AERIE PHARMACEUTICALS INC
Form 10-K
March 09, 2017
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-K

(Mark One)
ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016
or
o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
Commission File Number: 001-36152

Aerie Pharmaceuticals, Inc.
(Exact name of registrant as specified in its charter)

Delaware	20-3109565
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

2030 Main Street, Suite 1500
Irvine, California 92614
(949) 526-8700
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.001 par value per share	NASDAQ Global Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ý No o
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes o No ý
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ý No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files): Yes ý No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

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

Large accelerated filer o	Accelerated filer ý
Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes o No ý

The aggregate market value of the voting stock held by non-affiliates of the registrant on June 30, 2016, based upon the closing price of $17.60 of the registrant's common stock as reported on the NASDAQ Global Market, was $437,044,000.

As of February 28, 2017, the registrant had 33,626,226 shares of common stock, $0.001 par value, issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement (the "Proxy Statement") for the 2017 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10-K. The Proxy Statement will be filed with the Securities and Exchange Commission (the "SEC") within 120 days of the registrant's fiscal year ended December 31, 2016.

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Unless otherwise indicated or the context requires, the terms “Aerie,” “Company,” “we,” “us” and “our” refer to Aerie Pharmaceuticals, Inc. and its subsidiaries.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We may, in some cases, use terms such as “predicts,” “believes,” “potential,” “proposed,” “continue,” “estimates,” “anticipates,” “expects,” “plans,” “intends,” “may,” “would,” “could,” “might,” “will,” “should,” “exploring,” “pursuing” or ot convey uncertainty of future events or outcomes to identify these forward-looking statements.

Forward-looking statements appear in a number of places throughout this report and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things:

- the success, timing and cost of our ongoing and anticipated preclinical studies and clinical trials for our current and potential future product candidates, including statements regarding the timing of initiation and completion of the studies and trials;
- our expectations regarding the clinical effectiveness of our product candidates and results of our clinical trials;
- the timing of and our ability to obtain and maintain U.S. Food and Drug Administration (“FDA”) or other regulatory authority approval of, or other action with respect, to our product candidates, in the U.S., Canada, Europe, Japan and elsewhere;
- our expectations related to the use of proceeds from our financing activities;
- our estimates regarding anticipated operating expenses and capital requirements and our needs for additional financing;
- the commercial launch and potential future sales of our current or any other future product candidates;
- our commercialization, marketing, manufacturing and supply management capabilities and strategy;
- third-party payor coverage and reimbursement for our product candidates;
- the glaucoma patient market size and the rate and degree of market adoption of our product candidates by eye-care professionals and patients;
- the timing, cost or other aspects of the commercial launch of our product candidates;
- our plans to pursue development of our product candidates for additional indications and other therapeutic opportunities;
- the potential advantages of our product candidates;
- our plans to explore possible uses of our existing proprietary compounds beyond glaucoma;
- our ability to protect our proprietary technology and enforce our intellectual property rights;
- our expectations regarding collaborations, licensing, acquisitions and strategic operations, including our ability to in-license or acquire additional ophthalmic products or product candidates; and
- our stated objective of building a major ophthalmic pharmaceutical company.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics, industry change and other factors beyond our control, and depend on regulatory approvals and economic and other environmental circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. We discuss many of these risks in greater detail under the heading “Risk Factors” in Part I, Item 1A of this report and elsewhere in this report. You should not rely upon forward-looking statements as predictions of future events.

Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this report. In addition, even if our results of operations, financial condition and liquidity, and

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events in the industry in which we operate are consistent with the forward-looking statements contained in this report, they may not be predictive of results or developments in future periods.

Any forward-looking statements that we make in this report speak only as of the date of this report. Except as required by law, we are under no duty to update or revise any of the forward-looking statements, whether as a result of new information, future events or otherwise, after the date of this report.

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PART I

ITEM 1. BUSINESS

Overview

We are a clinical-stage pharmaceutical company focused on the discovery, development and commercialization of first-in-class therapies for the treatment of patients with glaucoma and other diseases of the eye. Our stated objective is to build a major ophthalmic pharmaceutical company and our strategy is to advance our product candidates, including Rhopressa™ (netarsudil ophthalmic solution) 0.02% ("Rhopressa™"), and Roclatan™ (netarsudil/latanoprost ophthalmic solution) 0.02%/0.005% ("Roclatan™"), to regulatory approval and commercialize these products ourselves in North American markets. If approved, we plan to build a commercial team of approximately 100 sales representatives to target approximately 10,000 high prescribing eye-care professionals throughout the United States. Our strategy includes developing our business outside of North America, including obtaining regulatory approval on our own for our product candidates in Europe and Japan. For commercialization outside of North America, we expect to explore partnership opportunities through collaboration and licensing arrangements in Europe and Japan. We are also enhancing our longer-term commercial potential by identifying and advancing additional product candidates and drug delivery technologies, including through our internal discovery efforts, and potential research collaborations, in-licensing or acquisitions of additional ophthalmic products or technologies or product candidates that would complement our current product portfolio.

We completed our IPO in October 2013 which raised net proceeds of approximately $68.3 million. Since our IPO we have raised additional net proceeds of approximately $122.9 million through the sale and issuance of the 2014 Convertible Notes in September 2014, and approximately $217.6 million through the issuance and sale of common stock under our shelf registration statements on Form S-3 and former "at-the-market" sales agreements. Our senior leadership team has extensive experience in the ophthalmology market and has overseen the development and commercialization of several successful ophthalmic products at major pharmaceutical companies. If our products are approved and we are commercially successful, we believe Aerie could become a major ophthalmic pharmaceutical company.

Our two advanced stage product candidates are designed to lower intraocular pressure, or IOP, in patients with open-angle glaucoma and ocular hypertension. Both product candidates are taken once-daily and have shown in preclinical and clinical trials to be effective in lowering IOP, with novel mechanisms of action, or MOAs, and a positive safety profile. Glaucoma is one of the largest segments in the global ophthalmic market. In 2015, branded and generic glaucoma product sales exceeded $4.6 billion in the United States, Europe and Japan in aggregate, according to IMS. Prescription volume for glaucoma products in the United States alone was 34 million in 2015 and is expected to grow, driven in large part by the aging population.

Our lead product candidate, Rhopressa™, is a novel once-daily eye drop designed to lower IOP in patients with open-angle glaucoma and ocular hypertension. We resubmitted our new drug application ("NDA") with the U.S. Food and Drug Administration ("FDA") for Rhopressa™ on February 28, 2017 and we expect a standard 12-month FDA review from the date of resubmission. Our initial submission, announced in September 2016, was withdrawn as a result of a contract manufacturer of our drug product not being prepared for pre-approval inspection by the FDA. We are developing Rhopressa™ as the first of a new class of compounds that is designed to lower IOP in patients through novel MOAs. We believe that, if approved, Rhopressa™ will represent the first new MOAs for lowering IOP in patients with glaucoma in over 20 years. Based on preclinical studies and clinical data to date, we expect that Rhopressa™, if approved, will have the potential to compete with non-PGA (prostaglandin analog) products as a preferred adjunctive therapy to PGAs, due to its targeting of the diseased tissue known as the trabecular meshwork, or TM, its demonstrated IOP-lowering ability at consistent levels across tested baselines with once-daily dosing relative to currently marketed non-PGA products, its potential synergistic effect with PGA products, its once-daily dosing, and its lack of serious drug related adverse events. Adjunctive therapies currently represent approximately one-half of the entire glaucoma therapy market in the United States, according to IMS. In addition, if approved, we believe that Rhopressa™ may also become a preferred therapy where PGAs are contraindicated, for patients who do not respond to

PGAs, for patients who have lower IOPs but nevertheless present with glaucomatous damage to the optic nerve, which is commonly referred to as “low-tension” or “normal tension” glaucoma, as well as for patients who choose to avoid the cosmetic issues associated with PGA products.

Our second product candidate is once daily Roclatan™, a fixed-dose combination of Rhopressa™ and latanoprost, the most commonly prescribed drug for the treatment of patients with open-angle glaucoma. We currently have two Phase 3 registration trials for Roclatan™ in process. The first Phase 3 registration trial for Roclatan™, named “Mercury 1,” commenced in September 2015 and in September 2016, we announced that Mercury 1 achieved its primary efficacy endpoint of demonstrating superiority of Roclatan™ to each of its components.

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The second Phase 3 registration trial for Roclatan™, named "Mercury 2," commenced in March 2016. We expect to report the topline 90-day efficacy data for Mercury 2 in the second quarter of 2017. If both Mercury 1 and Mercury 2 are successful, we expect to submit an NDA for Roclatan™ in late 2017 or early 2018, which may be prior to obtaining approval for Rhopressa™.

We believe our clinical plans for both Rhopressa™ and Roclatan™ are already in place to satisfy European regulatory requirements. In addition to Rocket 1 and Rocket 2, our initial Phase 3 registration trials for Rhopressa™, our Rocket 4 trial is designed to provide adequate six month safety data for Rhopressa™ to meet European requirements. Based on our Rhopressa™ clinical plan, we expect to file for regulatory approval in Europe in the second half of 2018. Additionally, we plan to initiate a third Phase 3 registration trial for Roclatan™, named "Mercury 3," in Europe in mid-2017. Mercury 3 will be designed to compare Roclatan™ to Ganfort®, a fixed-dose combination product of bimatoprost and timolol marketed in Europe, which if successful, should improve our commercialization prospects in that region.

We believe, based on our preclinical studies and clinical trials to date, that Roclatan™ has the potential to provide a greater IOP-lowering effect than any currently approved glaucoma product. Therefore, we believe that Roclatan™, if approved, could compete with both PGA and non-PGA therapies and become the product of choice for patients requiring maximal IOP lowering, including those with higher IOPs and those who present with significant disease progression despite currently available therapies.

We continue to explore the longer-term impact of Rhopressa™ on the diseased TM. We have issued several research updates on preclinical results demonstrating that Rhopressa™ may have the potential for disease modification, including stopping and reversing fibrosis in the TM, and also increasing perfusion in the trabecular outflow pathway thus increasing both drainage and the delivery of nutrients to the diseased tissue, which we believe would represent a breakthrough in the treatment of glaucoma. We are also conducting ongoing research to evaluate injectable sustained release formulation technologies with the potential capability of delivering Rhopressa™ internally in the eye over several months for the treatment of glaucoma.

We are also evaluating possible uses of our existing proprietary portfolio of Rho Kinase inhibitors beyond glaucoma. Our owned preclinical small molecule, AR-13154, has demonstrated the potential for the treatment of wet age-related macular degeneration (AMD) by inhibiting Rho kinase and Protein kinase C and has shown lesion size decreases in a model of wet AMD at levels similar to current market-leading products, and even greater lesion size reduction in combination with the market-leading wet AMD anti-VEGF product. As we look forward to next steps for AR-13154, we expect to continue evaluating sustained delivery systems and establish long-term efficacy and pharmacokinetics in preclinical models.

We may enter into research collaboration arrangements, license, acquire or develop additional product candidates and technologies to broaden our presence in ophthalmology, and continually explore and discuss potential additional opportunities for new ophthalmic products, delivery alternatives and new therapeutic areas with potential partners. Our approach has consistently been to explore opportunities with minimal initial investment allowing us to more fully evaluate the probability of success prior to making a material commitment. We are currently focused on the evaluation of delivery technologies for the delivery of our owned molecules to the front and back of the eye over sustained periods. In 2016, we terminated our collaboration and license arrangements with GrayBug, Inc. for drug delivery technology and elected not to extend our collaboration agreement with Ramot at Tel Aviv University, Ltd. for a preclinical anti-beta amyloid molecule. Neither of these collaborations represented a material financial commitment by Aerie.

We own the worldwide rights to all indications for our current Aerie product candidates. Our intellectual property portfolio contains patents and pending patent applications related to composition of matter, pharmaceutical compositions, methods of use, and synthetic methods. We have patent protection for our primary product candidates, Rhopressa™ and Roclatan™, in the United States through at least 2030.

As indicated earlier, glaucoma is one of the largest segments in the global ophthalmic market. In 2015, branded and generic glaucoma product sales exceeded $4.6 billion in the United States, Europe and Japan in aggregate, according to IMS. Prescription volume for glaucoma products in the United States alone was 34 million in 2015 and is expected to grow, driven in large part by the aging population. The PGA and non-PGA market segments each represent approximately one-half of the prescription volume in the U.S. glaucoma market, as shown in the following chart, which is based on IMS data.

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According to the National Eye Institute, it is estimated that over 2.7 million people in the United States suffer from glaucoma, a number that is expected to reach 4.3 million by 2030. Furthermore, The Eye Diseases Prevalence Research Group has estimated that only half of the nation's glaucoma sufferers know that they have the disease. Glaucoma is a progressive and highly individualized disease, in which elevated levels of IOP are associated with damage to the optic nerve, resulting in irreversible vision loss and potentially blindness. Patients may suffer the adverse effects of glaucoma across a wide range of IOP levels. There are multiple factors that can contribute to an individual getting glaucoma, including, but not limited to, age, family history and ethnicity. Based on data from the Baltimore Eye Survey, approximately 75% of glaucoma patients have low to moderately elevated IOP at the time of diagnosis and approximately 60% of glaucoma patients have IOP of 21 mmHg, or millimeters of mercury, or below at the time of diagnosis. Additionally, in Japan, the Tajimi Study found that approximately 92% of glaucoma patients had IOP of 21 mmHg or below at the time of diagnosis. In clinical trials to date, Rhopressa™ has demonstrated the ability to provide relatively consistent IOP lowering across all tested baseline IOP levels, which we believe differentiates it from currently marketed drugs that have shown reduced efficacy at lower baseline IOPs.

Glaucoma is treated by the reduction of IOP, which has been shown to slow the progression of vision loss. In a healthy eye, fluid is continuously produced and drained in order to maintain pressure equilibrium and provide nutrients to the eye tissue. The FDA recognizes sustained lowering of IOP as the primary clinical endpoint for the approval of drugs to treat patients with glaucoma and ocular hypertension. The primary drainage mechanism of the eye is the TM, which accounts for approximately 80% of fluid drainage in a healthy eye, while the secondary drainage mechanism, the uveoscleral pathway, is responsible for the remaining drainage. In glaucoma patients, damage to the TM results in insufficient drainage of fluid from the eye, which causes increased IOP and damage to the optic nerve. In addition to eye fluid production and drainage through the TM and uveoscleral pathway, episcleral venous pressure, or EVP, makes a significant contribution to IOP. EVP represents the pressure of the blood in the episcleral veins of the eye where the eye fluid drains into the bloodstream. Historical studies have shown that EVP accounts for approximately half of IOP in normotensive subjects and approximately one-third of IOP in patients with pressures of 24 mmHg to 30 mmHg. When EVP is lowered, fluid is able to flow more freely from the eye. Drugs that lower IOP without lowering EVP are most effective at high IOPs, where EVP is believed to contribute less to IOP, and are less effective at lower IOPs, where EVP is seen to account for a larger portion of IOP.

Once glaucoma develops, it is a chronic condition that requires life-long treatment. The initial treatment for glaucoma patients is typically the use of prescription eye drops. PGAs have become the most widely prescribed glaucoma drug class. The most frequently prescribed PGA is once-daily latanoprost. The most commonly prescribed non-PGA drugs belong to the beta blocker class. The most frequently prescribed beta blocker is twice-daily timolol. Other non-PGA drug classes include the alpha agonists and carbonic anhydrase inhibitors. When PGA monotherapy is insufficient to control IOP or contraindicated due to concerns about side effects, non-PGA products are used either as add-on therapy to the PGA or as an alternative monotherapy. It is estimated that up to 50% of glaucoma patients receiving PGA monotherapy require add-on therapy within two years of initial prescription of the drug, in order to maintain adequate control of IOP. It is believed that this rise in IOP after a patient is on an initial therapy results from the lack of effect of current therapies on the TM, and as a result damage to the TM progresses and the IOPs begin to rise.

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We believe there are significant unmet needs in the glaucoma market and that eye-care professionals are eager for new therapy choices. None of the commonly prescribed PGAs or non-PGAs target the TM, the diseased tissue responsible for elevated IOP levels in glaucoma patients and the eye's primary drain. Moreover, PGAs have side effects, contraindications and reduced efficacy in patients with low to moderately elevated IOPs relative to patients with higher IOPs. Non-PGAs are less efficacious than PGAs, have more serious and a greater number of side effects and contraindications, and require multiple daily doses. As a result, we believe there is a significant unmet need in both the PGA and non-PGA market segments, each of which represents approximately one-half of the U.S. and European glaucoma market based on prescription volumes, according to IMS. Despite the limitations of existing glaucoma drugs, Xalatan® (latanoprost), the best-selling PGA, together with Xalacom®, its fixed-dose combination with a beta blocker, which is not available in the United States, generated peak annual global revenues of approximately $1.7 billion prior to the introduction of their generic equivalents, and the most commonly prescribed non-PGA drugs each generated peak annual global revenues of over $400 million prior to the introduction of their generic equivalents.

Currently approved drugs mainly reduce IOP by increasing fluid outflow through the eye's secondary drain with once-daily dosing or reducing fluid inflow by decreasing fluid production with multiple doses per day. Based on our preclinical studies and clinical data to date, we believe our product candidates represent a new class of drugs utilizing novel MOAs that are applied topically as once-daily eye drops. Based on preclinical and clinical studies, we believe Rhopressa™, if approved, may become the only once-daily product that specifically targets the TM. Rhopressa™ has demonstrated that it lowers IOP by (i) relaxing the contracted tissue of the TM to improve fluid outflow through the eye's primary drain, (ii) potentially decreasing fluid production in the eye and (iii) lowering EVP, an MOA that we believe further differentiates Rhopressa™ from currently marketed glaucoma products. Roclatan™, our fixed-dose combination product candidate, combines the MOAs of Rhopressa™ with the MOA of latanoprost, a PGA that increases fluid drainage through the uveoscleral pathway.

We believe Rhopressa™, if approved, may be prescribed by eye-care professionals as a preferred adjunctive therapy for patients taking PGAs, due to the MOAs of Rhopressa™ being complementary to the MOA of PGAs, and due to its IOP-lowering ability, more convenient dosing and better tolerability profile compared to currently marketed non-PGA adjunctive products.

In addition, we believe Roclatan™, if approved, will be the only glaucoma product that, based on our preclinical studies and clinical trials to date, covers the full spectrum of currently known IOP-lowering MOAs, giving it the potential to provide a greater IOP-lowering effect than any currently approved glaucoma product. Therefore, we believe that if Roclatan™ is approved, it could compete with both PGA and non-PGA therapies and become the product of choice for patients requiring maximal IOP lowering, including those with higher IOPs and those who present with significant disease progression despite currently available therapies.

We currently plan to commercialize our products ourselves in North America. We expect to explore partnership opportunities through collaboration and licensing arrangements in certain key markets outside of North America, including Europe and Japan.

Our Product Pipeline

Our primary product candidates, Rhopressa™ and Roclatan™, are once-daily eye drops. Based on our studies, Rhopressa™ has been shown to inhibit Rho kinase, or ROCK, and the norepinephrine transporter, or NET, which are both novel biochemical targets for lowering IOP. By inhibiting these targets, we believe Rhopressa™ reduces IOP through the following MOAs: (i) through ROCK inhibition, it increases fluid outflow through the TM, which accounts for approximately 80% of fluid drainage from the eye; (ii) also through ROCK inhibition, as demonstrated in a preclinical study, it reduces EVP, which represents the pressure of the blood in the episcleral veins of the eye where eye fluid drains into the bloodstream; and (iii) through NET inhibition, it may potentially reduce the production of eye fluid. Roclatan™, a single-drop fixed-dose combination of Rhopressa™ and latanoprost, lowers IOP through the same MOAs as Rhopressa™ and, through a fourth MOA, utilizing the ability of latanoprost to increase fluid outflow through the uveoscleral pathway, the eye's secondary drain. All of these observations represent findings from our body of preclinical and clinical work to date.

We discovered and developed our product candidates internally through a rational drug design approach that coupled medicinal chemistry with high content screening of compounds in proprietary cell-based assays. We selected and formulated our product candidates for preclinical in vivo testing following a detailed characterization of over 3,000 synthesized ROCK-selective and ROCK/NET inhibitors. We continue to seek to discover and develop new compounds in our research laboratories and employ a scientific staff with expertise in medicinal chemistry, analytical chemistry, biochemistry, cell biology, pharmacology and pharmaceutical science.

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The following table summarizes each of our current product candidates, their MOAs and their development status, as well as our intellectual property rights for these product candidates.

Product Candidate and Mechanism		Phase of Development	Intellectual Property Rights
Rhopressa™	ROCK/NET inhibitor	Submitted NDA	Wholly-Owned
Roclatan™	ROCK/NET inhibitor and latanoprost, a PGA	Phase 3	Wholly-Owned

Rhopressa™

Rhopressa™ is the first of a new class of glaucoma drug products that was discovered by our scientists. It is a once-daily eye drop designed to reduce IOP in patients with glaucoma or ocular hypertension by specifically targeting the TM, the eye's primary fluid drain and the diseased tissue responsible for elevated IOP in glaucoma. Based on our preclinical studies and clinical trials to date, Rhopressa™ increases fluid outflow through the primary drain of the eye through ROCK inhibition while also reducing eye fluid production through NET inhibition. Preclinical studies have also demonstrated that Rhopressa™ lowers EVP, as further described below, which contributes approximately half of IOP in healthy subjects.

