
Title: Director, Contracts
DR/Decision Resources, LLC

April 9, 2018

Schedule I

The information listed below and appearing in the "Market and Industry Data" section of the prospectus:

> Unless otherwise indicated, information contained in this prospectus concerning our industry and the markets in which we operate is based on reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources as well as our own internal estimates and research. Decision Resources Group is the primary source for the market data included in this prospectus and we compensated them for use of market data. Although we believe the data from these third party sources is reliable, we have not independently verified any third party information. In addition, projections, assumptions and estimates of the future performance of the industry in which we operate and our future performance are necessarily subject to uncertainty and risk due to a variety of factors, including those described in "Risk Factors." These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

The information listed below and appearing in the "Prospectus Summary" section of the prospectus:

> in 2016 more than 50% of patients with PAH in the United States were prescribed treprostinil across its three routes of administration (oral, inhaled and parenteral infusion), generating revenue that represented about one-third of the approximately $3.7 billion U.S. market for PAH drug therapies
>
> Tyvaso® (treprostinil, inhaled solution), marketed by United Therapeutics Corporation in the United States, is the standard of care among the inhaled therapies, with more than 80% of inhaled prostacyclin sales in the United States.

The information listed below and appearing in the "Business" section of the prospectus:

> in 2016 more than 50% of patients with PAH in the United States were prescribed treprostinil across its three routes of administration (oral, inhaled and parenteral infusion), generating revenue that represented about one-third of the approximately $3.7 billion U.S. market for PAH drug therapies
>
> Tyvaso® (treprostinil, inhaled solution), marketed by United Therapeutics Corporation in the United States, is the standard of care among the inhaled therapies, with more than 80% of inhaled prostacyclin sales in the United States.
>
> Prostacyclin deficiency in the lung is a central dysfunction in PAH, but can be supplemented with prostacyclin analogs.
>
> Nitric oxide deficiency can be treated with phosphodiesterase 5, or PDE5, inhibitors, which target a specific enzyme, increasing vasodilation.
>
> Endothelin overexpression in PAH patients causes vasoconstriction of pulmonary vasculature, but can be treated with endothelin receptor antagonists, or ERAs.
>
> Many physicians start their PAH patients on oral PDE5 inhibitors, oral ERAs or both. Drugs targeted to the prostacyclin pathway are usually added to these oral therapies, but can be used alone.

> Decision Resources Group estimated that sales for all major PAH drugs in 2016 were more than $6.0 billion in the United States, France, Germany, Italy, Japan and the United Kingdom.
>
> In the United States, products approved to treat PAH through the prostacyclin deficient pathway generated approximately $1.7 billion in sales in 2016, of which the prostacyclin analog treprostinil generated the majority from products formulated for continuous infusion, inhalation using a nebulizer and oral delivery.
>
> The combined population of PAH patients in the 5EU and Japan was estimated to be more than 25,000 patients in 2016.
>
> Decision Resources Group estimated that fewer than 10% of PAH patients in the United Kingdom, Germany, France, Italy and Spain, which we collectively refer to herein as the 5EU, use Ventavis.
>
> By 2025, the diagnosed prevalence of all WHO Group III sub types is expected to grow to over 250,000 patients in the United States, 5EU and Japan.
>
> WHO Group IV includes patients diagnosed with chronic thromboembolic pulmonary hypertension, or CTEPH. While considered underdiagnosed and undertreated, the current estimates for diagnosed prevalence of CTEPH in 2015 are between 2,000 and 6,500 patients in the United States and more than 10,000 patients in the 5EU and Japan.
>
> Decision Resources Group reported that more than 80% of PAH patients on inhaled therapy in the United States used Tyvaso in 2016.
>
> As reported by Decision Resources Group, net revenue in the U.S. market for PAH drug therapies in 2016 was estimated to be $3.7 billion. Of such amount, $2.0 billion was generated from patients in NYHA Class III, $1.2 billion was generated from patients in NYHA Class II and an aggregate of $0.5 billion was generated from patients in NYHA Classes I and IV.
>
> The U.S. market for inhaled treatments through the prostacyclin deficient pathway was more than $450 million in 2016, of which Tyvaso accounted for more than 80%.
>
> However, prostacyclin analogs may have utility in the treatment of PH in other categories, as suggested by current off label use in WHO Group III, which includes individuals with pulmonary hypertension secondary to lung diseases or hypoxemia, and WHO Group IV, which includes individuals with chronic thromboembolic pulmonary hypertension.
>
> Continuously infused prostacyclins include epoprostenol, marketed by multiple companies as generic and branded products, and treprostinil, marketed as Remodulin by United Therapeutics Corporation. These options are considered to offer the greatest efficacy and are usually prescribed to patients later in the disease.