ROCK is a protein kinase, which is an enzyme that modifies other proteins by chemically adding phosphate groups to them. Specifically, ROCK regulates actin and myosin, which are proteins that are responsible for cellular contraction. ROCK activity also promotes the production of extracellular matrix proteins. ROCK inhibitors block TM cell contraction and reduce the production of extracellular matrix, thereby improving fluid outflow and consequently decreasing IOP. In addition, we believe ROCK inhibition may also be responsible for reduction of EVP. EVP represents the pressure of the blood in the episcleral veins of the eye, where eye fluid drains into the bloodstream. When EVP is lowered, the fluid is able to flow more freely from the eye.

NET is a protein that transports norepinephrine across neuronal cell membranes. Norepinephrine is a chemical released by neurons to communicate with targeted cells. NET returns excess norepinephrine back into the neuron, which helps end the signaling between the neuron and the neuron's target cells. We believe the inhibition of NET prolongs the activation of target cells in the ciliary body of the eye, which reduces the production of eye fluid and thereby lowers IOP. Based on our clinical trials, we have observed that Rhopressa™ may also have a potential synergisitic effect with PGAs, whereby its IOP-lowering ability is increased when patients take a PGA as a first line therapy.

Rhopressa™ is expected to compete primarily in the adjunctive therapy market, which represents approximately one-half of the U.S. glaucoma prescription market, which totaled approximately 34 million prescriptions in 2015 according to IMS. Currently marketed adjunctive therapies are older generation products that are generally dosed two to three times a day, have MOAs focused on reducing fluid production, often have lower efficacy levels and have systemic side effects. Based on preclinical studies and clinical trials to date, we believe Rhopressa™, if approved, has the potential to be the future drug of choice as an adjunctive therapy to PGAs due to its potential synergistic effect with PGAs and will also be able to separately compete with PGAs due to its several positive differentiating attributes, including its effective IOP-lowering at relatively consistent levels across tested IOPs, the ability to lower EVP, targeting of the diseased tissue, convenient once-daily dosing and favorable tolerability profile.

In addition to the expected primary use of Rhopressa™ as an adjunctive therapy, we also believe Rhopressa™ may be prescribed by eye-care professionals in the following circumstances:

•As a preferred alternative therapy for patients who do not respond to PGAs.

•As a preferred initial therapy for patients with low or normal-tension glaucoma.

- As a preferred initial therapy where PGAs are contraindicated and for patients who choose to avoid the cosmetic issues associated with PGAs, including iris color change in light-eyed patients, discoloration of tissue surrounding the eyes and eyelid droopiness and sunken eyes caused by loss of orbital fat.

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Rhopressa™ NDA

We resubmitted our NDA for Rhopressa™ with the FDA on February 28, 2017 and expect a standard 12-month FDA review period from the date of resubmission. Our initial submission, announced in September 2016, was withdrawn as a result of a contract manufacturer of our drug product not being prepared for pre-approval inspection by the FDA. The NDA submission included our second Phase 3 registration trial for Rhopressa™, named "Rocket 2," as the pivotal clinical trial and our initial Phase 3 registration trial, named "Rocket 1," as supportive in nature. We included as supportive data the 90-day efficacy results of Rocket 4 and Mercury 1, each as further discussed below, with the NDA submission for Rhopressa™.

Rhopressa™ Phase 3 Trials

Our initial Phase 3 registration trials commenced in July 2014 and are designed to use timolol as the comparator, as timolol represents the most widely used comparator in registration trials in glaucoma, and is also the most widely prescribed non-PGA drug. We had total enrollment of over 1,900 patients in our Phase 3 registrations trials of Rhopressa™. Phase 3 efficacy results are determined after three months of treatments and safety results are analyzed following six or 12 months of treatment depending on the trial design.

In April 2015, we completed Rocket 1, which was designed to measure efficacy over three months. Baseline IOP was measured prior to treatment. Following treatment, IOP was measured at 8 a.m., 10 a.m. and 4 p.m. at the end of week two, week four and day 90. This trial included 202 patients in the Rhopressa™ once-daily (QD) arm and 209 patients in the timolol twice-daily (BID) arm. The baseline IOPs tested in the trial ranged from above 20 to below 27 mmHg. Rhopressa™ did not achieve its primary endpoint of demonstrating non-inferiority of IOP lowering for Rhopressa™ compared to timolol for patients with IOP below 27 mmHg, but did achieve its pre-specified secondary endpoint, demonstrating non-inferiority of IOP lowering for Rhopressa™ compared to timolol for patients with IOP below 24 mmHg.

For the Rhopressa™ population of patients with IOP below 27 mmHg in Rocket 1, the mean difference from timolol ranged from -0.4 to +1.3 mmHg at a 95% confidence interval. For the population of patients with IOP below 26 mmHg, Rhopressa™ met the criteria for non-inferiority to timolol at all 9 time points and was numerically superior to timolol at the majority of time points. For the pre-specified population of patients with IOP below 24 mmHg, Rhopressa™ met the criteria for non-inferiority to timolol at all 9 time points and was numerically superior to timolol at all 9 time points.

No drug-related serious adverse events, or SAEs, were identified during the Rocket 1 trial. The primary adverse event was conjunctival hyperemia, or eye redness, which was reported in approximately 35% of the Rhopressa™ patients, of which approximately 80% was reported as mild. Conjunctival hyperemia was measured by biomicroscopy at 8am at the end of week two, week four and day 90. Across the population of patients on Rhopressa™, approximately 5% to 13% of subjects reported conjunctival hemorrhage, or petechiae, erythema of the eyelid, blurry vision and or corneal verticillata.

Rocket 2 was designed to measure efficacy over three months and safety over 12 months. The Rocket 2 trial included Rhopressa™ dosed both once-daily, or QD, and twice daily, or BID. After evaluating Rocket 1 efficacy results, we obtained agreement from the FDA to change the IOP range for the primary endpoint for the Rocket 2 trial to baseline IOP below 25 mmHg. This modified clinical endpoint range was set to a level where Rocket 1 would have been successful.

In September 2015, the Rocket 2 trial achieved its primary efficacy endpoint of demonstrating non-inferiority of IOP lowering for Rhopressa™ QD and BID compared to timolol BID. The baseline IOPs tested in the trial ranged from baseline IOPs of above 20 mmHg to below 25 mmHg. The study included a Rhopressa™ BID arm at the request of the

FDA, because it is known that PGAs are less efficacious when dosed BID, and we believe there was interest in discovering how Rhopressa™ BID would perform. Baseline IOP was measured prior to treatment. Following treatment, IOP was measured at 8 a.m., 10 a.m. and 4 p.m. at the end of week two, week six and day 90. The trial included 251 patients in the Rhopressa™ QD arm, 254 patients in the Rhopressa™ BID arm and 251 patients in the timolol twice-daily arm. The most common Rhopressa™ adverse event in the QD arm was conjunctival hyperemia, or eye redness, which was reported in approximately 50% of patients, of which 80% was reported as mild. Other ocular adverse events reported in approximately 5% to 15% of patients in the Rhopressa™ QD arm included conjunctival hemorrhage, or petechiae, corneal verticillata and blurry vision. The Rhopressa™ BID arm showed slightly higher efficacy, but had a higher incidence of adverse events which led to a greater number of early terminations in comparison to the Rhopressa™ QD arm. Other ocular adverse events reported in approximately 5% to 17% of patients in the Rhopressa™ QD arm included conjunctival hemorrhage, or petechiae, corneal verticillata, blurry vision, increased lacrimation, reduced visual acuity, eye pruritus, and conjunctival edema. In February 2016, safety data for the 12-month period of the Rocket 2 trial confirmed this positive safety profile for the drug and demonstrated a consistent IOP lowering effect throughout the 12-month period at the 8 a.m. timepoint, the only timepoint measured at months six, nine and 12.

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After detailed analysis of the Rocket 1 and Rocket 2 results, we observed higher levels of IOP lowering for Rhopressa™ at week two and to a lesser extent at week six stemming from patients who were previously on a PGA, pointing to the potential synergistic effect of PGAs and Rhopressa™, which decreases over the 90-day period as the residual PGA effect subsides. For all other patients, the IOP lowering was consistent across the 90 day measurement periods and from day 90 through month 12, as observed in the 12-month safety data. For illustrative purposes, the graph below shows the performance of Rhopressa™ in Rocket 1 and Rocket 2 at baselines above 20 mmHg and below 25 mmHg, compared to timolol.

Data on file; Based on Rocket 2 and Rocket 1 topline interim 3-month efficacy results

We are also conducting a third Phase 3 registration trial for Rhopressa™, named “Rocket 3,” in Canada, which is designed as a supplementary 12-month safety-only trial and was not required for NDA filing purposes. Rocket 3 commenced in September 2014 and patients are no longer being enrolled in this trial.

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Further, we are conducting a fourth Phase 3 registration trial for Rhopressa™, named "Rocket 4," in the U.S., which is designed to generate adequate six-month safety data for European regulatory approval, which we expect to file for in the second half of 2018. In October 2016, we announced the 90-day efficacy results from Rocket 4 where Rhopressa™ achieved its primary efficacy endpoint of demonstrating non-inferiority of Rhopressa™ compared to timolol for patients with baseline IOPs ranging from above 20 mmHg to below 25 mmHg, and also at a pre-specified secondary range from above 20 mmHg to below 28 mmHg. Rocket 4 is designed to measure efficacy over three months and safety over six months and includes Rhopressa™ dosed QD and BID. Baseline IOP was measured prior to treatment. Following treatment, IOP was measured at 8 a.m., 10 a.m. and 4 p.m. at the end of week two, week six and day 90. The trial includes 351 patients in the Rhopressa™ QD arm and 357 patients in the timolol BID arm. Based on the 90-day efficacy results, the most common Rhopressa™ adverse event observed in the QD and BID arms was conjunctival hyperemia, or eye redness, which was reported in approximately 40% of patients, of which 85% was reported as mild. Other ocular adverse events reported in approximately 5% to 12% of patients in the Rhopressa™ arm included conjunctival hemorrhage, cornea verticillata, increased lacrimation and blurred vision. While Rocket 4 was not required for NDA filing purposes, we included the 90-day efficacy results for Rocket 4 with the Rhopressa™ NDA as supportive data. The graph below shows the performance of Rhopressa™ in Rocket 4 at baseline IOPs above 20 mmHg and below 25 mmHg, compared to timolol.

Data on file; Based on Rocket 4 topline interim 3-month efficacy results

Rhopressa™ 24-Hour IOP Pilot Study

In a recent 24-hour, 16-patient pilot study comparing the efficacy of Rhopressa™ to that of placebo, Rhopressa™ demonstrated similar levels of IOP lowering during nocturnal and diurnal periods. This is potentially a further differentiating feature of Rhopressa™ when considering that currently marketed products have demonstrated little or no efficacy at night and eye pressure is typically highest when patients are asleep.

Rhopressa™ Preclinical Anti-Fibrotic and Perfusion Results

We continue to explore the potential longer-term impact of Rhopressa™ on the TM. By increasing trabecular outflow, as demonstrated in our preclinical studies, Rhopressa™ has the potential to stop the degeneration of outflow tissues. As part of the aging process, the TM becomes stiffened and clogged as fibrosis develops and progresses. Preclinical studies on human TM cells have demonstrated a meaningful anti-fibrotic effect from Rhopressa™. Further, additional preclinical experiments on human eyes have demonstrated the product candidate's potential ability to increase the perfusion of the TM and downstream outflow tissues. We believe this is possible because, as a result of the action of Rhopressa™, the TM becomes relaxed and opens, which increases the flow of eye fluid, or aqueous humor. This has the potential to increase the health of the trabecular outflow tissues, since it should increase the delivery of nutrients and antioxidants to the TM that were otherwise blocked from passage. The flow of fluid through the TM is the only known mechanism for delivering such nutrients to the diseased tissue, as there are no blood vessels present. Work is continuing as we explore whether our product candidates may be able to prevent, or possibly even reverse, damage to the TM pathway through this potential effect as well as the potential anti-fibrotic effect of our product candidates. If findings are positive and there is demonstrated disease modification, this could be a major breakthrough in the treatment of glaucoma and ocular hypertension.

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Roclatan™

Our once-daily, product candidate Roclatan™ is a combination of our compound netarsudil, the active ingredient in Rhopressa™, formulated with latanoprost in a single eye drop. Roclatan™ lowers IOP through the same MOAs as Rhopressa™ and, through a fourth MOA, utilizing the ability of latanoprost to increase fluid outflow through the uveoscleral pathway, the eye's secondary drain.

We believe, based on our preclinical studies and clinical trials to date, that Roclatan™, if approved, will be the only glaucoma product that covers the full spectrum of currently known IOP- lowering MOAs, giving it the potential to provide a greater IOP-lowering effect than any currently marketed glaucoma product. Therefore, we believe Roclatan™ could compete with both PGA and non-PGA therapies for patients requiring maximal IOP lowering, including those with higher IOPs and those who present with significant disease progression despite currently available therapies.

Roclatan™ Phase 3 Trials

Our current Phase 3 registration trials commenced in September 2015 and are designed to compare Roclatan™ to each of its components, including Rhopressa™ and market-leading latanoprost. We anticipate total enrollment of over 1,900 patients in our planned Phase 3 registrations trials. Phase 3 efficacy results are determined after three months of treatment and safety results are analyzed after six or 12 twelve months of treatment depending on the trial design.

Our initial Phase 3 registration trial, named "Mercury 1," which commenced in September 2015, is a 12-month safety trial with a 90-day efficacy readout. We had total enrollment of over 700 patients in this three-arm study, with all three arms dosed once daily. Baseline IOP was measured prior to treatment. Following treatment, IOP was measured at 8 a.m., 10 a.m. and 4 p.m. at week 2, week 6 and day 90 for the 90-day efficacy period of the trial. In September 2016, we announced that Mercury 1 achieved its primary efficacy endpoint of demonstrating superiority of Roclatan™ to each of its components. The trial is designed to evaluate patients with maximum baseline IOPs ranging from above 20 mmHg to below 36 mmHg. In the 90-day efficacy results, the IOP-lowering effect of Roclatan™ exceeded that of the latanoprost monotherapy in a range of 1.3 mmHg to 2.5 mmHg and that of the Rhopressa™ monotherapy in a range of 1.8 mmHg to 3.0 mmHg. Roclatan™ reduced mean diurnal IOPs to 16 mmHg or lower in 61% of patients, a significantly higher percentage than observed in the comparator arms in the study. We included the Mercury 1 90-day efficacy results with the Rhopressa™ NDA as supportive data. The graph below shows the performance of Roclatan™ in Mercury 1 compared to each of its components.

***p<0.0001 vs. Latanoprost and Rhopressa™

Data on file; Based on Mercury 1 topline interim 3-month efficacy results

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The graph below represents the responder analysis from Mercury 1 which shows the percentage of patients for whom IOP was reduced to 18 mmHg or lower, comparing Roclatan™ to Rhopressa™ and latanoprost.
***p<0.0001 vs. Latanoprost and Rhopressa™
###p<0.0001 vs. Rhopressa™, p<0.05 vs. Latanoprost

Data on file; Based on Mercury 1 topline interim 3-month efficacy results

The safety and tolerability results for Roclatan™ from the 90-day efficacy period of Mercury 1 showed no drug-related serious adverse events. The most common adverse event observed in the Roclatan™ arm was conjunctival hyperemia, or eye redness, which was reported in approximately 50% of patients, of which approximately 80% was reported as mild. Other ocular adverse events reported in approximately 5% to 11% of patients in the Roclatan™ arm included conjunctival hemorrhage, or petechiae, eye pruritus, increased lacrimation and corneal verticillata. There were no drug-related serious adverse events for any of the comparators in the trial and patients in the Rhopressa™ arm reported ocular adverse events similar to ocular adverse events observed in the Phase 3 registration trials for Rhopressa™. We expect to report topline 12-month safety data for Mercury 1 in the third quarter of 2017.
Our second Phase 3 registration trial, named “Mercury 2,” is a 90-day efficacy and safety trial. Mercury 2 commenced in March 2016 and we expect to report topline 90-day efficacy results for Mercury 2 in the second quarter of 2017. We estimate total enrollment of approximately 690 patients in this three-arm 90-day study, with all three arms dosed once daily in the evening. The trial is designed to evaluate patients with maximum baseline IOPs ranging from above 20 mmHg to below 36 mmHg. If both Mercury 1 and Mercury 2 are successful, we expect to submit an NDA for Roclatan™ in late 2017 or early 2018.
We also plan to initiate a third Phase 3 registration trial for Roclatan™, named “Mercury 3,” in mid-2017. Mercury 3 will be designed to compare Roclatan™ to Ganfort®, a fixed-dose combination product of bimatoprost and timolol marketed in Europe, which if successful, should improve our commercialization prospects in that region.
Pipeline Opportunities

AR-13154

One of our owned preclinical molecules, AR-13154, has demonstrated the potential for the treatment of wet AMD. This preclinical small molecule inhibits Rho kinase and Protein kinase C and has shown lesion size decreases in a preclinical model of wet AMD at levels similar to current market-leading products. Additionally, in a preclinical proliferative diabetic retinopathy model, AR-13154 generated meaningful incremental lesion size reduction when used adjunctively with the current market-leading wet AMD anti-VEGF product. Pending additional studies, we may have the potential to provide an entirely new mechanism and pathway to treat this disease. Further, in our preclinical studies, we have seen a promising effect of this molecule on reducing neovascularization in a model of proliferative diabetic retinopathy.

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The graph below depicts the results of a preclinical study designed to show the impact of AR-13154 and Eylea® (aflibercept) on laser-induced choroidal neovascularization, or CNV, in rats.

Data on file; Effectiveness of AR-13154 Monotherapy and Combination Therapy in Animal Models of Wet Age-related Macular Degeneration and Proliferative Diabetic Retinopathy. Cheng-Wen Lin, Jill M. Sturdivant, Mitchell A. deLong and Casey C. Kopczynski

The graph below depicts the impact of AR-13154 when used adjunctively with Eylea® (aflibercept) in a proliferative diabetic retinopathy model.

Data on file; Effectiveness of AR-13154 Monotherapy and Combination Therapy in Animal Models of Wet Age-related Macular Degeneration and Proliferative Diabetic Retinopathy. Cheng-Wen Lin, Jill M. Sturdivant, Mitchell A. deLong and Casey C. Kopczynski

Since AR-13154 is a small molecule with a short half-life, and the aforementioned diseases are located in the back of the eye, a delivery mechanism is needed to deliver the molecule to the back of the eye for a sustained delivery period. We are examining available delivery technologies that might offer this capability. Delivery technologies may also prove useful in delivering other Aerie molecules to the front of the eye, such as Rhopressa™ or Roclatan™, for the purpose of long-term IOP lowering.

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We have not submitted an IND for AR-13154 to the FDA and there can be no assurance that an IND will be submitted.

Our Strategy

Our goal is to become a leader in the discovery, development and commercialization of innovative pharmaceutical products for the treatment of patients with glaucoma and other diseases of the eye. We believe our current product candidates have the potential to address many of the unmet medical needs in the glaucoma market. Key elements of our strategy are to:

Advance the development of our product candidates to approval. We resubmitted the NDA for Rhopressa™ on February 28, 2017, using our successful Rocket 2 trial as the pivotal trial and Rocket 1 trial as supportive. We included as supportive data the 90-day efficacy results of Rocket 4 and Mercury 1 with the NDA for Rhopressa™. This is a key step in driving this drug to a commercial stage in the United States. Our Rocket 4 trial, which is ongoing, is designed to provide adequate six-month safety data to support future European regulatory filings, which we expect to submit in the second half of 2018.

Our second product candidate, once-daily, Roclatan™, which is a fixed-dose combination of Rhopressa™ and latanoprost, the most commonly prescribed drug for the treatment of patients with glaucoma, achieved its primary efficacy endpoint of demonstrating superiority of Roclatan™ to each of its components in Mercury 1 in September 2016. We commenced Mercury 2 in March 2016 and we expect to report topline 90-day efficacy results in the second quarter of 2017. If both Mercury 1 and Mercury 2 are successful, we expect to submit an NDA for Roclatan™ in late 2017 or early 2018. We expect to commence Mercury 3 in Europe in mid-2017, which will be designed to compare Roclatan™ to Ganfort®, a fixed-dose combination product of bimatoprost and timolol marketed in Europe, which if successful, should improve our commercialization prospects in that region.

Establish internal sales capabilities to commercialize our product candidates in North America. We own worldwide rights to all indications for our product candidates and we plan to retain commercialization rights in North American markets. Ultimately, if our product candidates are approved, we plan to build a commercial team in the United States of approximately 100 sales representatives. We expect our sales organization to target approximately 10,000 high prescribing eye-care professionals throughout the United States.

Explore partnerships with leading pharmaceutical and biotechnology companies to maximize the value of our product candidates outside North America. Our strategy includes developing our business outside of North America, including obtaining regulatory approval on our own for our current product candidates in Europe and Japan. Regarding our international commercialization strategy, we expect to explore partnership opportunities through collaboration and licensing arrangements in Europe and Japan.