Exhibit 23.4

Consent of CapVal-American Business Appraisers, LLC

We hereby consent to (i) the filing of this consent as an exhibit to the Form S-1 of Liquidia Technologies, Inc. (the "Company") and any amendments thereto (the "Registration Statement") by the Company for the use of our methodologies, conclusions and other information cited in "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Notes to Financial Statements" sections with reference points outlined and described expressly within Schedule I hereto only, and (ii) the use of and reference to our name in the Registration Statement, including, but not limited to, under the "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Notes to Financial Statements" sections. Any information not appearing within Schedule I hereto is not authorized for use and does not form part of this consent exhibit.

The information used in the Registration Statement, including, but not limited to, under the "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Notes to Financial Statements" sections and described on Schedule I hereto, are obtained from appraisal reports provided by us to the Company.

The information utilized by the Company and provided by us was limited to an opinion of the fair value of the Company's common stock as of specific valuation dates, and the related value of stock options solely for purposes of compliance with Accounting Standards Codification Section 718. These dates differed from the dates of the Company's historical financial statements and the date of this filing. The values of the common stock and related options at the statement dates and at the respective valuation dates would be expected to be different, and the difference could be material. These reports and conclusions are not intended by us, and should not be construed by the reader, to be investment advice in any manner whatsoever.

By: /s/ Geoffrey S. Grisham, ASA, CVA
Name: Geoffrey S. Grisham, ASA, CVA
Title: Member
CapVal-American Business Appraisers, LLC

April 9, 2018

Schedule I

The information listed below and appearing in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of the prospectus:

> Our common stock valuations were prepared using the hybrid method, which used market approaches and, in the November 8, 2016 and February 2, 2018 valuations, initial public offering pre-money valuation estimates provided by management, to estimate our enterprise value. The hybrid method is a probability-weighed expected return method, or PWERM, where the equity value in one or more of the scenarios is calculated using an option-pricing method, or OPM. The OPM treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company's securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceeded the value of the preferred stock liquidation preferences at the time of the liquidity event, such as a strategic sale or a merger. The PWERM is a scenario-based methodology that estimates the fair value of common stock based upon an analysis of future values for the company, assuming various outcomes. The common stock value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of stock. The future value of the common stock under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate, a discount for lack of marketability is applied to each indication, and probability weighted to arrive at an indication of value for the common stock. Third-party valuations were performed at various dates by CapVal-American Business Appraisers, LLC, which resulted in valuations of our common stock of $0.35 per share as of November 8, 2015, $1.21 as of November 8, 2016, and $0.553 per share as of February 2, 2018.

The information listed below and appearing in the "Notes to Financial Statements" section of the prospectus:

> The purchase prices were not material and were based upon prior third-party appraisals conducted by CapVal-American Business Appraisers, LLC. The valuations of Envisia common stock were for Internal Revenue Code Section 409A, or 409A, and ASC 718, *compensation-stock compensation, or ASC 718,* purposes. These standards of value may not be appropriate for a market transaction, and furthermore, the dates are different and therefore such number of shares could be different for this purpose.