Continue to leverage and strengthen our intellectual property portfolio. We believe we have a strong intellectual property position relating to our product candidates. Our intellectual property portfolio contains U.S. and foreign patents and pending U.S. and foreign patent applications related to composition of matter, pharmaceutical compositions, methods of use, and synthetic methods. We have patent protection for our primary product candidates in the United States through at least 2030.

Expand our product portfolio through internal discovery efforts, research collaboration arrangements and in-licensing or acquisitions of additional ophthalmic product candidates, products or technologies. We continue to seek to discover and develop new compounds in our research laboratories and employ a scientific staff with expertise in medicinal chemistry, analytical chemistry, biochemistry, cell biology, pharmacology and pharmaceutical science. In addition, we may enter into research collaboration arrangements, license or acquire additional product candidates and technologies to broaden our presence in ophthalmology, and we continually explore and discuss potential additional opportunities for new ophthalmic products, delivery alternatives and new therapeutic areas with potential partners. Our approach has consistently been to explore opportunities with minimal initial investment allowing us to more fully evaluate the probability of success prior to making a material commitment. We are currently focused on the evaluation of delivery technologies for the delivery of our owned molecules to the front and back of the eye over sustained periods.

Glaucoma Overview

Glaucoma is generally characterized by relatively high IOP as a result of impaired drainage of fluid, known as aqueous humor, from the eye. The FDA recognizes sustained lowering of IOP, measured in terms of mmHg, as the primary clinical endpoint for regulatory approval, making clinical trials for this indication relatively straight-forward due to easily measured objective parameters.

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In a healthy eye, aqueous humor is continuously produced and drained from the eye in order to maintain pressure equilibrium and provide micronutrients to various tissues in the eye. The normal range of IOP is generally between 10 and 21 mmHg. Several studies have demonstrated that the significant majority of glaucoma patients have IOPs below 26 mmHg at the time of diagnosis. An insufficient drainage of fluid can increase IOP above normal levels, which can eventually cause damage to the optic nerve. Once damaged, the optic nerve cannot regenerate and thus, damage to vision is permanent.

The most common form of glaucoma is open-angle glaucoma, which is characterized by abnormally high IOP as a result of impaired drainage of fluid from the eye's primary drain, the TM. Open-angle glaucoma is a progressive disease leading to vision loss and blindness for some patients as a result of irreversible damage to the optic nerve. Studies of the disease have demonstrated that reducing IOP in patients with glaucoma can help slow or halt further damage to the optic nerve and help preserve vision. Once diagnosed, glaucoma requires life-long treatment to maintain IOP at lower levels based on the individual patient's risk of disease progression. Ophthalmologists will routinely determine a target IOP, which represents the desired IOP level to achieve with glaucoma therapy for an individual patient. Should the disease progress even once the initial target IOP is reached, further lowering of the IOP has been shown to help in preventing additional damage to the optic nerve and further vision loss. This may require lowering IOP until it is in the so-called "low normal range" of 12 mmHg to 14 mmHg to protect the optic nerve from further damage.

There are multiple factors that can contribute to an individual getting open-angle glaucoma, including, but not limited to, age, family history and ethnicity. For example, there generally is a higher incidence and severity of the disease in African-American and Hispanic populations.

Some patients with high IOP are diagnosed with a condition known as ocular hypertension. Patients with ocular hypertension have high IOP without the loss of visual fields or observable damage to the optic nerve, and are at an increased risk of developing glaucoma. These patients are commonly treated in the same manner as glaucoma patients.

The following diagram illustrates how increased IOP eventually leads to increased pressure on the optic nerve, resulting in gradual loss of vision and ultimately visual disability and blindness.

The ciliary body in the eye is the tissue that produces aqueous humor, the production of which is commonly referred to as fluid inflow. The fluid leaves the eye primarily through the TM, the process of which is commonly referred to as fluid outflow. The healthy eye maintains a state of IOP homeostasis through a constant physiological process of aqueous humor production and drainage. The deteriorating function of the TM in glaucoma leads to increased resistance to fluid outflow and higher IOP. There is also a secondary drain for the fluid in the eye known as the uveoscleral pathway, which is typically responsible for approximately 20% of fluid drainage.

In addition to aqueous humor production and drainage through the TM and uveoscleral pathway, EVP plays a significant role in the regulation of IOP. EVP represents the pressure of the blood in the episcleral veins of the eye which are the site of drainage of eye fluid into the bloodstream. Historical studies have shown that EVP accounts for approximately 10 mmHg of IOP, or approximately one-half of IOP in patients with pressures near the normotensive level of 21 mmHg, and approximately one-third of IOP in patients with pressures of 24 mmHg to 30 mmHg. When EVP is lowered, aqueous humor is able to flow more freely from the eye.

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Patients are diagnosed through measurements of IOP using Goldmann applanation tonometry, the standard device used by clinicians to measure IOP, along with an evaluation of visual fields and observing the appearance of the optic nerve. These tests are routinely carried out by eye-care professionals. The initial treatment for patients diagnosed with open-angle glaucoma or ocular hypertension is typically a PGA eye drop. PGAs are designed to lower IOP by increasing outflow through the eye's secondary fluid drain. An eye-care professional will then measure a patient's response to the drug over the first few months. It has been shown that up to 50% of glaucoma patients require more than one drug to treat their IOP. This may occur as early as three to six months after initiating treatment with a PGA. The eye-care professionals may then add a second drug from one of the non-PGA classes, to be used together with the initial drug, or switch to a fixed-dose combination of two drugs in a single eye drop, or select an alternative single treatment. The reason so many patients eventually need more than one drug is generally considered to be a reflection of the progressive nature of the disease at the TM.

In severe glaucoma cases, patients may need to undergo an invasive surgical procedure. Trabeculectomy is the most common glaucoma-related surgical procedure, also referred to as filtration surgery, in which a piece of tissue in the drainage angle of the eye is removed, creating an opening to the outside of the eye. The opening is partially covered with a scleral flap, the white part of the eye, and the conjunctiva, the thin membrane covering the sclera. This new opening allows fluid to drain out of the eye, bypassing the clogged drainage channels of the TM to maintain a lowered IOP. Devices called shunts are used in glaucoma surgery to divert fluid in a controlled manner from the inside of the eye to the subconjunctival space bypassing the blocked TM. Generally, the shunts reduce IOP to the extent that the use of drops can be reduced, but often not completely eliminated. Many patients continue to require eye drops even following surgery.

Competition

The pharmaceutical industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While we believe that our experience and scientific knowledge provide us with competitive advantages, we face competition from established branded and generic pharmaceutical companies, such as Valeant Pharmaceuticals International, Inc., Novartis International AG, Allergan, Inc., Santen Inc. and smaller biotechnology and pharmaceutical companies as well as from academic institutions, government agencies and private and public research institutions, which may in the future develop products or technologies to treat glaucoma or other diseases of the eye. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future. We believe that the key competitive factors affecting the success of our current product candidates, if approved, are likely to be efficacy and MOAs, safety, convenience, price, tolerability and the availability of reimbursement from government and other third-party payors.

We expect to compete directly against companies producing existing and future glaucoma treatment products. The most commonly approved classes of eye drops to lower IOP in glaucoma are discussed below:

PGA Drug Class

- Prostaglandin Analogues (PGAs). Most PGAs are once-daily dosed eye drops generally prescribed as the initial drug to reduce IOP by increasing fluid outflow through the eye's secondary drain. They do not target the TM, the diseased tissue in glaucoma. PGAs represent approximately one-half of the U.S. and European prescription volume for the treatment of glaucoma.

Xalatan® (latanoprost), the best-selling PGA, together with Xalacom®, its fixed-dose combination with a beta blocker, which is not available in the United States, had worldwide peak sales of approximately $1.7 billion before its patent expired in 2012, according to publicly reported sales. The adverse effects of PGAs include conjunctival hyperemia, or eye redness, irreversible change in iris color, discoloration of the skin around the eyes, and droopiness of eyelids caused by the loss of orbital fat. PGAs should be used with caution in patients with a history of intraocular inflammation.

Non-PGA Drug Class

- Beta Blockers. Beta blockers, with their MOA designed to inhibit aqueous production, are one of the oldest approved drugs for the lowering of IOP. The most commonly used drug in this class is timolol. Beta blockers are less effective than PGAs in terms of IOP lowering and are typically used twice daily. Beta blockers are the most commonly used non-PGA drug. They are used as an initially prescribed monotherapy and as an adjunctive therapy to PGAs when the efficacy of PGAs is insufficient. Beta blocker eye drops have contraindications in their label as a result of systemic exposure from topical application of the eye drops, potentially leading to cardio-pulmonary events such as bronchospasm, arrhythmia and heart failure.

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- Carbonic Anhydrase Inhibitors. Carbonic anhydrase inhibitors, with their MOA designed to inhibit aqueous production, are less effective than PGAs and are required to be dosed three times daily in order to obtain the desired IOP lowering. In published clinical studies of carbonic anhydrase inhibitors, the most frequently reported adverse events reported were blurred vision and bitter, sour or unusual taste. Carbonic anhydrase inhibitors are sulfonamides and, as such, systemic exposure increases risk of adverse responses such as Stevens Johnson syndrome and blood dyscrasias.
- Alpha Agonists. Alpha agonists, with their MOA designed to inhibit aqueous production plus their effect on uveoscleral outflow, are less effective than PGAs and need to be dosed three times daily in order to obtain the desired IOP lowering. In clinical studies, the most frequently reported adverse reactions that occurred in individuals receiving brimonidine ophthalmic solution, a commonly prescribed alpha agonist, included allergic conjunctivitis, conjunctival hyperemia, eye pruritus, burning sensation, conjunctival folliculosis, hypertension, ocular allergic reaction, oral dryness and visual disturbance.

Despite their modest efficacy, safety and tolerability profiles, the requirement for two to three doses per day, and the fact that they do not target the diseased tissue in glaucoma, beta blocker, carbonic anhydrase inhibitor and alpha agonist products account for up to one-half of the total prescription volume for the treatment of glaucoma based on historical prescription patterns, with beta blocker timolol being the most widely prescribed non-PGA drug. This is driven by the PGA products not being sufficiently effective as monotherapy for up to half of all glaucoma patients. Fixed-dose combination glaucoma products are also currently marketed in the United States, including Cosopt, the combination of a beta blocker with a carbonic anhydrase inhibitor, and Combigan, the combination of a beta blocker with an alpha agonist. There are no fixed-dose combinations of PGAs with other glaucoma drugs currently available in the United States.

New eye drops for the treatment of glaucoma continue to be developed by our competitors. The following table outlines publicly disclosed development programs for the treatment of glaucoma of which we are aware.

New MOAs

Brand	MOA / Dosing	Trial Stage
Rhopressa™ (Aerie AR-13324)	ROCK/NET inhibitor (qd)	Submitted NDA
Roclatan™ (Aerie PG324)	ROCK/NET inhibitor + PGA (qd)	Phase 3
Trabodenoson/Trabodenoson Fixed-Dose Combination (Inotek)	Adenosine-A1 agonist (bid or qd)/Adenosine-A1 agonist + PGA	Phase 2/3
SYL040012 (Sylentis)	RNAi beta blocker (qd)	Phase 2

New PGAs[1]

Brand	MOA / Dosing	Trial Stage
Vyzulta™ (Valeant)	NO donating latanoprost (qd)	Filed NDA
DE-117 (Santen)	EP2 agonist (qd)	Phase 2
DE-126 (Santen)	FP/EP3 agonist (qd)	Phase 2

[1]Not usable as add-on therapy to current PGAs.

Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. In July 2015, Bausch + Lomb Inc., a wholly owned subsidiary of Valeant Pharmaceuticals International, Inc., filed an NDA for a nitric oxide-donating latanoprost, which is currently under review by the FDA for the treatment of open angle glaucoma and ocular hypertension. Early-stage companies are also developing treatments for glaucoma and other diseases of the eye and may prove to be significant competitors, such as, despite its recent setbacks, Inotek Pharmaceuticals, which is developing an adenosine receptor agonist. We expect that our competitors will continue to develop new treatments for glaucoma and other diseases of the eye, which may include

eye drops, oral treatments, surgical procedures, implantable devices or laser treatments. Alternative treatments beyond eye drops continue to develop.

Other early-stage companies may also compete through collaborative arrangements with large and established companies. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

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Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer adverse effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours. In addition, our ability to compete may be affected because in many cases insurers or other third-party payors encourage the use of generic products. Our industry is highly competitive and is currently dominated by generic drugs, such as latanoprost and timolol, in the case of glaucoma treatment, and additional products are expected to become available on a generic basis over the coming years. If any of our product candidates are approved, we expect that they will be priced at a premium over competitive generic products and consistent with other branded glaucoma drugs.

Manufacturing

AR-13324, the active ingredient in Rhopressa™, is a small molecule and capable of being manufactured in reliable and reproducible synthetic processes from readily available starting materials. We believe the chemistry used to manufacture AR-13324, Rhopressa™ and Roclatan™ is amenable to scale up and does not require unusual equipment in the manufacturing process. We do not currently operate manufacturing facilities for clinical or commercial production of our product candidates. We currently rely on third-party manufacturers to produce the active pharmaceutical ingredient and final drug product for our clinical trials. We manage such production with all our vendors on a purchase order basis in accordance with applicable master service and supply agreements. We do not have long-term agreements with any of these or any other third-party suppliers to support our clinical trials. Latanoprost, used in the manufacture of Roclatan™, is available in commercial quantities from multiple reputable third-party manufacturers. We intend to procure quantities on a purchase order basis for our clinical and commercial production. If any of our existing third-party suppliers should become unavailable to us for any reason, we believe that there are a number of potential replacements, although we might experience a delay in our ability to obtain alternative suppliers.

With respect to commercial production of our potential products in the future, we plan on outsourcing the production of the active pharmaceutical ingredients and are currently working to establish contractual relationships for such production with our vendors. We currently manage any production on a purchase order basis. The commercial production of our final drug product manufacturing is expected to be supported by a combination of internal and outsourced manufacturing. We have entered into a contractual relationship for the final drug product manufacturing for commercialization and, in January 2017, we entered into a lease agreement for a new manufacturing plant in Athlone, Ireland. The building shell was constructed by the Industrial Development Agency of Ireland and we are in the early stages of building out the plant. If we obtain regulatory approval, the manufacturing plant is expected to produce commercial supplies of our current product candidates, with commercial product supply of Rhopressa™ from the plant expected to be available by 2020. The build-out of this manufacturing plant will require substantial funds and we will need to hire and train significant numbers of qualified employees to staff this facility.

We expect to continue to develop drug candidates that can be produced cost-effectively at contract manufacturing facilities. However, should a supplier or manufacturer on which we have relied to produce a product candidate provides us with a faulty product or such product is later recalled, we would likely experience delays and additional costs, each of which could be significant.

Research and Development Expenses

A significant portion of our operating expenses relates to research and development. Our research and development expenses totaled $52.4 million, $44.5 million, and $29.9 million for the years ended December 31, 2016, 2015, and 2014, respectively.

Intellectual Property

We have obtained patent protection for our primary product candidates, Rhopressa™ and Roclatan™ (patent protection for Roclatan™ arises from the patent protection we have secured for Rhopressa™), in the United States and certain foreign jurisdictions and are seeking patent protection in a number of other foreign jurisdictions for these product candidates. We intend to maintain and defend our patent rights to protect our technology, inventions, processes and improvements that are commercially important to the development of our business. We cannot be sure that any of our existing

patents or patents we obtain in the future will be commercially useful in protecting our technology. We cannot be sure that our patents will issue on any of our pending patent applications or patent applications we file in the future. Our commercial success also depends in part on our non-infringement of the patents or proprietary rights of third parties. For a more comprehensive discussion of the risks related to our intellectual property, see “Risk Factors-Risks Related to Intellectual Property.”

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Our intellectual property consists of issued patents, and pending patent applications for compositions of matter, pharmaceutical formulations, methods of use, and synthetic methods. We have patent protection for our primary product candidates, Rhopressa™ and Roclatan™, in the United States through at least 2030. Additionally, we hold patents for composition of matter and method of use in certain foreign jurisdictions for our primary product candidates. We also hold patents for other ROCK inhibitor molecules.

We have established and continue to build proprietary positions for our product candidates and related technology in the United States and other jurisdictions. As of December 31, 2016, we had 70 United States or foreign issued patents that cover various aspects of our current and previously discontinued product candidates and our other proprietary technology and 25 U.S. patent applications or foreign patent applications that, if patents were to issue based on the existing claims, would cover various aspects of our current and previously discontinued product candidates and our other proprietary technology.

Aerie® is a registered trademark of ours and we have applications pending from the U.S. Patent and Trademark Office, or USPTO, for the registration of our trademarks Rhopressa™ and Roclatan™.

In 2015, we revised our corporate structure to align with our business strategy outside of North America by establishing Aerie Pharmaceuticals Limited, a wholly-owned subsidiary ("Aerie Limited"), and Aerie Pharmaceuticals Ireland Limited, a wholly owned subsidiary ("Aerie Ireland Limited"). We assigned the beneficial rights to our non-U.S. and non-Canadian intellectual property for our lead product candidates to Aerie Limited (the "IP Assignment"). As part of the IP Assignment, we and Aerie Limited entered into a research and development cost sharing agreement pursuant to which we and Aerie Limited will share the costs of the development of intellectual property and Aerie Limited and Aerie Ireland Limited entered into a license arrangement pursuant to which Aerie Ireland Limited will develop and commercialize the beneficial rights of the intellectual property assigned as part of the IP Assignment. In 2016, we assigned the beneficial rights to certain of our intellectual property in the United States and Canada to Aerie Distribution, Inc., a wholly owned subsidiary ("Aerie Distribution"), and amended and restated the research and development cost sharing agreement to transfer our rights and obligations under the agreement to Aerie Distribution.

Regulatory Matters

FDA Regulation and Marketing Approval

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and related regulations. Drugs are also subject to other federal, state and local statutes and regulations. Failure to comply with the applicable United States regulatory requirements at any time during the product development process, approval process or after approval may subject an applicant to administrative or judicial sanctions and non-approval of product candidates. These sanctions could include the imposition by the FDA or an Institutional Review Board, or IRB, of a clinical hold on trials, the FDA's refusal to approve pending applications or related supplements, withdrawal of an approval, untitled or warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, restitution, disgorgement, civil penalties or criminal prosecution. Such actions by government agencies could also require us to expend a large amount of resources to respond to the actions. Any agency or judicial enforcement action could have a material adverse effect on us.

The FDA and comparable regulatory agencies in state and local jurisdictions and in foreign countries impose substantial requirements upon the clinical development, manufacture and marketing of pharmaceutical products. These agencies and other federal, state and local entities regulate research and development activities and the testing, manufacture, quality control, safety, effectiveness, labeling, packaging, storage, distribution, record keeping, approval, post-approval monitoring, advertising, promotion, sampling and import and export of our products. Our drugs must be approved by the FDA through the NDA process before they may be legally marketed in the United States. See "—The NDA Approval Process" below.

The process required by the FDA before drugs may be marketed in the United States generally involves the following:

- completion of non-clinical laboratory tests, animal studies and formulation studies conducted according to Good Laboratory Practices or other applicable regulations;
-

submission of an investigational new drug (“IND”) application, which allows clinical trials to begin unless FDA objects within 30 days;

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- adequate and well-controlled human clinical trials to establish the safety and efficacy of the proposed drug for its intended use or uses conducted in accordance with FDA regulations, Good Clinical Practices, or GCP, which are international ethical and scientific quality standards meant to assure the rights, safety and well-being of trial participants are protected and to define the roles of clinical trial sponsors, administrators, and monitors;
- pre-approval inspection of manufacturing facilities and clinical trial sites; and
- FDA approval of an NDA, which must occur before a drug can be marketed or sold.

IND and Clinical Trials

Prior to commencing the first clinical trial, an initial IND, which contains the results of preclinical tests along with other information, such as information about product chemistry, manufacturing and controls and a proposed protocol, must be submitted to the FDA. The IND automatically becomes effective 30 days after receipt by the FDA unless the FDA raises concerns or questions about the conduct of the clinical trial within the 30-day time period. In such a case, the IND sponsor must resolve any outstanding concerns with the FDA before the clinical trial may begin. A separate submission to the existing IND must be made for each successive clinical trial to be conducted during product development. Further, an independent IRB for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial before it commences at that site. Informed consent must also be obtained from each trial subject. Regulatory authorities, including the FDA, an IRB, a data safety monitoring board or the sponsor, may suspend or terminate a clinical trial at any time on various grounds, including a finding that the participants are being exposed to an unacceptable health risk or that the clinical trial is not being conducted in accordance with FDA requirements.

For purposes of NDA approval, human clinical trials are typically conducted in sequential phases that may overlap:

- Phase 1—the drug is initially given to healthy human subjects or patients and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. These trials may also provide early evidence on effectiveness. During Phase 1 clinical trials, sufficient information about the investigational drug's pharmacokinetics and pharmacologic effects may be obtained to permit the design of well- controlled and scientifically valid Phase 2 clinical trials.
- Phase 2—trials are conducted in a limited number of patients in the target population to identify possible adverse effects and safety risks, to determine the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage. Multiple Phase 2 clinical trials may be conducted by the sponsor to obtain information prior to beginning larger and more expensive Phase 3 registration trials.
- Phase 3—when Phase 2 evaluations demonstrate that a dosage range of the product appears effective and has an acceptable safety profile, and provide sufficient information for the design of Phase 3 registration trials, Phase 3 registration trials are undertaken to provide statistically significant evidence of clinical efficacy and to further test for safety in an expanded patient population at multiple clinical trial sites. They are performed after preliminary evidence suggesting effectiveness of the drug has been obtained, and are intended to further evaluate dosage, effectiveness and safety, to establish the overall benefit-risk relationship of the investigational drug and to provide an adequate basis for product labeling and approval by the FDA. In most cases, the FDA requires two adequate and well-controlled Phase 3 clinical trials to demonstrate the efficacy of the drug.

All clinical trials must be conducted in accordance with FDA regulations, GCP requirements and their protocols in order for the data to be considered reliable for regulatory purposes.

Pursuant to the 21st Century Cares Act, which was enacted on December 13, 2016, the manufacturer of an investigational drug for a serious or life-threatening disease is required to make available, such as by posting on its website, its policy on evaluating and responding to requests for expanded access to such investigational drug. This requirement applies on the later of 60 calendar days after the date of enactment or the first initiation of a Phase 2 or Phase 3 trial of the investigational drug.

An investigational drug product that is a combination of two different drugs in the same dosage form must comply with an additional rule that requires that each component make a contribution to the claimed effects of the drug product. This typically requires larger studies that test the drug against each of its components. In addition, typically,

if a drug product is intended to treat a chronic disease, as is the case with our products, safety and efficacy data must be gathered over an extended period of time, which can range from six months to three years or more. Government regulation may delay or prevent marketing of product candidates or new drugs for a considerable period of time and impose costly procedures upon our activities.

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Disclosure of Clinical Trial Information

Sponsors of clinical trials of FDA-regulated products, including drugs, are required to register and disclose certain clinical trial information. Information related to the product, patient population, phase of investigation, study sites and investigators, and other aspects of the clinical trial is then made public as part of the registration. Sponsors are also obligated to discuss the results of their clinical trials after completion. Disclosure of the results of these trials can be delayed in certain circumstances for up to two years after the date of completion of the trial. Competitors may use this publicly available information to gain knowledge regarding the progress of development programs.

The NDA Approval Process

In order to obtain approval to market a drug in the United States, a marketing application must be submitted to the FDA that provides data establishing to the FDA's satisfaction the safety and effectiveness of the investigational drug for the proposed indication. Each NDA submission requires a substantial user fee payment (currently exceeding $2,000,000 for fiscal year 2017) unless a waiver or exemption applies. The application includes all relevant data available from pertinent non-clinical, preclinical and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls and proposed labeling, among other things. Data can come from company-sponsored clinical trials intended to test the safety and effectiveness of a use of a product, or from a number of alternative sources, including studies initiated by investigators that meet GCP requirements.

During the development of a new drug, sponsors are given opportunities to meet with the FDA at certain points. These points may be prior to submission of an IND, at the end of Phase 2, and before an NDA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to provide advice and for the sponsor and the FDA to reach agreement on the next phase of development. Sponsors typically use the end of Phase 2 meetings to discuss their Phase 2 clinical results and present their plans for the pivotal Phase 3 registration trial that they believe will support approval of the new drug.

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

The results of product development, non-clinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling and other relevant information are submitted to the FDA as part of an NDA requesting approval to market the product. The FDA reviews all NDAs submitted to ensure that they are sufficiently complete for substantive review before it files them. It may request additional information rather than accept an NDA for filing. In this event, the NDA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA files it. The FDA has 60 days from its receipt of an NDA to conduct an initial review to determine whether the application will be filed based on the agency's threshold determination that the application is sufficiently complete to permit substantive review. If the NDA submission is filed, the FDA reviews the NDA to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality and purity. The FDA has agreed to specific performance goals on the review of NDAs and seeks to review standard NDAs in 12 months from submission of the NDA. The review process may be extended by the FDA for three additional months to consider certain late submitted information or information intended to clarify information already provided in the submission. After the FDA completes its initial review of an NDA, it will communicate to the sponsor that the drug will either be approved, or it will issue a complete response letter to communicate that the NDA will not be approved in its current form and inform the sponsor of changes that must be made or additional clinical, non-clinical or manufacturing data

that must be received before the application can be approved, with no implication regarding the ultimate approvability of the application or the timing of any such approval, if ever. If, or when, those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA will issue an approval letter. FDA has committed to reviewing such resubmissions in two to six months depending on the type of information included. The FDA may refer applications for novel drug products or drug products that present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and, if so, under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

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Before approving an NDA, the FDA typically will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA may inspect one or more clinical sites to assure compliance with GCP. If the FDA determines the application, manufacturing process or manufacturing facilities are not acceptable, it typically will outline the deficiencies and often will request additional testing or information. This may significantly delay further review of the application. If the FDA finds that a clinical site did not conduct the clinical trial in accordance with GCP, the FDA may determine the data generated by the clinical site should be excluded from the primary efficacy analyses provided in the NDA. Additionally, notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

The FDA may require, or companies may pursue, additional clinical trials after a product is approved. These so-called Phase 4 trials may be made a condition to be satisfied for continuing drug approval. The results of Phase 4 trials can confirm the effectiveness of a product candidate and can provide important safety information. In addition, the FDA now has express statutory authority to require sponsors to conduct post-marketing trials to specifically address safety issues identified by the agency. See "—Post-Marketing Requirements" below.

The FDA also has authority to require a Risk Evaluation and Mitigation Strategy, or a REMS, from manufacturers to ensure that the benefits of a drug outweigh its risks. A sponsor may also voluntarily propose a REMS as part of the NDA submission. The need for a REMS is determined as part of the review of the NDA. Based on statutory standards, elements of a REMS may include "dear doctor letters," a medication guide, more elaborate targeted educational programs, and in some cases elements to assure safe use, or ETASU. ETASU can include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring and the use of patient registries. These elements are negotiated as part of the NDA approval, and in some cases if consensus is not obtained until after the Prescription Drug User Fee Act ("PDUFA") review cycle, the approval date may be delayed. Once adopted, REMS are subject to periodic assessment and modification.

Changes to some of the conditions established in an approved application, including changes in indications, labeling, manufacturing processes or facilities, require submission and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing NDA supplements as it does in reviewing NDAs.

Even if a product candidate receives regulatory approval, the approval may be limited to specific disease states, patient populations and dosages, or might contain significant limitations on use in the form of warnings, precautions or contraindications, or in the form of onerous risk management plans, restrictions on distribution, or post-marketing trial requirements. Further, even after regulatory approval is obtained, later discovery of previously unknown problems with a product may result in restrictions on the product or even complete withdrawal of the product from the market. Delay in obtaining, or failure to obtain, regulatory approval for our product candidates, or obtaining approval but for significantly limited use, would harm our business. In addition, we cannot predict what adverse governmental regulations may arise from future U.S. or foreign governmental action.

The Hatch-Waxman Amendments

Under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments, a portion of a product's U.S. patent term that was lost during clinical development and regulatory review by the FDA may be restored. The Hatch-Waxman Amendments also provide a process for listing patents pertaining to approved products in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations (commonly known as the Orange Book) and for a competitor seeking approval of an application that references a product with listed patents to make certifications pertaining to such patents. In addition, the Hatch-Waxman Amendments provide for a statutory protection, known as non-patent exclusivity, against the FDA's acceptance or approval of certain competitor applications.

Patent Term Restoration

Patent term restoration can compensate for time lost during product development and the regulatory review process by returning up to five years of patent life for a patent that covers a new product or its use. This period is generally one-half the time between the effective date of an IND (falling after issuance of the patent) and the submission date of an NDA, plus the time between the submission date of an NDA and the approval of that application, provided the sponsor acted with diligence. Patent term restorations, however, cannot extend the remaining term of a patent beyond a total of 14 years from the date of

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product approval and only one patent applicable to an approved drug may be extended and the extension must be applied for prior to expiration of the patent. The USPTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration.

Orange Book Listing

In seeking approval for a drug through an NDA, applicants are required to list with the FDA each patent with claims covering the applicant's product or method of using the product. Upon approval of a drug, each of the patents listed in the application for the drug are then published in the FDA's Orange Book. Drugs listed in the Orange Book can, in turn, be cited by potential generic competitors in support of approval of an abbreviated new drug application, or ANDA. An ANDA provides for marketing of a drug product that has the same active ingredients in the same strengths and dosage form as the listed drug and has been shown to be bioequivalent to the listed drug. Other than the requirement for bioequivalence testing, ANDA applicants are not required to conduct, or submit results of, preclinical or clinical tests to prove the safety or effectiveness of their drug product. Drugs approved in this way are commonly referred to as "generic equivalents" to the listed drug, and can often be substituted by pharmacists under prescriptions written for the original listed drug.

The ANDA applicant is required to certify to the FDA concerning any patents listed for the approved product in the FDA's Orange Book. Specifically, the applicant must certify that: (i) the required patent information has not been filed; (ii) the listed patent has expired; (iii) the listed patent has not expired, but will expire on a particular date and approval is sought after patent expiration; or (iv) the listed patent is invalid or will not be infringed by the new product. The ANDA applicant may also elect to submit a Section VIII statement certifying that its proposed ANDA labeling 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 applicant does not challenge the listed patents, the ANDA application will not be approved until all the listed patents claiming the referenced product have expired.

A certification that the new product will not infringe the already approved product's listed patents, or that such patents are invalid, is called a Paragraph IV certification. If the ANDA applicant has provided a Paragraph IV certification to the FDA, the applicant must also send notice of the Paragraph IV certification to the NDA and patent holders once the ANDA has been filed by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the Paragraph IV certification. The filing of a patent infringement lawsuit within 45 days of the receipt of a Paragraph IV certification automatically prevents the FDA from approving the ANDA until the earlier of 30 months, expiration of the patent, settlement of the lawsuit or a decision in the infringement case that is favorable to the ANDA applicant.

An applicant submitting an NDA under Section 505(b)(2) of the FDCA, which 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, is required to certify to the FDA regarding any patents listed in the Orange Book for the approved product it references to the same extent that an ANDA applicant would.

Market Exclusivity

Market exclusivity provisions under the FDCA also can delay the submission or the approval of certain applications. 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, or NCE. A drug is entitled to NCE exclusivity if it contains a drug substance no active moiety of which has been previously approved by the FDA. This means that, in the case of a fixed-dose combination product, the FDA makes the NCE exclusivity determination for each drug substance in the drug product and not for the drug product as a whole. 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 Paragraph IV certification. 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 associated with the new clinical investigations

and does not prohibit the FDA from approving ANDAs for drugs for the original conditions of use, such as the originally approved indication. 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 non-clinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

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Post-Marketing Requirements

Following approval of a new product, a pharmaceutical company and the approved product are subject to continuing regulation by the FDA, including, among other things, monitoring and recordkeeping activities, reporting to the applicable regulatory authorities of adverse experiences with the product, providing the regulatory authorities with updated safety and efficacy information, product sampling and distribution requirements, and complying with promotion and advertising requirements, which include, among others, standards for direct-to-consumer advertising, restrictions on promoting drugs for uses or in patient populations that are not described in the drug's approved labeling (known as "off-label use"), limitations on industry-sponsored scientific and educational activities and requirements for promotional activities involving the internet. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such off-label uses. Modifications or enhancements to the product or its labeling or changes of the site of manufacture are often subject to the approval of the FDA and other regulators, who may or may not grant approval or may include in a lengthy review process.

Prescription drug advertising is subject to federal, state and foreign regulations. In the United States, the FDA regulates prescription drug promotion, including direct-to-consumer advertising. Prescription drug promotional materials must be submitted to the FDA in conjunction with their first use. Any distribution of prescription drug products and pharmaceutical samples must comply with the U.S. Prescription Drug Marketing Act, or the PDMA, a part of the FDCA. Similarly, the Drug Supply Chain Security Act, or DSCSA, regulates the distribution of finished dosage form prescription pharmaceutical drugs, requiring passage of certain transaction information for each prescription drug at the saleable unit level through the distribution system. The DSCSA also imposes obligations on drug manufacturers related to suspect product identification/removal, verification, reporting, dealing only with authorized trading partners, and other elements. The PDMA, DSCSA, and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

In the United States, once a product is approved, its manufacture is subject to comprehensive and continuing regulation by the FDA. The FDA regulations require that products be manufactured in specific facilities and in accordance with cGMP. cGMP regulations require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Drug manufacturers and other entities involved in the manufacture and distribution of approved drugs 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. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain cGMP compliance. These regulations also impose certain organizational, procedural and documentation requirements with respect to manufacturing and quality assurance activities. We currently rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our products in accordance with cGMP regulations. NDA holders using contract manufacturers, laboratories or packagers are responsible for the selection and monitoring of qualified firms, and, in certain circumstances, qualified suppliers to these firms. These firms and, where applicable, their suppliers are subject to inspections by the FDA at any time, and the discovery of violative conditions, including failure to conform to cGMP, could result in enforcement actions that interrupt the operation of any such product or may result in restrictions on a product, manufacturer, or holder of an approved NDA, including, among other things, recall or withdrawal of the product from the market.

In addition, the manufacturer and/or sponsor under an approved NDA are subject to annual product and establishment fees, currently exceeding $95,000 per product and $510,000 per establishment for fiscal year 2017. While, these fees are typically increased annually, they decreased from fiscal year 2016 to fiscal year 2017.

The FDA also may require post-marketing testing, also known as Phase 4 testing, REMS to monitor the effects of an approved product or place conditions on an approval that could restrict the distribution or use of the product. Discovery of previously unknown problems with a product or the failure to comply with applicable FDA requirements can have negative consequences, including adverse publicity, judicial or administrative enforcement, untitled or warning letters from the FDA, mandated corrective advertising or communications with doctors, withdrawal of approval, and civil or criminal penalties, among others. Newly discovered or developed safety or effectiveness data

may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and also may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our products under development.

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Reimbursement, Anti-Kickback and False Claims Laws and Other Regulatory Matters

In the United States, the research, manufacturing, distribution, sale and promotion of drug products and medical devices are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including the Centers for Medicare & Medicaid Services, other divisions of the U.S. Department of Health and Human Services (e.g., the Office of Inspector General), the Drug Enforcement Administration, the Consumer Product Safety Commission, the Federal Trade Commission, the Occupational Safety & Health Administration, the Environmental Protection Agency, state Attorneys General and other state and local government agencies. For example, sales, marketing and scientific/educational grant programs must comply with the Federal Anti-Kickback Statute, the False Claims Act, as amended, the privacy regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended, and similar state laws. Pricing and rebate programs must comply with the Medicaid Drug Rebate Program requirements of the Omnibus Budget Reconciliation Act of 1990, as amended, and the Veterans Health Care Act of 1992, as amended. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. The handling of any controlled substances must comply with the U.S. Controlled Substances Act and Controlled Substances Import and Export Act. Products must meet applicable child-resistant packaging requirements under the U.S. Poison Prevention Packaging Act. All of these activities are also potentially subject to federal and state consumer protection and unfair competition laws.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, established the Medicare Part D program to provide a voluntary prescription drug benefit to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities which will provide coverage of outpatient prescription drugs. Unlike Medicare Part A and B, part D coverage is not standardized. Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs, and each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class. Any formulary used by a part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for products for which we receive regulatory approval. However, any negotiated prices for our products covered by a Part D prescription drug plan will likely be lower than the prices we might otherwise obtain. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-government payors.

The distribution of pharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical products.

The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. A plan for the research will be developed by the Department of Health and Human Services, the Agency for Healthcare Research and Quality and the National Institutes for Health, and periodic reports on the status of the research and related expenditures will be made to Congress. Although the results of the comparative effectiveness studies are not intended to mandate coverage policies for public or private payors, it is not clear what effect, if any, the research will have on the sales of our product candidate, if any such product or the condition that it is intended to treat is the subject of a trial. It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of our product candidate. If third-party payors do not consider our products to be cost-effective compared to other available therapies, they may not cover our products after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the European

Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our potential products. Historically, products launched in the European Union do not follow price structures of the United States and generally tend to be significantly lower.

As noted above, in the United States, we are subject to complex laws and regulations pertaining to healthcare "fraud and abuse," including, but not limited to, the Federal Anti-Kickback Statute, the Federal False Claims Act, and other state and federal laws and regulations. The Federal Anti-Kickback Statute makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf) to knowingly and willfully solicit, receive, offer, or pay any remuneration that is intended to induce the referral of business, including the purchase, order, or prescription of a particular drug, for which

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payment may be made under a federal healthcare program, such as Medicare or Medicaid. Violations of this law are punishable by up to five years in prison, criminal fines, administrative civil money penalties, and exclusion from participation in federal healthcare programs. In addition, many states have adopted laws similar to the Federal Anti-Kickback Statute. Some of these state prohibitions apply to the referral of patients for healthcare services reimbursed by any insurer, not just federal healthcare programs such as Medicare and Medicaid. Due to the breadth of these federal and state anti-kickback laws, the absence of guidance in the form of regulations or court decisions, and the potential for additional legal or regulatory change in this area, it is possible that our future sales and marketing practices and/or our future relationships with eye-care professionals might be challenged under anti-kickback laws, which could harm us. Because we intend to commercialize products that could be reimbursed under a federal healthcare program and other governmental healthcare programs, we plan to develop a comprehensive compliance program that establishes internal controls to facilitate adherence to the rules and program requirements to which we will or may become subject.

The Federal False Claims Act prohibits anyone from knowingly presenting, or causing to be presented, for payment to federal programs (including Medicare and Medicaid) claims for items or services, including drugs, that are false or fraudulent, claims for items or services not provided as claimed, or claims for medically unnecessary items or services. Although we would 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 or promoting a product off-label. In addition, our future 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, pharmaceutical companies have been found liable under the Federal False Claims Act in connection with their off-label promotion of drugs. Penalties for a False Claims Act violation include three times the actual damages sustained by the government, plus mandatory civil penalties of between $10,000 and $25,000 for each separate false claim, the potential for exclusion from participation in federal healthcare programs, and, although the Federal False Claims Act is a civil statute, conduct that results in a False Claims Act violation may also implicate various federal criminal statutes. If the government were to allege that we were, or convict us of, violating these false claims laws, we could be subject to a substantial fine and may suffer a decline in our stock price. In addition, private individuals have the ability to bring actions under the Federal False Claims Act and certain states have enacted laws modeled after the Federal False Claims Act.

There are also an increasing number of state laws that require manufacturers to make reports to states on pricing and marketing information. Many of these laws contain ambiguities as to what is required to comply with the laws. In addition, as discussed below, beginning in 2013, a similar federal requirement will require manufacturers to track and report to the federal government certain payments made to physicians and teaching hospitals made in the previous calendar year. These laws may affect our sales, marketing and other promotional activities by imposing administrative and compliance burdens on us. In addition, given the lack of clarity with respect to these laws and their implementation, our reporting actions could be subject to the penalty provisions of the pertinent state, and soon federal, authorities.

The failure to comply with regulatory requirements subjects firms to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in criminal prosecution, fines or other penalties, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of product approvals, or refusal to allow a firm to enter into supply contracts, including government contracts.

Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by required, for example: (i) changes to our manufacturing arrangements; (ii) additions or modifications to product labeling; (iii) the recall or discontinuation of our products; or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

Patient Protection and Affordable Care Act

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, PPACA) 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 PPACA 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 a condition for states to receive federal matching funds for the manufacturer's covered outpatient drugs furnished to Medicaid patients. Effective in 2010, PPACA made several changes to the Medicaid Drug Rebate Program, including increasing pharmaceutical manufacturers' rebate liability by raising the minimum basic Medicaid

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rebate on most branded prescription drugs and biologic agents to 23.1% of Average Manufacturer Price ("AMP") and 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, as well as potentially impacting their rebate liability by modifying the statutory definition of AMP. PPACA also expanded the universe of Medicaid utilization subject to drug rebates by requiring pharmaceutical manufacturers to pay rebates on Medicaid managed care utilization as of 2010 and by, beginning in 2011, expanding the population potentially eligible for Medicaid drug benefits. The Centers for Medicare & Medicaid Services, or CMS, expanded Medicaid rebate liability to the territories of the United States as well, effective April 1, 2017. In addition, PPACA provides for the public availability of retail survey prices and certain weighted average AMPs under the Medicaid program. The implementation of this requirement by the CMS, beginning in April 2016, may also provide for the public availability of pharmacy acquisition of cost data, which could negatively impact our sales.

- 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, PPACA 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.
- Effective in 2011, PPACA imposed a requirement on manufacturers of branded drugs and biologic agents to provide a 50% discount off the negotiated price of branded drugs dispensed to Medicare Part D patients in the coverage gap (i.e., "donut hole").
- Effective in 2011, PPACA imposed an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents, 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.
- PPACA requires pharmaceutical manufacturers to track certain financial arrangements with physicians and teaching hospitals, including any "transfer of value" made or distributed to such entities, as well as any investment interests held by physicians and their immediate family members. Manufacturers were required to track this information beginning in 2013, and the first reports were due in 2014. The information reported each year is made publicly available on a searchable website.
- As of 2010, a new Patient-Centered Outcomes Research Institute was established pursuant to PPACA 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.
- PPACA created the Independent Payment Advisory Board, which has the authority to recommend certain changes to the Medicare program to reduce expenditures by the program that could result in reduced payments for prescription drugs. Under certain circumstances, these recommendations will become law unless Congress enacts legislation that will achieve the same or greater Medicare cost savings.
- PPACA established the Center for Medicare and Medicaid Innovation within 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.

Many of the details regarding the implementation and impact of PPACA are yet to be determined, and at this time, it remains unclear the full effect that PPACA would have on our business. In addition, recently, President Donald Trump has made statements that suggest he plans to seek repeal of all or portions of PPACA, and has stated that he will ask Congress to replace PPACA with new legislation. There is uncertainty with respect to the impact these

changes, if any, may have, and any changes likely will take time to unfold.

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European Union Drug Development

In the European Union, our products will also be subject to extensive regulatory requirements. As in the United States, medicinal products can only be marketed if a marketing authorization from the competent regulatory agencies has been obtained, and the various phases of preclinical and clinical research in the European Union are subject to significant regulatory controls. Although the EU Clinical Trials Directive 2001/20/EC has sought to harmonize the EU clinical trial regulatory framework, setting out common rules for the control and authorization of clinical trials in the European Union, the EU Member States have transposed and applied the provisions of the Directive differently. This has led to significant variations in the member state regimes. Under the current regime, before a clinical trial can be initiated it must be approved in each of the EU countries where the trial is to be conducted by two distinct bodies: the National Competent Authority, or NCA, and one or more Ethics Committees, or ECs. In addition, all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial must be reported to the NCA and ECs of the Member State where they occurred.

The EU clinical trials legislation is currently undergoing a revision process mainly aimed at making more uniform and streamlining the clinical trials authorization process, simplifying adverse event reporting procedures, improving the supervision of clinical trials and increasing the transparency of clinical trials.

European Union Drug Review Approval

In the European Economic Area, or EEA, which is comprised of the 27 Member States of the European Union plus Norway, Iceland and Liechtenstein, medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. There are two types of marketing authorizations: the Community MA, which is issued by the European Commission through the Centralized Procedure based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, a body of the EMA, and which is valid throughout the entire territory of the EEA; and the National MA, which is issued by the competent authorities of the Member States of the EEA and only authorized marketing in that Member State’s national territory and not the EEA as a whole.

The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products and medicinal products containing a new active substance indicated for the treatment of AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the European Union. The National MA is for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member state, or RMS. If the RMS proposes to authorize the product, and the other Member States do not raise objections, the product is granted a national MA in all the Member States where the authorization was sought. Before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

In addition to regulations in the United States and the EU, we will be subject to a variety of regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of our potential products. Whether or not we obtain FDA approval of a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. The approval process varies from country to country and the time may be longer or shorter than that required to obtain FDA approval. In addition, the requirements governing the conduct of clinical trials, commercial sales, product licensing, pricing and reimbursement vary greatly from country to country.

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Other Regulations

We are also subject to numerous federal, state and local laws relating to such matters as safe working conditions, manufacturing practices, environmental protection, fire hazard control and disposal of hazardous or potentially hazardous substances. In addition, our international operations and relationships with partners, collaborators, contract research organizations, vendors and other agents are subject to anti-corruption and anti-bribery laws and regulations, including the U.S. Foreign Corrupt Practices Act ("FCPA"), which prohibits U.S. companies and their representatives from engaging in bribery or other prohibited payments to foreign officials for the purpose of obtaining or retaining business. Failure to comply with the FCPA, or similar applicable laws and regulations in other countries, could expose us and our personnel to civil and criminal sanctions. We may incur significant costs to comply with such laws and regulations now or in the future.

Employees

We had 95 full-time employees as of December 31, 2016. None of our employees are represented by any collective bargaining unit. We believe that we maintain good relations with our employees.

Corporate and Available Information

Our principal executive offices are located at 2030 Main Street, Suite 1500, Irvine, California 92614 and our telephone number is (949) 526-8700. We were incorporated in Delaware in June 2005. Our internet address is www.aeriepharma.com. We make available on our website, free of charge, our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Our SEC reports can be accessed through the Investors section of our website. Further, a copy of this Annual Report on Form 10-K is located at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D. C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. The SEC maintains a website that contains reports, proxy and information statements and other information regarding our filings at www.sec.gov. The information found on our website is not incorporated by reference into this report or any other report we file with or furnish to the SEC.

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ITEM 1A. RISK FACTORS

We operate in an industry that involves numerous risks and uncertainties. The risks and uncertainties described below are not the only ones we face. Other risks and uncertainties, including those that we do not currently consider material, may impair our business. If any of the risks discussed below actually occur, our business, financial condition, operating results or cash flows could be materially adversely affected. This could cause the trading price of our common stock to decline.

Risks Related to Development, Regulatory Approval and Commercialization

We depend substantially on the success of our product candidates, particularly Rhopressa™ and Roclatan™, which have not obtained regulatory approval. If we are unable to successfully commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.

Our business and the ability to generate revenue related to product sales, if ever, will depend on the successful development, regulatory approval and commercialization of our product candidates for the treatment of patients with glaucoma and other diseases of the eye, particularly Rhopressa™ and Roclatan™, which are in the late stages of development, and other potential products we may develop or license. We have invested a significant portion of our efforts and financial resources in the development of our existing product candidates. The success of our product candidates will depend on several factors, including:

- successful completion of clinical trials;
- receipt of regulatory approvals from applicable regulatory authorities;
- establishment of adequate internal manufacturing capacity or arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity;
- protecting our rights in our intellectual property;
- launching commercial sales of our product candidates, if and when approved;
- obtaining reimbursement from third-party payors for product candidates, if and when approved;
- competition with other products; and
- continued acceptable safety profile for our product candidates following regulatory approval, if and when received.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our product candidates, which could materially harm our business and we may not be able to earn sufficient revenues and cash flows to continue our operations.

We have not obtained regulatory approval for any of our product candidates in the United States or any other country. We currently do not have any product candidates that have gained regulatory approval for sale in the United States or any other country, and we cannot guarantee that we will ever have marketable products. Our business is substantially dependent on our ability to complete the development of, obtain regulatory approval for and successfully commercialize product candidates in a timely manner. We cannot commercialize product candidates in the United States without first obtaining regulatory approval to market each product from the FDA; similarly, we cannot commercialize product candidates outside of the United States without obtaining regulatory approval from comparable foreign regulatory authorities.

Phase 3 registration trials for Rhopressa™ commenced in July 2014 and in April 2015 we completed Rocket 1. The Rocket 1 trial did not meet its primary efficacy endpoint of demonstrating non-inferiority of IOP lowering for once-daily Rhopressa™ compared to twice-daily timolol, but did achieve its pre-specified secondary endpoint. We evaluated the data and results from Rocket 1 and obtained agreement from the FDA to change the IOP range used for the primary endpoint of Rocket 2 to a level where Rocket 1 would have been successful.

In September 2015, the Rocket 2 trial achieved its primary efficacy endpoint of demonstrating non-inferiority of Rhopressa™ compared to timolol. In February 2016, 12-month safety data from Rocket 2 confirmed a positive safety profile for the drug and demonstrated a consistent IOP lowering effect throughout the 12-month period at the specified timepoint.

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We are also conducting Rocket 3 in Canada, which is designed as a supplementary 12-month safety-only trial and Rocket 4 in the U.S., which is designed to generate adequate six-month safety data for European regulatory filings, expected to be submitted in the second half of 2018. In October 2016, we announced the 90-day efficacy results from Rocket 4 where Rhopressa™ achieved its primary efficacy endpoint of demonstrating non-inferiority of Rhopressa™ compared to timolol for patients with baseline IOPs ranging from above 20 mmHg to below 25 mmHg, and also at a pre-specified secondary range from above 20 mmHg to below 28 mmHg. We included the Rocket 4 results with the Rhopressa™ NDA as supportive data.

Phase 3 registration trials for Roclatan™ commenced in September 2015. In September 2016, we announced that Mercury 1 achieved its primary efficacy endpoint of demonstrating superiority of Roclatan™ to each of its components, including Rhopressa™ and market-leading PGA, latanoprost. We included the Mercury 1 90-day efficacy results with the Rhopressa™ NDA as supportive data.

Mercury 2 commenced in March 2016 and we expect to report topline 90-day efficacy results in the second quarter of 2017. We also plan to initiate Mercury 3 in mid-2017. Mercury 3 will be designed to compare Roclatan™ to Ganfort®, a fixed-dose combination product of bimatoprost and timolol marketed in Europe.

We cannot predict whether ongoing trials and future trials will be successful or whether regulators will agree with our conclusions regarding the preclinical studies and clinical trials we have conducted to date.

Before obtaining regulatory approvals for the commercial sale of any product candidate for a target indication, we must demonstrate in preclinical studies and well-controlled clinical trials, and, with respect to approval in the United States, to the satisfaction of the FDA, that the product candidate is safe and effective for use for that target indication and that the manufacturing facilities, processes and controls are adequate.

Obtaining approval of an NDA is a lengthy, expensive and uncertain process, and approval may not be obtained. If we submit an NDA to the FDA, the FDA must decide whether to file the NDA or refuse to file the NDA. In the United States, we have not had an NDA accepted for review for any of our product candidates. An NDA must include extensive preclinical and clinical data and supporting information to establish the product candidate's safety and effectiveness for each desired indication. The NDA must also include significant information regarding the chemistry, manufacturing and controls for the product. We resubmitted our NDA with the FDA for Rhopressa™ on February 28, 2017. Our initial submission, announced in September 2016, was withdrawn as a result of a contract manufacturer of our drug product not being prepared for pre-approval inspection by the FDA. Although we believe our NDA for Rhopressa™ contains substantial evidence of effectiveness for the product, we cannot guarantee that the NDA will be filed or subsequently approved by the FDA. In addition, if both Mercury 1 and Mercury 2 are successful, we expect to submit an NDA for Roclatan™ in late 2017 or early 2018, which may be prior to obtaining approval for Rhopressa™.

As with the Rhopressa™ NDA, we cannot be certain the Roclatan™ NDA will be filed or subsequently approved by the FDA. In addition, we may be required to supplement the Rhopressa™ NDA with additional information and/or receive unfavorable feedback from the FDA regarding the likelihood of obtaining FDA approval for Rhopressa™ during or after review of the Rhopressa™ NDA. If based on the FDA review of the Rhopressa™ NDA or for other reasons, we delay or abandon the advancement of FDA approval for Rhopressa™, in certain circumstances we may similarly delay or determine not to submit an NDA for or seek FDA approval of Roclatan™, which combines Rhopressa™ with latanoprost.

Regulatory authorities outside of the United States, such as in Europe and Japan and in emerging markets, also have requirements for approval of drugs for commercial sale with which we must comply prior to marketing in those areas. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our product candidates. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and obtaining regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approval could require additional non-clinical studies or clinical trials, which could be costly and time consuming. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. For all of these reasons, we may not obtain foreign regulatory approvals on a timely basis, if at all.

The process to develop, obtain regulatory approval for and commercialize product candidates is long, complex and costly both inside and outside of the United States, and approval is never guaranteed. Even if our product candidates were to successfully obtain approval from the regulatory authorities, any approval might significantly limit the approved indications for use, or require that precautions, contraindications, or warnings be included on the product labeling, or require expensive and time-consuming post-approval clinical studies or surveillance as conditions of approval. Following any approval for commercial sale of our product candidates, certain changes to the product, such as changes in manufacturing processes and additional labeling

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claims, will be subject to additional review and approval by the FDA and other regulatory authorities. Also, regulatory approval for any of our product candidates may be withdrawn. If we are unable to obtain regulatory approval for our product candidates in one or more jurisdictions, or any approval contains significant limitations, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed. Furthermore, we may not be able to obtain sufficient funding or generate sufficient revenue and cash flows to continue the development of any other product candidate in the future.

Regulatory approval may be substantially delayed or may not be obtained for one or all of our current and potential future product candidates if regulatory authorities require additional time or studies to assess the safety and efficacy of our product candidates.

We may be unable to initiate or complete development of our current and potential future product candidates on schedule, if at all. If regulatory authorities require additional time or studies to assess the safety or efficacy of our product candidates, we may require funding beyond the amounts currently on our balance sheet. In addition, in the event of any unforeseen costs or other business decisions, we may not have or be able to obtain adequate funding to complete the necessary steps for approval for any or all of our product candidates. Preclinical studies and clinical trials required to demonstrate the safety and efficacy of our product candidates are time consuming and expensive and together take several years or more to complete. Delays in regulatory approvals or rejections of applications for regulatory approval in the United States, Europe, Japan or other markets may result from many factors, including:

- our inability to obtain sufficient funds required for a clinical trial;
- regulatory requests for additional analyses, reports, data, non-clinical and preclinical studies and clinical trials;
- regulatory questions regarding interpretations of data and results and the emergence of new information regarding our product candidates or other products;
- clinical holds, other regulatory objections to commencing or continuing a clinical trial or the inability to obtain regulatory approval to commence a clinical trial in countries that require such approvals;
- failure to reach agreement with the FDA or non-U.S. regulators regarding the scope or design of our clinical trials;
- our inability to enroll a sufficient number of patients who meet the inclusion and exclusion criteria in our clinical trials;
- our inability to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;
- unfavorable or inconclusive results of clinical trials and supportive non-clinical studies, including unfavorable results regarding the effectiveness or safety of product candidates during clinical trials;
- any determination that a clinical trial or product candidate presents unacceptable health risks;
- lack of adequate funding to continue the clinical trial due to unforeseen costs or other business decisions;
- our inability to reach agreements on acceptable terms with prospective contract research organizations, or CROs, and trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- our inability to identify and maintain a sufficient number of sites, many of which may already be engaged in other clinical trial programs, including some that may be for the same indications targeted by our product candidates;
- our inability to obtain approval from institutional review boards to conduct clinical trials at their respective sites;
- the failure of a third party to comply with applicable FDA and other U.S. and non-U.S. regulatory requirements, including site inspections and inspection readiness;
- our inability to timely manufacture or obtain from third parties sufficient quantities or quality of the product candidate or other materials required for a clinical trial; and
- difficulty in maintaining contact with patients after treatment, resulting in incomplete data.

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Changes in regulatory requirements and guidance may also occur and we may need to amend clinical trial protocols submitted to applicable regulatory authorities to reflect these changes. Amendments may require us to resubmit clinical trial protocols to institutional review boards for re-examination, which may impact the costs, timing or successful completion of a clinical trial.

If we are required to conduct additional clinical trials or other studies with respect to any of our product candidates beyond those that we initially contemplated, if we are unable to successfully complete our clinical trials or other studies or if the results of these studies are not positive or are only modestly positive, we may be delayed in obtaining regulatory approval for that product candidate, we may not be able to obtain regulatory approval at all or we may obtain approval for indications that are not as broad as intended. Our product development costs will also increase if we experience delays in testing or approvals and we may not have sufficient funding to complete the testing and approval process. Significant clinical trial delays could allow our competitors to bring products to market before we do and impair our ability to commercialize our products if and when approved. If any of this occurs, our business will be materially harmed.

Failure can occur at any stage of clinical development. If the clinical trials for our current and potential future product candidates are unsuccessful, we could be required to abandon development.

A failure of one or more clinical trials can occur at any stage of testing for a variety of reasons. The outcome of preclinical testing and early clinical trials may not be predictive of the outcome of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. In addition, adverse events may occur or other risks may be discovered in Phase 3 registration trials that may cause us to suspend or terminate our clinical trials. In some instances, there can be significant variability in safety and/or efficacy results between different trials of the same product candidate due to numerous factors, including changes in or adherence to trial protocols, differences in size and type of the patient populations and the rates of dropout among clinical trial participants. Our future clinical trial results therefore may not demonstrate safety and efficacy sufficient to obtain regulatory approval for our current and potential future product candidates.

Flaws in the design of a clinical trial may not become apparent until the clinical trial is well-advanced or after data results have been obtained. We have limited experience in designing clinical trials and may be unable to design and execute clinical trials to support regulatory approval. In addition, clinical trials often reveal that it is not practical or feasible to continue development efforts. Further, we have never had an NDA filed by the FDA for any potential products.

We may voluntarily suspend or terminate our clinical trials if at any time we believe that they present an unacceptable risk to participants. Further, regulatory agencies, institutional review boards or data safety monitoring boards may at any time order the temporary or permanent discontinuation of our clinical trials or request that we cease using investigators in the clinical trials if they believe that the clinical trials are not being conducted in accordance with applicable regulatory requirements, or that they present an unacceptable safety risk to participants. Since our inception, we have not voluntarily or involuntarily suspended or terminated a clinical trial due to unacceptable safety risks to participants.

If the results of our clinical trials for our current product candidates or clinical trials for any future product candidates do not achieve the primary efficacy endpoints or demonstrate unexpected safety issues, the prospects for approval of our product candidates will be materially adversely affected. Moreover, preclinical and clinical data are often susceptible to varying interpretations, analyses and entry criteria, and many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have failed to achieve similar results in later clinical trials, including longer term trials, or have failed to obtain regulatory approval of their product candidates. Many compounds that initially showed promise in clinical trials or earlier stage testing have later been found to cause undesirable or unexpected adverse effects that have prevented further development of the compound. Our ongoing clinical trials for our primary product candidates, Rhopressa™ and Roclatan™, may not produce the results that we expect and remain subject to the risks associated with clinical drug development as indicated above.

Other companies have previously pursued ROCK inhibitors for ophthalmic use but to date no ROCK inhibitors have been approved in the United States. In 2013, one of our ROCK inhibitors, AR-12286, and its fixed-dose combination

product, PG286, were discontinued in the clinical stage of development due to an inability to maintain efficacy over time.

In April 2015, we announced that Rocket 1 did not meet its primary efficacy endpoint of demonstrating non-inferiority of IOP lowering for once-daily Rhopressa™ compared to twice-daily timolol, but did achieve its pre-specified secondary endpoint. We evaluated the data and results from Rocket 1 and obtained agreement from the FDA to change the IOP range used for the primary endpoint of Rocket 2 to a level where Rocket 1 would have been successful.

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In September 2015, the Rocket 2 trial achieved its primary efficacy endpoint of demonstrating non-inferiority of Rhopressa™ compared to timolol. In addition to successfully achieving non-inferiority to timolol at this endpoint range, the 12-month safety data from Rocket 2 confirmed a positive safety profile for the drug and demonstrated a consistent IOP lowering effect throughout the 12-month period at the specified timepoint.

Our clinical trials are designed to test the use of Rhopressa™ and Roclatan™ as a monotherapy, rather than as an adjunctive therapy. Accordingly, the efficacy of our primary product candidates may not be similar or correspond directly to their efficacy when used as an adjunctive therapy, which we expect will be a primary use of Rhopressa™.

In February 2014, we reported the results of a preclinical animal study sponsored by Aerie, whereby the administration of Rhopressa™ eye drops demonstrated statistically significant reductions in EVP and IOP in rabbits following the third daily dose. Based on the results of this preclinical study, together with the consistent IOP-lowering effect of Rhopressa™ demonstrated in our clinical trials, we believe the reduction of EVP is an additional MOA of Rhopressa™ and Roclatan™. However, like the other differentiated MOAs of our product candidates, increasing outflow through the TM and decreasing fluid production in the eye, our product candidates' effect on EVP has not been studied in humans and neither our ongoing, nor our planned, Phase 3 registration trials for Rhopressa™ or Roclatan™ have been or will be designed to demonstrate reduction of EVP or other MOAs of our product candidates. If we are not able to demonstrate to the satisfaction of the FDA and relevant non-U.S. regulators the reduction of EVP, or any of the other differentiated MOAs of our product candidates, even if we otherwise obtain regulatory approval for Rhopressa™ and Roclatan™, it could limit the types of claims we will be able to make in our marketing and labeling of our product candidates.

We believe Rhopressa™, if approved, will compete against non-PGA products as a preferred adjunctive therapy to PGAs. In addition, if approved, we believe that Rhopressa ™ may also become a preferred therapy in several populations including where patients have low to moderately elevated IOPs at the time of diagnosis. No patients with low-tension glaucoma have been or will be included in our clinical trials, and our expectations with respect to subjects with low IOP are based to a large extent on extrapolation of results for subjects with moderately elevated IOP. Even if our product candidates were to obtain regulatory approval, if we are unable to support claims about our product candidates to the satisfaction of the FDA and relevant non-U.S. regulators, including claims with respect to the efficacy of Rhopressa™ as an adjunctive therapy or for patients with low IOP, it could limit the types of claims we will be able to make in our marketing and product labeling of these product candidates.

In addition to the circumstances noted above, we may experience numerous unforeseen events that could cause our clinical trials to be unsuccessful, delayed, suspended or terminated, or which could delay or prevent our ability to receive regulatory approval or commercialize our current and potential future product candidates, including:

- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or implement a clinical hold;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- regulators or institutional review boards may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may have delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- we may elect or be required to suspend or terminate clinical trials of our product candidates based on a finding that the participants are being exposed to health risks;
- the cost of clinical trials of our product candidates may be greater than we anticipate;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate; and

- our product candidates may have undesirable adverse effects or other unexpected characteristics.

If we elect or are required to suspend or terminate a clinical trial of any of our current and potential future product candidates, our commercial prospects will be adversely impacted and our ability to generate product revenues may be delayed or eliminated.

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Our product candidates may have undesirable adverse effects, which may delay or prevent regulatory approval or, if approval is received, require our products to be taken off the market, require them to include safety warnings or otherwise limit their sales.

Unforeseen adverse effects from any of our product candidates could arise either during clinical development or, if approved, after the approved product has been marketed. To date, the main tolerability finding of Rhopressa™ has been mild conjunctival hyperemia, or eye redness. In February 2016, we reported 12-month safety data from Rocket 2, in which some patients also experienced conjunctival hemorrhages, or petechaie, corneal verticillata, blurry vision, and decreased visual acuity as adverse events. Roclatan™ combines Rhopressa™ with latanoprost. To date, the main tolerability finding of Roclatan™ has also been mild conjunctival hyperemia, which was reported in approximately 50% of patients and was scored as mild for approximately 80% of affected patients in the 90-day safety data from Mercury 1. The main adverse effects of latanoprost include conjunctival hyperemia, irreversible change in iris color, discoloration of the skin around the eyes and droopiness of eyelids caused by the loss of orbital fat.

Any undesirable adverse effects that may be caused by 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 Risk Evaluation and Mitigation Strategy, or 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, conduct additional clinical trials or recall the product;
- we may be subject to litigation or product liability claims fines, injunctions or criminal penalties; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product or could substantially increase the costs and expenses of commercializing such product, which in turn could delay or prevent us from generating revenues from its sale.

If we are unable to establish a direct sales force, our business may be harmed.

We have no experience selling, marketing or distributing our product candidates, and we currently do not have an established sales organization and do not have a marketing or distribution infrastructure. To achieve commercial success for any approved product, we must either develop a sales and marketing organization or outsource these functions to third parties. If our product candidates are approved by the FDA for commercial sale, we intend to market directly to eye-care professionals in the United States through our own sales force, targeting approximately 10,000 high-prescribing eye-care professionals. If our product candidates are approved outside of the United States for commercial sale and if we self-commercialize our product candidates in these other countries, we will need to establish similar functions or outsource these functions to third parties. We will need to incur significant additional expenses and commit significant additional time and management resources to establish and train a sales force to market and sell our products. We may not be able to successfully establish these capabilities despite these additional expenditures.

Factors that may inhibit our efforts to successfully establish a sales force include:

- our inability to compete with other pharmaceutical companies to recruit, hire, train and retain adequate numbers of effective sales and marketing personnel with requisite knowledge of our target market;
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- the inability of sales personnel to obtain access to adequate numbers of eye-care professionals to prescribe any future approved products;
- unforeseen costs and expenses associated with creating an independent sales and marketing organization; and

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- a delay in bringing products to market after efforts to hire and train our sales force have already commenced.

In the event we are unable to successfully market and promote our products, our business may be harmed.

We currently have international operations. We intend to explore the licensing of commercialization rights or other forms of collaboration outside of North America and to develop internal manufacturing capabilities in Ireland, both of which will expose us to additional risks of conducting business in international markets.

Markets outside of North America are an important component of our growth strategy. As part of this strategy, in March 2015 and April 2015, we formed Aerie Limited and Aerie Ireland Limited, respectively. If we fail to commercialize, obtain licenses or enter into collaboration arrangements with selling parties, or if these parties are not successful, our revenue-generating growth potential will be adversely affected. Additionally, in January 2017, we entered into a lease agreement for a new manufacturing plant in Ireland. If we fail to develop internal manufacturing capabilities we may be forced to continue to rely on third-party manufacturers, which could adversely affect our results of operations and financial condition. Moreover, international operations and business relationships subject us to additional risks that may materially adversely affect our ability to attain or sustain profitable operations, including:

- efforts to enter into or expand collaboration or licensing arrangements with third parties in connection with our international sales, marketing, manufacturing and distribution efforts may increase our expenses or divert our management's attention from the acquisition or development of product candidates;
- changes in a specific country's or region's political and cultural climate or economic condition or changes in governmental regulations and laws;
- differing regulatory requirements for drug approvals, manufacturing and marketing internationally;
- difficulty of effective enforcement of contractual provisions in local jurisdictions;
- potentially reduced protection for intellectual property rights;
- potential third-party patent rights in countries outside of the United States;
- unexpected changes in tariffs, trade barriers and other regulatory requirements;
- divergent environmental laws and regulations;
- economic weakness, including inflation, or political instability, particularly in non-U.S. economies and markets, including several countries in Europe;
- compliance with tax, employment, immigration and labor laws for employees traveling abroad;
- the effects of applicable foreign tax structures and potentially adverse tax consequences (including tax reform proposals being considered by the new U.S. presidential administration and being considered in the U.S. Congress that create uncertainty with respect to the future tax impact on our business operations and profitability);
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incidental to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- the potential for so-called parallel importing, which is what happens when a local seller, faced with high or higher local prices, opts to import goods from a foreign market (with low or lower prices) rather than buying them locally;
- failure of our employees and contracted third parties to comply with Office of Foreign Asset Control rules and regulations and the Foreign Corrupt Practices Act;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism, or natural disasters, including earthquakes, volcanoes, typhoons, floods, hurricanes and fires.

These and other risks may materially adversely affect our business, results of operations, financial condition or ability to attain or sustain revenue from international markets.

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We have no experience developing manufacturing facilities or manufacturing our product candidates, and we cannot assure you that we will be able to develop our manufacturing plant or manufacture our product candidates in compliance with regulations at a cost or in quantities necessary to make them commercially viable.

We have entered into a lease agreement for a new manufacturing plant in Athlone, Ireland. The building shell was constructed by the Industrial Development Agency of Ireland and we are in the early stages of building out the plant for the future commercial production of our current product candidates. We have no experience in developing manufacturing facilities or manufacturing drug products. The build-out of this manufacturing plant will require substantial additional funds and we will need to hire and train significant numbers of qualified employees to staff this facility. There can be no assurance that we will develop a manufacturing plant that is adequate to produce materials for commercial use on our expected timing or at all.

The development of manufacturing facilities and the manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. The equipment and facilities employed in the manufacture of pharmaceuticals are subject to stringent qualification requirements by regulatory agencies, including validation of facility, equipment, systems, processes and analytics. We may be subject to lengthy delays and expense in conducting validation studies, if we can meet the requirements at all. Although we expect to complete internal construction of the plant to meet these qualification requirements, there can be no assurance that we will obtain certification from the FDA and other regulatory authorities to allow the plant to manufacture Rhopressa™ and Roclatan™ for export to the United States and other markets. If we are unable to obtain such certification in a timely manner, our ability to successfully manufacture and commercialize our potential products may be harmed.

In addition, we will be subject to customary risks associated with the construction of manufacturing plants, including, design defects, construction cost overruns (including labor and materials) and other factors that may delay build-out of the manufacturing plant. Our manufacturing operations and those of our third-party suppliers are subject to environmental, health and safety laws and regulations concerning, among other things, the use, storage, generation, handling, transportation and disposal of hazardous substances or wastes, the cleanup of hazardous substance releases, exposure to hazardous substances and emissions or discharges into the air or water. Violations of these laws and regulations can result in significant business interruptions and/or civil and criminal penalties. New laws and regulations, violations of or amendments to existing laws or regulations, or stricter enforcement of existing requirements, could require us to incur material costs, subject us to new or increased liabilities, and cause disruptions to our manufacturing activities that could be material. If the cost of funding the build-out of our manufacturing plant exceeds budgeted amounts and/or the time period for construction is longer than initially anticipated, our business, results of operations and financial condition could be materially adversely affected. Similarly, if we cannot access the capital we need to fund our operations, we may need to postpone or cancel the construction of the manufacturing plant or other components of our business strategy, which could impair our ability to compete effectively and harm our business, financial condition and results of operations.

Manufacturers of pharmaceutical products often encounter difficulties in production, especially in scaling up initial production. These problems include difficulties with production costs and yields, quality control and assurance and shortages of qualified personnel, as well as compliance with strictly enforced regulations. If we are unable to obtain certification from the FDA and other regulatory authorities or effectively produce commercial supplies of our product candidates, we will be required to rely on a third-party manufacturer to meet our commercial manufacturing needs, which may materially adversely affect our business, results of operations and financial condition. See “-Risks Related to Our Reliance on Third Parties-We currently have no manufacturing capacity and anticipate continued reliance on third-party manufacturers for the development and commercialization of our product candidates in accordance with manufacturing regulations until such a time when we can develop internal manufacturing capabilities, if at all.”

Any of these risks could entail higher costs, cause us to delay production and may result in our being unable to effectively support commercialization of our potential products. Furthermore, if we obtain regulatory approval and fail to deliver the required commercial quantities of product on a timely basis, and at commercially reasonable prices and acceptable quality, we would likely be unable to meet demand, if any, for our potential products and we would lose potential revenues.

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We face competition from established branded and generic pharmaceutical companies and if our competitors are able to develop and market products that are preferred over our products, our commercial opportunity will be reduced or eliminated.

The development and commercialization of new drug products is highly competitive. We face competition from established branded and generic pharmaceutical companies and smaller biotechnology and pharmaceutical companies, as well as from academic institutions, government agencies and private and public research institutions, which may in the future develop products to treat patients with glaucoma or other diseases of the eye. Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. In July 2015, Bausch + Lomb Inc., a wholly owned subsidiary of Valeant Pharmaceuticals International, Inc., filed an NDA for a nitric oxide-donating latanoprost, which is currently under review by the FDA for the treatment of open angle glaucoma and ocular hypertension. Additionally, early-stage companies are also developing treatments for glaucoma and other diseases of the eye and may prove to be significant competitors, including Inotek Pharmaceuticals, which is developing an adenosine receptor agonist. We expect that our competitors will continue to develop new treatments for glaucoma and other diseases of the eye, which may include eye drops, oral treatments, surgical procedures, implantable devices or laser treatments. Alternative treatments beyond eye drops continue to develop. For example, although surgical procedures are currently used in severe cases, less invasive procedures are currently under development and we expect that we will compete with other companies that develop implantable devices or other products or procedures for use in the treatment of glaucoma or other diseases of the eye.

Other early-stage companies may also compete through collaborative arrangements with large and established companies. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity will be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer adverse effects, are more convenient or are less expensive than our potential products. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours.

In addition, our ability to compete may be affected because in many cases insurers or other third-party payors encourage the use of generic products. Our industry is currently dominated by generic drugs, such as latanoprost and timolol, in the case of glaucoma treatment, and additional products are expected to become available on a generic basis over the coming years. If any of our product candidates are approved, we expect that they will be priced at a premium over competitive generic products and consistent with other branded glaucoma drugs.

We expect that our ability to compete effectively will depend upon, among other things, our ability to:

- successfully complete clinical trials and obtain all requisite regulatory approvals in a timely and cost- effective manner;
- obtain and maintain patent protection and non-patent exclusivity for our products and otherwise prevent the introduction of generics of our products;
- attract and retain key personnel;
- develop effective manufacturing capabilities and build an effective selling and marketing infrastructure;
- demonstrate the advantages of our product candidates compared to alternative therapies, including currently marketed PGA and non-PGA products;
- compete against other products with fewer contraindications; and
- obtain and sustain adequate reimbursement from third-party payors.

If our competitors market products that are more effective, safer, have fewer side effects or are less expensive than our potential products or that reach the market sooner than our potential products, if any, we may not achieve commercial success.

The commercial success of our potential products will depend on the degree of market acceptance among eye-care professionals, patients, patient advocacy groups, healthcare payors and the medical community.

Our potential products may not gain market acceptance among eye-care professionals, patients, patient advocacy groups, healthcare payors and the medical community. There are a number of available therapies marketed for the treatment of glaucoma and other diseases of the eye. Some of these drugs are branded and subject to patent protection, but most others, including latanoprost and many beta blockers, in the case of glaucoma treatment, are available on a generic basis. Many of these approved drugs are well established therapies and are widely accepted by eye-care professionals, patients and third-party

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payors. Insurers and other third-party payors may also encourage the use of generic products. The degree of market acceptance of our potential products will depend on a number of factors, including:

- the market price, affordability and patient out-of-pocket costs of our potential products relative to other available products, which are predominantly generics;
- the possibility that third-party payors will not give our products favorable positions on their formularies or will place restrictions on the use of our products, including through use of step therapy or prior authorization programs;
- the effectiveness of our potential products as compared with currently available products;
- patient willingness to adopt our potential products in place of current therapies;
- varying patient characteristics including demographic factors such as age, health, race and economic status;
- changes in the standard of care for the targeted indications for any of our product candidates;
- the prevalence and severity of any adverse effects;
- limitations or warnings contained in a product candidate's FDA-approved labeling;
- limitations in the approved clinical indications and MOAs for our product candidates;
- relative convenience and ease of administration;
- the strength of our selling, marketing and distribution capabilities;
- the quality of our relationships with eye-care professionals, patient advocacy groups, third-party payors and the medical community;
- sufficient third-party coverage or reimbursement; and
- potential product liability claims.

In addition, it is possible that we may find it necessary or desirable to provide rebates on our products to customers or third party payors or to implement patient assistance programs, including co-pay assistance programs, which could affect our profitability.

The potential market opportunity for our potential products is difficult to precisely estimate. Our estimates of the potential market opportunity for our potential products include several key assumptions based on our industry knowledge, industry publications, third-party research reports and other surveys. While we believe that our internal assumptions are reasonable, independent sources have not verified all of our assumptions. If any of these assumptions prove to be inaccurate and the actual market for our potential products is smaller than we expect or if we fail to achieve market acceptance of our potential products in the United States and abroad, our potential product revenue may be limited, and it may be more difficult for us to achieve or maintain profitability.

If we fail to obtain and sustain an adequate level of reimbursement for our potential products by third-party payors, potential future sales would be materially adversely affected.

The course of treatment for glaucoma patients includes primarily older drugs, and the leading products for the treatment of glaucoma currently in the market, including latanoprost and timolol, are available as generic brands. There will be no commercially viable market for our potential products without reimbursement from third-party payors, and any reimbursement policy may be affected by future healthcare reform measures. We cannot be certain that reimbursement will be available for our potential products or any other product candidate we develop for glaucoma or other diseases of the eye. Additionally, even if there is a commercially viable market, if the level of reimbursement is below our expectations, our anticipated revenue and gross margins will be adversely affected.

Third-party payors, such as government or private healthcare insurers, carefully review and increasingly question and challenge the coverage of and the prices charged for drugs. Reimbursement rates from private health insurance companies vary depending on the company, the insurance plan and other factors. Reimbursement rates may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. A current trend in the United States healthcare industry is toward cost containment. Large public and private payors, managed care organizations, group purchasing organizations and similar organizations are exerting increasing influence on decisions regarding the use of, and reimbursement levels for, particular treatments. Such third-party payors, including Medicare, may question the coverage of, and challenge the

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prices charged for, medical products and services, and many third-party payors limit coverage of or reimbursement for newly approved healthcare products. In particular, third-party payors may limit the covered indications. Cost-control initiatives could decrease the price we might establish for products, which could result in product revenues being lower than anticipated. We believe our drugs will be priced significantly higher than existing generic drugs and consistently with current branded drugs. If we are unable to show a significant benefit relative to existing generic drugs, Medicare, Medicaid and private payors may not be willing to reimburse for our drugs, which would significantly reduce the likelihood of them gaining market acceptance. Reimbursement systems in international markets vary significantly by country and by region, and reimbursement approvals must be obtained on a country-by-country basis. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted.

We expect that private insurers will consider the efficacy, cost effectiveness, safety and tolerability of our potential products in determining whether to approve reimbursement for such products and at what level. Obtaining these approvals can be a time consuming and expensive process. Our business would be materially adversely affected if we do not receive approval for reimbursement of our potential products from private insurers on a timely or satisfactory basis. Limitations on coverage could also be imposed at the local Medicare carrier level or by fiscal intermediaries. Medicare Part D, which provides a pharmacy benefit to Medicare patients as discussed below, does not require participating prescription drug plans to cover all drugs within a class of products. Our business could be materially adversely affected if Part D prescription drug plans were to limit access to, or deny or limit reimbursement of, our product candidates or other potential products.

Reimbursement in the European Union must be negotiated on a country-by-country basis and in many countries the product cannot be commercially launched until reimbursement is approved. The negotiation process in some countries can exceed 12 months. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our products to other available therapies. If the prices for our potential products decrease or if governmental and other third-party payors do not provide adequate coverage and reimbursement levels, our revenue, potential for future cash flows and prospects for profitability will suffer.

If we are found in violation of federal or state “fraud and abuse” laws or other healthcare laws and regulations, we may be required to pay a penalty and/or be suspended from participation in federal or state healthcare programs, which may adversely affect our business, financial condition and results of operation.

In the United States, we are subject to various federal and state healthcare “fraud and abuse” laws, including anti-kickback laws, false claims laws and other laws intended, among other things, to reduce fraud and abuse in federal and state healthcare programs. The Federal Anti-Kickback Statute makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf), to knowingly and willfully solicit, receive, offer or pay any remuneration that is intended to induce the referral of business, including the purchase, order or prescription of a particular drug for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. Although we seek to structure our business arrangements in compliance with all applicable requirements, these laws are broadly written, and it is often difficult to determine precisely how the law will be applied in specific circumstances. Accordingly, it is possible that our practices may be challenged under the Federal Anti-Kickback Statute. The Federal False Claims Act prohibits anyone from, among other things, knowingly presenting or causing to be presented for payment to the government, including the federal healthcare programs, claims for reimbursed drugs or services that are false or fraudulent, claims for items or services that were not provided as claimed, or claims for medically unnecessary items or services. Many states have similar false claims laws. Cases have been brought under false claims laws alleging that off-label promotion of pharmaceutical products or the provision of kickbacks have resulted in the submission of false claims to governmental healthcare programs. Under the Health Insurance Portability and Accountability Act of 1996, we are prohibited from knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private payors, or knowingly and willfully falsifying, concealing or covering up 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 to obtain money or property of any healthcare benefit program. Violations of fraud and abuse laws may be punishable by criminal and/or civil sanctions, including penalties,

fines and/or exclusion or suspension from federal and state healthcare programs such as Medicare and Medicaid and debarment from contracting with the U.S. government. In addition, private individuals have the ability to bring actions on behalf of the government under the Federal False Claims Act as well as under the false claims laws of several states.

Many states have adopted laws similar to the Federal Anti-Kickback Statute, some of which apply to the referral of patients for healthcare services reimbursed by any source, not just governmental payors. In addition, some states have passed laws that require pharmaceutical companies to comply with the April 2003 Office of Inspector General Compliance Program Guidance for Pharmaceutical Manufacturers and/or the Pharmaceutical Research and Manufacturers of America's Code on Interactions with Healthcare Professionals. Several states also impose other marketing restrictions or require pharmaceutical companies to

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make marketing or price disclosures to the state. There are ambiguities as to what is required to comply with these state requirements and if we fail to comply with an applicable state law requirement we could be subject to penalties. Neither the government nor the courts have provided definitive guidance on the application of fraud and abuse laws to our business. Law enforcement authorities are increasingly focused on enforcing these laws, and it is possible that some of our practices may be challenged under these laws. Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. While we believe we have structured our business arrangements to comply with these laws, it is possible that the government could allege violations of, or convict us of violating, these laws. If we are found in violation of one of these laws, we could be subject to significant civil, criminal and administrative penalties, damages, fines, exclusion from governmental funded federal or state healthcare programs and the curtailment or restructuring of our operations. Were this to occur, our business, financial condition and results of operations and cash flows may be materially adversely affected.

Recently enacted and future legislation may increase the difficulty and cost of commercializing our potential products and may affect the prices we may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay regulatory approval of our potential products, restrict or regulate post-marketing activities and affect our ability to profitably sell our potential products for which we obtain regulatory approval.

In the United States, the MMA changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly by establishing Medicare Part D and introduced a reimbursement methodology based on average sales prices for physician-administered drugs under Medicare Part B. In addition, this legislation provided authority for limiting the number of drugs that are covered in any therapeutic class under the Part D program. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and reimbursement rate that we receive for any of our approved products. While the MMA only applies to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

In March 2010, President Obama signed into law the PPACA, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against healthcare fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. PPACA increased manufacturers' rebate liability under the Medicaid Drug Rebate Program by increasing the minimum rebate amount for both branded and generic drugs and revised the definition of "average manufacturer price," or AMP, which may also increase the amount of Medicaid drug rebates manufacturers are required to pay to states. The legislation also expanded Medicaid drug rebates, which previously had been payable only on fee-for-service utilization, to Medicaid managed care utilization, and created an alternative rebate formula for certain new formulations of certain existing products that is intended to increase the rebates due on those drugs. The Centers for Medicare & Medicaid Services, which administers the Medicaid Drug Rebate Program, also expanded Medicaid rebates to the utilization that occurs in the territories of the United States, such as Puerto Rico and the Virgin Islands, effective April 1, 2020. Further, beginning in 2011, PPACA imposed a significant annual fee on companies that manufacture or import branded prescription drug products and requires manufacturers to provide a 50% discount off the negotiated price of prescriptions filled by beneficiaries in the Medicare Part D coverage gap, referred to as the "donut hole." Substantial new provisions affecting compliance have also been enacted, which may require us to modify our business practices with healthcare practitioners. For example, pharmaceutical companies are required to track certain payments made to physicians and teaching hospitals, and the first reports were due in 2014 and the reported information was made publicly available on a searchable website in September 2014. We will not know the full effects of PPACA until applicable federal and state agencies issue regulations or guidance under the new law. Although it is too early to determine the full effect of PPACA, the new law appears likely to continue the downward pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs. In addition, recently, President Donald

Trump has made statements that suggest he plans to seek to repeal of all or portions of PPACA, and has stated that he will ask Congress to replace PPACA with new legislation. There is uncertainty with respect to the impact these changes, if any, may have, and any changes likely will take time to unfold.

Legislative and regulatory proposals have been introduced at both the state and federal level to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We are not sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by

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the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing approval testing and other requirements.

If we face allegations of noncompliance with the law and encounter sanctions, our reputation, revenues and liquidity may suffer, and our potential products could be subject to restrictions or withdrawal from the market.

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 revenues from our potential products. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our company and our operating results will be adversely affected. Additionally, if we are unable to generate revenues from our product sales, our potential for achieving profitability will be diminished and the capital necessary to fund our operations will be increased.

If our product candidates receive regulatory approval, we will be subject to ongoing regulatory requirements and we may face future development, manufacturing and regulatory difficulties.

Our product candidates, if approved, will also be subject to ongoing regulatory requirements for labeling, packaging, storage, advertising, promotion, sampling, record-keeping, submission of safety and other post- market approval information, importation and exportation. In addition, approved products, manufacturers and manufacturing facilities are required to comply with extensive FDA and EMA requirements and the requirements of other similar agencies, including ensuring that quality control and manufacturing procedures conform to cGMP requirements. As such, if our product candidates receive approval, we and our contract manufacturers will be subject to continual review and periodic inspections to assess compliance with cGMPs. Accordingly, we and others with whom we work will be required to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production and quality control. We will also be required to report certain adverse reactions and production problems, if any, to the FDA and EMA and other similar agencies and to comply with certain requirements concerning advertising and promotion for our potential products. Promotional communications with respect to prescription drugs also are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved labeling. Accordingly, once approved, we may not promote our products, if any, for indications, uses or claims for which they are not approved, even though physicians may prescribe them for those uses.

If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the promotion, marketing or labeling of a product, it may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If our potential products fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters or untitled letters;
- require product recalls;
- mandate modifications to promotional materials or require us to provide corrective information to healthcare practitioners;
- require us or our potential future collaborators to enter into a consent decree or permanent injunction, which can include shutdown of manufacturing facilities, imposition of various fines, reimbursements for inspection costs, required due dates for specific actions and penalties for noncompliance;
- impose other administrative or judicial civil or criminal penalties or pursue criminal prosecution;
- withdraw regulatory approval;
- refuse to approve pending applications or supplements to approved applications filed by us or by our potential future collaborators;
- impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products.

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We may not be able to identify additional therapeutic opportunities for our potential product candidates or to expand our portfolio of product candidates.

We continue to explore other therapeutic opportunities in ophthalmology through internal research programs and from time to time we may explore such opportunities through research collaboration arrangements, and may seek to commercialize a portfolio of new ophthalmic drugs or drug delivery technologies in addition to our product candidates that we are currently developing. All of our preclinical studies to identify potential new indications for our current product candidates and potential future product candidates will require additional research and development and, in some cases, significant preclinical, clinical and other testing prior to seeking regulatory approval to market such new indications and/or product candidates. Accordingly, these additional indications and product candidates will not be commercially available for a number of years, if at all.

Research programs, including through collaboration arrangements, to pursue the development of our product candidates for additional indications and to identify new product candidates, drug delivery technologies and disease targets require substantial technical, financial and human resources whether or not we ultimately are successful. Our research programs may initially show promise in identifying potential additional indications and/or product candidates, yet fail to yield results for clinical development for a number of reasons, including:

- the research methodology used may not be successful in identifying potential additional indications and/or product candidates;
- potential additional indications may, after further study, fail to demonstrate efficacy sufficient to warrant further clinical development;
- potential product candidates may, after further study, be shown to be ineffective or have harmful adverse effects or other characteristics that indicate they are unlikely to be effective drugs; or
- it may take greater human and financial resources to identify additional therapeutic opportunities for our product candidates or to develop suitable potential product candidates or drug delivery technologies through internal research programs than we possess, thereby limiting our ability to diversify and expand our product portfolio.

The decision whether to pursue, and the timing of, any additional preclinical research programs is subject to a number factors and we may suspend or discontinue research programs at any time. For example, in 2015, we decided to no longer actively pursue further development of AR-13533, a second generation ROCK/NET inhibitor, for strategic business purposes.

In addition, because we have limited financial and managerial resources, we focus on research programs and product candidates for specific indications. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential or a greater likelihood of success. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities.

Accordingly, there can be no assurance that we will ever be able to identify additional therapeutic opportunities for our product candidates or any uses for our existing proprietary compounds beyond glaucoma or to develop suitable potential product candidates or drug delivery technologies through internal research programs or research collaboration arrangements, which could materially adversely affect our future growth and prospects.

Our current product candidates are all designed to treat patients with glaucoma, and the success or failure of any one of our product candidates could impact sales of our other potential products in the future.

Our current product candidates are designed to be once-daily dosed ROCK inhibitor eye drops to be applied topically to lower IOP for the treatment of glaucoma through various MOAs. Accordingly, increased sales for one of our potential products may negatively impact sales for our other potential products. Our commercialization strategy is unique for each of our product candidates. However, we cannot guarantee that cannibalization of sales among our potential product lines will not occur in the future. Because each of our current product candidates are ROCK inhibitor eye drops designed to treat patients with glaucoma, any challenges or failures with respect to any of these potential products could negatively impact sales or the public perception of our other potential products.

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Risks Related to Our Financial Position and Need for Additional Capital

We currently have no source of revenue and may never become profitable.

We are a clinical-stage pharmaceutical company with a limited operating history. Our ability to generate revenue and become profitable depends upon our ability to successfully complete the development of our product candidates for the management of glaucoma and obtain the necessary regulatory approvals for our product candidates. We have never been profitable, have no products approved for commercial sale and to date have not generated any revenue from product sales. Even if we receive regulatory approval for our product candidates for commercial sale, we do not know when such potential products will generate revenue, if at all. Our ability to generate product revenue depends on a number of factors, including our ability to:

- successfully complete clinical development, and receive regulatory approval, for our product candidates;
- set an acceptable price for our potential products and obtain adequate reimbursement from third-party payors;
- manufacture or obtain commercial quantities of our potential products at acceptable cost levels; and
- successfully market and sell our potential products in the United States and abroad.

In addition, because of the numerous risks and uncertainties associated with product development, we are unable to predict the timing or amount of increased expenses, or when, or if, we will be able to achieve or maintain profitability. In addition, our expenses could increase beyond expectations for a number of reasons, including if we are required by the FDA or other regulatory authorities to perform studies in addition to those that we currently anticipate. Even if our product candidates are approved for commercial sale, we anticipate incurring significant costs associated with the commercial launch of these product candidates.

Our ability to become and remain profitable depends on our ability to generate revenue. Even if we are able to generate revenues from the sale of our potential products, we may not become profitable and may need to obtain additional funding to continue operations. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce our operations. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, expand our business or continue our operations.

We have incurred net losses since inception and anticipate that we will continue to incur net losses until such a time when our product candidates are commercially successful, if at all.

We have incurred losses in each year since our inception in June 2005. Our net losses were $99.1 million, $74.4 million and $48.1 million for the years ended December 31, 2016, 2015 and 2014, respectively. As of December 31, 2016, we had an accumulated deficit of $316.6 million.

Investment in pharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that a product candidate will fail to gain regulatory approval or become commercially viable. We have devoted the majority of our financial resources to research and development, including our non-clinical development activities and clinical trials. To date, we have financed our operations primarily through the sale of equity securities and issuance of convertible debt, including the completion of our IPO in October 2013, the issuance of the 2014 Convertible Notes in September 2014 and the issuance and sale of common stock pursuant to our registration statements on Form S-3 and former “at-the-market” sales agreements. Our product candidates will require the completion of regulatory review, significant marketing efforts and substantial investment before they can provide us with any revenue.

We expect our research and development expenses to continue to be significant in connection with our ongoing and planned Phase 3 registration trials. In addition, if we obtain regulatory approval for our product candidates, we expect to incur increased manufacturing, sales and marketing expenses. As a result, we expect to continue to incur significant and increasing operating losses and negative cash flows until such a time when our product candidates are commercially successful, if at all. These losses have had and will continue to have a material adverse effect on our stockholders’ equity, financial position, cash flows and working capital.

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We may need to obtain additional financing to fund our operations and, if we are unable to obtain such financing, we may be unable to complete the development and commercialization of our primary product candidates and construction of our new manufacturing plant.

Our operations have consumed substantial amounts of cash since inception. In October 2013, we received net proceeds from our IPO of approximately $68.3 million, after deducting underwriting discounts and commissions and expenses. Since our IPO, we have raised additional net proceeds of approximately $122.9 million from the issuance of the 2014 Convertible Notes and approximately $217.6 million through the issuance and sale of common stock under our shelf registration statements on Form S-3 and former "at-the-market" sales agreements. We may need to obtain additional financing to fund our future operations, including construction of our new manufacturing plant. Additionally, we may need to obtain additional financing to conduct additional trials for the approval of our drug candidates if requested by regulatory bodies, and completing the development of any additional product candidates or drug delivery technologies. Moreover, our fixed expenses, such as rent and other contractual commitments, are substantial and are expected to increase in the future, and we also expect to incur increased expenses as we expand our employment base.

Our future funding requirements will depend on many factors, including, but not limited to:

- the progress, timing, scope and costs of our clinical trials, including the ability to timely enroll patients in our planned and potential future clinical trials;
- the time and cost necessary to obtain regulatory approvals that may be required by regulatory authorities;
- the time and cost necessary to establish internal manufacturing capabilities or arrangements with third-party manufacturers;
- our ability to successfully commercialize our product candidates;
- the amount of sales and other revenues from product candidates that we may commercialize, if any, including the selling prices for such potential products and the availability of adequate third-party reimbursement;
- selling and marketing costs associated with our potential products, including the cost and timing of expanding our marketing and sales capabilities;
- the terms and timing of any collaborations, licensing or other arrangements that we may establish;
- cash requirements of any future acquisitions and/or the development of other product candidates;
- the costs of operating as a public company;
- the time and cost necessary to respond to technological and market developments; and
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights.

We believe that our existing cash and cash equivalents and investments will be sufficient to complete all currently known non-clinical and clinical requirements for our development programs advancing Rhopressa™ and Roclatan™, approval by the FDA and product commercialization, pending successful outcome of the trials. We also intend to use these funds for general corporate purposes and for strategic growth opportunities, including the execution of clinical trials in Japan, the commencement of construction of our manufacturing plant in Ireland and the continuation of preclinical activity in support of our product pipeline.

Until we can generate a sufficient amount of revenue, we may finance future cash needs through public or private equity offerings, license agreements, debt financings, collaborations, strategic alliances and marketing or distribution arrangements. Additional funds may not be available when we need them on terms that are acceptable to us, or at all. If adequate funds are not available, we may be required to delay or reduce the scope of or eliminate one or more of our research or development programs or our commercialization or manufacturing efforts. We may seek to access the public or private capital markets whenever conditions are favorable, even if we do not have an immediate need for additional capital at that time. In addition, if we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams or product candidates or to grant licenses on terms that may not be favorable to us.

Our forecast of the period of time through which our financial resources will be adequate to support our operating requirements is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors, including the factors discussed elsewhere in this “Risk Factors” section. We have based this estimate on a number of assumptions that may prove to be wrong, and changing circumstances beyond our control may cause us to consume capital

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more rapidly than we currently anticipate. Our inability to obtain additional funding when we need it could seriously harm our business.

Our substantial leverage and related obligations could adversely affect our financial condition and restrict our operating flexibility.

We have substantial debt and related obligations. As of December 31, 2016, our total indebtedness consisted of our $125.0 million aggregate principal amount of 2014 Convertible Notes which bear interest at a rate of 1.75% per annum and mature on the seventh anniversary from the date of issuance, unless earlier converted. Our substantial level of debt and related obligations, including interest payments, covenants and restrictions, could have important consequences, including the following:

- impairing our ability to successfully complete the development of our product candidates, which would prevent us from generating a source of revenue and becoming profitable;
- making it more difficult for us to satisfy our obligations with respect to our indebtedness, which could result in an event of default under the agreement governing the 2014 Convertible Notes;
- limiting our ability to obtain additional financing on satisfactory terms to fund our working capital requirements, capital expenditures, potential acquisitions, debt obligations and other general corporate requirements;
- increasing our vulnerability to general economic downturns, competition and industry conditions, which could place us at a competitive disadvantage compared to our competitors that are less leveraged and therefore we may be unable to take advantage of opportunities that our leverage prevents us from exploiting; and
- imposing additional restrictions on the manner in which we conduct our business, including restrictions on our ability to pay dividends, incur additional debt and sell assets.

The occurrence of any one of these events could have an adverse effect on our business, financial condition, operating results or cash flows and ability to satisfy our obligations under our indebtedness.

Although the agreement governing the 2014 Convertible Notes contains restrictions on the incurrence of additional indebtedness, these restrictions are subject to a number of significant qualifications and exceptions, and any indebtedness incurred in compliance with these restrictions could be substantial. In addition, the agreement governing the 2014 Convertible Notes allows us to incur a significant amount of indebtedness in connection with acquisitions and a significant amount of purchase money debt. If new debt is added to current debt levels, the related risks that we and noteholders face would be increased.

The terms of the agreement governing the 2014 Convertible Notes may restrict our current and future operations, particularly our ability to respond to changes in our business or to take certain actions.

The agreement governing the 2014 Convertible Notes contains, and the terms of any future indebtedness of ours would likely contain, a number of restrictive covenants that impose significant operating restrictions, including restrictions on our ability to engage in acts that may be in our best long-term interests. The agreement governing the 2014 Convertible Notes includes covenants that, among other things, restrict or otherwise limit our ability to:

- incur additional indebtedness and create liens;
- pay dividends on capital stock and make other restricted payments;
- enter into any merger, partnership, joint venture, syndicate, pool, profit-sharing or royalty agreement, or engage in any transactions with our affiliates;
- sell or transfer assets;
- merge; and
- issue equity securities senior to our common stock or convertible or exercisable for equity securities senior to our common stock.

If not cured, as applicable, a breach of any of these provisions could result in a default under the agreement governing the 2014 Convertible Notes that would allow noteholders to declare the outstanding debt immediately due and payable. In addition, the 2014 Convertible Notes are secured by substantially all of our existing and hereafter created or acquired assets, including our intellectual property, accounts receivable, equipment, general intangibles, inventory and investment property, and all of the

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proceeds and products of the foregoing. If we are unable to pay those amounts because we do not have sufficient cash on hand or are unable to obtain alternative financing on acceptable terms, the noteholders could initiate a bankruptcy proceeding or proceed against any assets that serve as collateral to secure the 2014 Convertible Notes.

These restrictions could limit our ability to obtain future financings, make needed capital expenditures, withstand future downturns in the economy or otherwise conduct necessary corporate activities. We may also be prevented from taking advantage of business opportunities that arise because of limitations imposed on us by the restrictive covenants under the 2014 Convertible Notes.

We may sell additional equity or debt securities at any time, which may result in dilution to our stockholders and impose restrictions on our business.

In order to raise additional funds to support our operations, business strategies and growth, we may sell additional equity or debt securities, which would result in dilution to all of our stockholders or impose restrictive covenants that adversely impact our business. The incurrence of indebtedness would result in increased fixed payment obligations and could also result in restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we are unable to expand our operations or otherwise capitalize on our business opportunities, our business, financial condition and results of operations could be materially adversely affected.

Our relatively short operating history may make it difficult for investors to evaluate the success of our business to date and to assess our future viability.

We are a clinical-stage company. We were incorporated and commenced active operations in the second quarter of 2005. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital and developing our product candidates. We have not yet demonstrated our ability to successfully complete a Phase 3 program, obtain regulatory approval, develop a manufacturing plant, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, any predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as a new business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition from a company with a product development focus to a company capable of supporting commercial and manufacturing activities. We may not be successful in such a transition.

Determining our income tax rate is complex and subject to uncertainty.

The computation of income tax provisions is complex, as it is based on the laws of federal, state, local and non-U.S. taxing jurisdictions and requires significant judgment on the application of complicated rules governing accounting for tax provisions under U.S. GAAP. Our provision for income tax can be materially impacted, for example, by the geographical mix of our profits and losses, changes in our business, such as internal restructuring and acquisitions, changes in tax laws and accounting guidance and other regulatory, legislative or judicial developments, transfer pricing policies, tax audit determinations, changes in our uncertain tax positions, changes in our intent and capacity to permanently reinvest foreign earnings, changes to our transfer pricing practices, tax deductions attributed to equity compensation and changes in our need for a valuation allowance for deferred tax assets. In addition, relevant taxing authorities may disagree with our determinations as to the income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our position was not sustained, we could be required to pay additional taxes, interest and penalties, which could result in one-time tax charges, higher effective tax rates and reduced cash flows than otherwise would be expected. For these reasons, our actual income taxes may be materially different than our provision for income tax.

Our ability to use our net operating loss carry-forwards may be limited.

If we experience an “ownership change” for purposes of Section 382 of the Internal Revenue Code of 1986, as amended (Section 382), or similar state provisions, we may be subject to annual limits on our ability to utilize net operating loss carry-forwards. An ownership change is, as a general matter, triggered by sales or acquisitions of our stock in excess

of 50% on a cumulative basis during a three-year period by persons owning 5% or more of our total equity value. As of December 31, 2016, we had federal and state net operating losses of approximately $104.1 million and $122.5 million, respectively, which begin to expire at various dates beginning in 2024, if not utilized. Certain transactions occurred in 2015 and prior years that resulted in ownership changes as defined under Section 382 and similar state provisions, which will limit the future use of certain federal

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and state net operating loss carry-forwards. Those federal and state net operating losses that are not limited are included as deferred tax assets and have been fully offset by a valuation allowance as of December 31, 2016.

The enactment of legislation implementing changes in the U.S. taxation of international business activities or the adoption of other tax reform policies could materially impact our financial position and results of operations.

Recent changes to U.S. tax laws, including limitations on the ability of taxpayers to claim and utilize foreign tax credits, as well as changes to U.S. tax laws that may be enacted in the future, could impact the tax treatment of our potential future foreign earnings. In particular, the tax reform proposals being considered by the new U.S. presidential administration and being considered in the U.S. Congress create uncertainty with respect to the future tax impact on our business operations and potential profitability. For example, certain of the proposals may result in changes to the taxation of cross-border transactions and certain business tax credits or deductions. Other proposals could limit or eliminate the deduction for interest expense. It is unclear whether, when, how and to what extent any of these (or other proposals) will be adopted. Further, due to the expansion of our international business activities, any changes in the U.S. taxation of such activities may increase our worldwide effective tax rate and adversely affect our financial position and results of operations.

Our international operations subject us to potentially adverse tax consequences.

We generally conduct our international operations through wholly-owned subsidiaries and report our taxable income, if any, in various jurisdictions worldwide based upon our business operations in those jurisdictions. Our intercompany relationships are subject to complex transfer pricing regulations administered by taxing authorities in various jurisdictions. The relevant taxing authorities may disagree with our determinations as to the income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our position was not sustained, we could be required to pay additional taxes, interest and penalties, which could result in one-time tax charges, higher effective tax rates and reduced cash flows.

Risks Related to Our Reliance on Third Parties

We currently have no manufacturing capacity and anticipate continued reliance on third-party manufacturers for the development and commercialization of our product candidates in accordance with manufacturing regulations until such a time when we can develop internal manufacturing capabilities, if at all.

We do not currently operate manufacturing facilities for clinical or commercial production of our product candidates. We have no experience in drug formulation, and we currently lack the resources and the capabilities to manufacture our product candidates and potential products on a clinical or commercial scale. We currently rely on third-party manufacturers to produce the active pharmaceutical ingredient and final drug product for our clinical trials. We manage such production with all our vendors on a purchase order basis in accordance with applicable master service and supply agreements. We do not have long-term agreements with any of these or any other third-party suppliers to support our clinical trials. To the extent we terminate our existing supplier arrangements in the future and seek to enter into arrangements with alternative suppliers, we might experience a delay in our ability to obtain our commercial supplies.

With respect to production of our potential commercial products in the future, if and when our product candidates are approved for marketing by the applicable regulatory authorities, we plan to outsource the production of the active pharmaceutical ingredients and final product manufacturing until such a time when we can develop internal manufacturing capabilities, if at all. We are working to establish contractual relationships for the commercial production of the active pharmaceutical ingredients with our vendors and currently manage any such production on a purchase order basis. This process is difficult and time consuming and we can give no assurance that we will enter any future commercial supply agreements with any manufacturers on favorable terms or at all.

We have entered into a contractual relationship for the final commercial drug product manufacturing and in January 2017, we entered into a lease agreement for a new manufacturing plant in Athlone, Ireland. If approved, commercial product supply of Rhopressa™ from the plant is expected to be available by 2020. However, there can be no assurance that we will be able to develop the manufacturing capabilities required to produce our final drug product on a commercial scale or in accordance with manufacturing regulations. See “-Risks Related to Development, Regulatory

Approval and Commercialization-We have no experience manufacturing our product candidates, and we cannot assure you that we will be able to manufacture our product candidates in compliance with regulations at a cost or in quantities necessary to make them commercially viable." If our manufacturing operations fail to achieve regulatory approval or to effectively produce commercial supplies of our product candidates, or until such time we are capable of developing internal manufacturing capabilities, we will be required to rely solely on third-party manufacturers to meet our commercial manufacturing needs, which may materially adversely affect our business, results of operations or financial condition.

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Reliance on third-party manufacturers entails risks, including:

- manufacturing delays if our third-party manufacturers give greater priority to the supply of other products over our product candidates or otherwise do not satisfactorily perform according to the terms of their agreements with us;
- delays in obtaining regulatory approval for our product candidates, if our third-party manufacturers fail to satisfy or comply with regulatory requirements;
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us;
- the possible breach of the manufacturing agreement by the third party;
- product loss due to contamination, equipment failure or improper installation or operation of equipment or operator error;
- the failure of the third-party manufacturer to comply with applicable regulatory requirements; and
- the possible misappropriation of our proprietary information, including our trade secrets and know-how.

For example, in October 2016, we were required to withdraw the initial submission of our NDA filing for Rhopressa™ due to a contract manufacturer of our drug product not being prepared for pre-approval inspection by the FDA. We resubmitted the Rhopressa™ NDA on February 28, 2017 upon receiving confirmation from the contract manufacturer that it is prepared for FDA inspection. Although we have been advised that the contract manufacturer is prepared for FDA inspection, there can be no assurance that the contract manufacturer's facility will meet FDA standards.

In addition, our manufacturers may not perform as agreed or may not remain in the contract manufacturing business. In the event of a natural disaster, business failure, strike or other difficulty, we may be unable to replace a third-party manufacturer in a timely manner and the production of our product candidates and potential products could be interrupted, resulting in delays and additional costs. We may also have to incur other charges and expenses for products that fail to meet specifications and undertake remediation efforts.

If we or third-party manufacturers fail to comply with manufacturing regulations, our financial results and financial condition will be adversely affected.

Before we or a third party can begin commercial manufacture of our product candidates and potential products, we or the third party must obtain regulatory approval of our or their manufacturing facilities, processes and quality systems. If our third party manufacturers do not have a cGMP compliance status acceptable to the FDA, approval of any NDA that includes those third party manufacturers will be delayed.

Due to the complexity of the processes used to manufacture pharmaceutical products and product candidates, we or any potential third-party manufacturer may be unable to initially pass federal, state or international regulatory inspections in a cost effective manner. We or certain of our contract manufacturers may fail to satisfy or comply with manufacturing regulations. If we or our contract manufacturers are not approved by the FDA, regulatory approval of our product candidates and/or commercial supply of active pharmaceutical ingredients will be significantly delayed and may result in significant additional costs.

In addition, pharmaceutical manufacturing facilities are continuously subject to inspection by the FDA and foreign regulatory authorities, before and after product approval, and must comply with cGMP. We or our contract manufacturers may encounter difficulties in achieving quality control and quality assurance and may experience shortages in qualified personnel. In addition, failure to achieve and maintain high manufacturing standards in accordance with applicable regulatory requirements, or the incidence of manufacturing errors, could result in patient injury, product liability claims, product shortages, product recalls or withdrawals, delays or failures in product testing or delivery, cost overruns or other problems that could seriously harm our business. If we or a third-party manufacturer with whom we contract is unable to comply with manufacturing regulations, we may be subject to fines, unanticipated compliance expenses, recall or seizure of our products, product liability claims, total or partial suspension of production and/or enforcement actions, including injunctions, and criminal or civil prosecution. These

possible sanctions could materially adversely affect our financial results and financial condition.

Furthermore, changes in the manufacturing process or procedure, including a change in the location where the product is manufactured or a change of a third-party manufacturer, will require prior FDA review and/or approval of the manufacturing process and procedures in accordance with the FDA's regulations, or comparable foreign requirements. This review may be costly and time consuming and could delay or prevent the launch of a product. The new facility will also be subject to pre-

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approval inspection. In addition, we have to demonstrate that the product made at the new facility is equivalent to the product made at the former facility by physical and chemical methods, which are costly and time consuming. It is also possible that the FDA may require clinical testing as a way to prove equivalency, which would result in additional costs and delay.

Any collaboration arrangement that we may enter into in the future may not be successful, which could adversely affect our ability to develop and commercialize our current and potential future product candidates.

We continually explore and discuss additional opportunities for new ophthalmic products, delivery alternatives and new therapeutic areas with potential partners. We may seek collaboration arrangements with pharmaceutical or biotechnology companies or universities for the development or commercialization of our current and potential future product candidates. We will face, to the extent that we decide to enter into collaboration agreements, significant competition in seeking appropriate collaborators. Moreover, collaboration arrangements are complex and time consuming to negotiate, document and implement. We may not be successful in our efforts to establish, implement and maintain collaborations or other alternative arrangements and the terms of such arrangements may not be favorable to us. If and when we collaborate with a third party for development and commercialization of a product candidate and/or technology, we can expect to relinquish some or all of the control over the future success of that product candidate and/or technology to the third party. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these collaborations. Accordingly, there can be no assurance that any collaboration or licensing arrangement or similar strategic transaction we enter into will result in the benefits that we anticipate.

Disagreements between parties to a collaboration arrangement regarding research, clinical development and commercialization matters can lead to delays in the development process or commercializing the applicable product candidate or technology and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision making authority. In addition, collaborators may not pursue development and commercialization of our preclinical molecules or product candidates or may elect not to continue or renew development or commercialization programs based on our results, changes in their strategic focus due to the acquisition of competitive products or technologies, availability of funding, or other external factors, such as a business combination that diverts resources or creates competing priorities. Collaborations with pharmaceutical or biotechnology companies and other third parties often are terminated or allowed to expire by the other party. For example, in 2016, we terminated our collaboration and licensing arrangements with GrayBug, Inc. for drug delivery technology and elected not to extend our collaboration agreement with Ramot at Tel Aviv University, Ltd. for a preclinical anti-beta amyloid molecule. Any such termination or expiration may adversely affect us financially and could harm our business reputation.

We currently depend on third parties to conduct some of the operations of our clinical trials and other portions of our operations, and we may not be able to control their work as effectively as if we performed these functions ourselves.

We rely on third parties, such as CROs, clinical data management organizations, medical institutions and clinical investigators, to oversee and conduct our clinical trials, and to perform data collection and analysis of our product candidates. We expect to rely on these third parties to conduct clinical trials of any other potential products that we develop. These parties are not our employees and we cannot control the amount or timing of resources that they devote to our program. In addition, any CRO that we retain will be subject to the FDA’s regulatory requirements or similar foreign standards and we do not have control over compliance with these regulations by these providers. Our agreements with third-party service providers are on a trial-by-trial and project-by-project bases. Typically, we may terminate the agreements with notice and are responsible for the third party’s incurred costs. If any of our relationships with our third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs or to do so on commercially reasonable terms. We also rely on other third parties to store and distribute drug supplies for our clinical trials. Any performance failure on the part of our distributors could delay clinical development or regulatory approval of our product candidates or commercialization of our potential products, producing additional losses and depriving us of potential product revenue.

Our reliance on these third parties for clinical development activities reduces our control over these activities but does not relieve us of our responsibilities, and we remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan, the protocols for the trial and the FDA's regulations and international standards, referred to as GCP requirements, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate, and that the rights, integrity and confidentiality of trial participants are protected. Preclinical studies must also be conducted in compliance with the Animal Welfare Act requirements. Managing performance of third-party service providers can be difficult, time consuming and cause delays in our development programs. We currently have a small number of employees, which limits the internal resources we have available to identify and monitor our third-party providers.

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Furthermore, these third parties may produce or manufacture competing drugs or may have relationships with other entities, some of which may be our competitors. The use of third-party service providers requires us to disclose our proprietary information to these parties, which could increase the risk that this information will be misappropriated. If these third parties do not successfully carry out their contractual duties or obligations and meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols according to regulatory requirements or for other reasons, our financial results and the commercial prospects for our current product candidates or our other potential product candidates could be harmed, our costs could increase and our ability to obtain regulatory approval and commence product sales could be delayed.

If we fail to establish an effective distribution process our business may be adversely affected.

We do not currently have the infrastructure necessary for distributing pharmaceutical products. We intend to contract with third-party logistics wholesalers to warehouse these products and distribute them to pharmacies. This distribution network will require significant coordination with our sales and marketing and finance organizations. Failure to secure contracts with wholesalers could negatively impact the distribution of our potential products, and failure to coordinate financial systems could negatively impact our ability to accurately report product revenue. If we are unable to effectively establish and manage the distribution process, the commercial launch and sales of our potential products will be delayed or severely compromised and our results of operations may be harmed.

Risks Related to Intellectual Property

We may not be able to protect our proprietary technology in the marketplace.

We depend on our ability to protect our proprietary technology. We rely on trade secret, patent, copyright and trademark laws, and confidentiality, licensing and other agreements with employees and third parties, all of which offer only limited protection. Our success depends in large part on our ability and any future licensee's ability to obtain and maintain patent protection in the United States and other countries with respect to our proprietary technology and products. We believe we will be able to obtain, through prosecution of our current pending patent applications, adequate patent protection for our proprietary drug technology. If we are compelled to spend significant time and money protecting or enforcing our patents, designing around patents held by others or licensing or acquiring, potentially for large fees, patents or other proprietary rights held by others, our business and financial prospects may be harmed. If we are unable to effectively protect the intellectual property that we own, other companies may be able to offer the same or similar products for sale, which could materially adversely affect our competitive business position and harm our business prospects. Our patents may be challenged, narrowed, invalidated, or circumvented, which could limit our ability to stop competitors from marketing the same or similar products or limit the length of term of patent protection that we may have for our products.

The patent positions of pharmaceutical products are often complex and uncertain. The breadth of claims allowed in pharmaceutical patents in the United States and many jurisdictions outside of the United States is not consistent. For example, in many jurisdictions the support standards for pharmaceutical patents are becoming increasingly strict. Some countries prohibit method of treatment claims in patents. Changes in either the patent laws or interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property or create uncertainty. In addition, publication of information related to our current product candidates and potential products may prevent us from obtaining or enforcing patents relating to these product candidates and potential products, including without limitation composition-of-matter patents, which are generally believed to offer the strongest patent protection.

Our intellectual property includes issued patents and pending patent applications for compositions of matter, pharmaceutical formulations, methods of use, and synthetic methods. As of December 31, 2016, we own 21 patents and have 12 pending patent applications in the United States and certain foreign jurisdictions for our primary product candidates Rhopressa™ and Roclatan™. Patent protection for Roclatan™ arises from the U.S. patents that cover Rhopressa™. The patents cover composition of matter and method of use. We own 49 patents and have 13 pending patent applications in the United States and certain foreign jurisdictions relating to our previously discontinued product candidates and other proprietary technology. See "Business—Intellectual Property" included elsewhere in this report for

further information about our issued patents and patent applications.

Patents that we own or may license in the future do not necessarily ensure the protection of our intellectual property for a number of reasons, including without limitation the following:

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- our patents may not be broad or strong enough to prevent competition from other products that are identical or similar to our product candidates;
- there can be no assurance that the term of a patent can be extended under the provisions of patent term extension afforded by U.S. law or similar provisions in foreign countries, where available;
- our issued patents and patents that we may obtain in the future may not prevent generic entry into the market for our Rhopressa™ and Roclatan™ product candidates;
- we do not at this time own or control issued foreign patents outside of Australia, Canada, and Europe that would prevent generic entry into those markets for our product candidates;
- we may be required to disclaim part of the term of one or more patents;
- there may be prior art of which we are not aware that may affect the validity or enforceability of a patent claim;
- there may be prior art of which we are aware, which we do not believe affects the validity or enforceability of a patent claim, but which, nonetheless, ultimately may be found to affect the validity or enforceability of a patent claim;
- there may be other patents issued to others that will affect our freedom to operate;
- if our patents are challenged, a court could determine that they are invalid or unenforceable;
- there might be a significant change in the law that governs patentability, validity and infringement of our patents that adversely affects the scope of our patent rights;
- a court could determine that a competitor's technology or product does not infringe our patents; and
- our patents could irretrievably lapse due to failure to pay fees or otherwise comply with regulations or could be subject to compulsory licensing.

If we encounter delays in our development or clinical trials, the period of time during which we could market our potential products under patent protection would be reduced.

Our competitors may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner. Our competitors may seek to market generic versions of any approved products by submitting ANDAs to the FDA in which our competitors claim that our patents are invalid, unenforceable and/or not infringed.

Alternatively, our competitors may seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend and/or assert our patents, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or other agency with jurisdiction may find our patents invalid and/or unenforceable. We may also fail to identify patentable aspects of our research and development before it is too late to obtain patent protection. Even if we have valid and enforceable patents, these patents still may not provide protection against competing products or processes sufficient to achieve our business objectives.

The issuance of a patent is not conclusive as to its inventorship, scope, ownership, priority, validity or enforceability. In that regard, third parties may challenge our patents in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and potential products. In addition, 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.

A significant portion of our intellectual property portfolio currently comprises pending patent applications that have not yet been issued as granted patents. If our pending patent applications fail to issue our business will be adversely affected.

Our commercial success will depend significantly on maintaining and expanding patent protection for our product candidates, as well as successfully defending our current and future patents against third-party challenges. As of December 31, 2016, we own 70 patents and have 25 pending patent applications in the United States and certain

foreign jurisdictions relating to our current and previously discontinued product candidates and proprietary technology. See “Business—Intellectual Property” included elsewhere in this report for further information about our issued patents and patent applications. Our issued patents include 21 patents for composition of matter and method of use covering our lead product candidate, Rhopressa™ in the United States and certain foreign jurisdictions. These patents also cover our other primary product candidate Roclatan™ to the extent

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that Rhopressa™ forms a part of Roclatan™. The remainder of our portfolio is made up of patents covering previously discontinued product candidates and other proprietary technology and pending patent applications that have not yet been issued by the USPTO, or any other jurisdiction that covers our current and previously discontinued product candidates or other proprietary technology.

There can be no assurance that our pending patent applications will result in issued patents in the United States or foreign jurisdictions in which such applications are pending. Even if patents do issue on any of these applications, there can be no assurance that a third party will not challenge their validity or that we will obtain sufficient claim scope in those patents to prevent a third party from competing successfully with our products.

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

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to life sciences. It may be difficult for us to stop the infringement of our patents or the misappropriation of these intellectual property rights in any foreign jurisdictions. For example, some foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit.

Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate. In addition, changes in the law and legal decisions by courts in the United States and foreign countries may affect our ability to obtain adequate protection for our technology and the enforcement of intellectual property.

We may infringe the intellectual property rights of others, which may prevent or delay our product development efforts and stop us from commercializing or increase the costs of commercializing our products.

Our commercial success depends significantly on our ability to operate without infringing the patents and other intellectual property rights of third parties. For example, there could be issued patents of which we are not aware that our product candidates or potential products infringe. There also could be patents that we believe we do not infringe, but that we may ultimately be found to infringe.

Moreover, patent applications are in some cases maintained in secrecy until patents are issued. The publication of discoveries in the scientific or patent literature frequently occurs substantially later than the date on which the underlying discoveries were made and patent applications were filed. Because patents can take many years to issue, there may be currently pending applications of which we are unaware that may later result in issued patents that our product candidates or potential products infringe. For example, pending applications may exist that claim or can be amended to claim subject matter that our product candidates or potential products infringe. Competitors may file continuing patent applications claiming priority to already issued patents in the form of continuation, divisional, or continuation-in-part applications, in order to maintain the pendency of a patent family and attempt to cover our product candidates.

Third parties may assert that we are employing their proprietary technology without authorization and may sue us for patent or other intellectual property infringement. These lawsuits are costly and could adversely affect our results of operations and divert the attention of managerial and scientific personnel. If we are sued for patent infringement, we would need to demonstrate that our product candidates, potential products or methods either do not infringe the claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Proving invalidity is difficult. For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could have a material adverse effect on us. In addition, we may not have sufficient resources to bring these actions to a successful conclusion. If a court holds that any third-party patents are valid,

enforceable and cover our products or their use, the holders of any of these patents may be able to block our ability to commercialize our products unless we acquire or obtain a license under the applicable patents or until the patents expire. We may not be able to enter into licensing arrangements or make other arrangements at a reasonable cost or on reasonable terms. Any inability to secure licenses or alternative technology could result in delays in the introduction of our products or lead to prohibition of the manufacture or sale of products by us. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, in

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any such proceeding or litigation, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Any claims by third parties that we have misappropriated their confidential information or trade secrets could have a similar negative impact on our business. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations.

We may be subject to claims that we or our employees have misappropriated the intellectual property, including trade secrets, of a third party, or claiming ownership of what we regard as our own intellectual property.

Many of our employees were previously employed at universities, biotechnology companies or other pharmaceutical companies, including our competitors or potential competitors. Some of these employees, including each member of our senior management, executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment. Although we try to ensure that our employees do not use the intellectual property and other proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed such intellectual property, including trade secrets or other proprietary information. Litigation may be necessary to defend against these claims. We are not aware of any threatened or pending claims related to these matters or concerning the agreements with our senior management, but litigation may be necessary in the future to defend against such claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

In addition, while we typically require our employees, consultants and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own, which may result in claims by or against us related to the ownership of such intellectual property. If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our management and scientific personnel.

We may be unable to adequately prevent disclosure of trade secrets and other proprietary information.

We rely on trade secrets to protect our proprietary know-how and technological advances, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. We rely in part on confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to protect our trade secrets and other proprietary information. However, any party with whom we have executed such an agreement may breach that agreement and disclose our proprietary information, including our trade secrets. Accordingly, these agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights. In addition, others may independently discover our trade secrets and proprietary information. Further, the FDA, as part of its Transparency Initiative, a proposal by the FDA to increase disclosure and make data more accessible to the public, is currently considering whether to make additional information publicly available on a routine basis, including information that we may consider to be trade secrets or other proprietary information, and it is not clear at the present time how the FDA's disclosure policies may change in the future, if at all. Failure to obtain or maintain trade secret protection could enable competitors to use our proprietary information to develop products that compete with our products or cause additional, material adverse effects upon our competitive business position and financial results.

Any lawsuits relating to infringement of intellectual property rights brought by or against us will be costly and time consuming and may adversely impact the price of our common stock.

We may be required to initiate litigation to enforce or defend our intellectual property. These lawsuits can be very time consuming and costly. There is a substantial amount of litigation involving patent and other intellectual property rights in the pharmaceutical industry generally. Such litigation or proceedings could substantially increase our

operating expenses and reduce the resources available for development activities or any future sales, marketing or distribution activities.

In any infringement litigation, any award of monetary damages we receive may not be commercially valuable. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically

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last for years before they are resolved. Further, any claims we assert against a perceived infringer could provoke these parties to assert counterclaims against us alleging that we have infringed their patents. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

In addition, our patents and patent applications could face other challenges, such as interference proceedings, opposition proceedings, re-examination proceedings, and other forms of post-grant review. In the United States, for example, post-grant review has recently been expanded. Any of these challenges, if successful, could result in the invalidation of, or in a narrowing of the scope of, any of our patents and patent applications subject to challenge. Any of these challenges, regardless of their success, would likely be time consuming and expensive to defend and resolve and would divert our management and scientific personnel's time and attention. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the market price of our common stock.

We will need to obtain FDA approval of any proposed product names, and any failure or delay associated with such approval may adversely affect our business.

We assigned the trade names Rhopressa™ and Roclatan™ to our lead product candidates in 2014, with trademark applications for registration pending from the USPTO. These and any other names we intend to use for our product candidates will require approval from the FDA regardless of whether we have secured a formal trademark registration from the USPTO. The FDA typically conducts a review of proposed product names, including an evaluation of the potential for confusion with other product names. The FDA may also object to a product name if it believes the name inappropriately implies medical claims or contributes to an overstatement of efficacy. If the FDA objects to any of our proposed product names, we may be required to adopt an alternative name for our product candidates. If we adopt an alternative name, we would lose the benefit of our existing trademark applications for such product candidate and may be required to expend significant additional resources in an effort to identify a suitable product name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA.

We may be unable to build a successful brand identity for a new trademark in a timely manner or at all, which would limit our ability to commercialize our product candidates.

If we do not obtain additional protection under the Hatch-Waxman Amendments and similar foreign legislation extending the terms of our patents and obtaining data exclusivity for our product candidates, our business may be materially harmed.

Depending upon the timing, duration and specifics of FDA regulatory approval for our product candidates, one or more of our U.S. patents may be eligible for limited patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. Patent term restorations, however, cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval by the FDA.

The application for patent term extension is subject to approval by the USPTO, in conjunction with the FDA. It takes at least six months to obtain approval of the application for patent term extension. We may not be granted an extension because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or restoration or the term of any such extension is less than we request, the period during which we will have the right to exclusively market our product will be shortened and our competitors may obtain earlier approval of competing products, and our ability to generate revenues could be materially adversely affected.

Risks Related to Our Business Operations and Industry

We depend upon our key personnel and our ability to attract and retain employees.

Our future growth and success depend on our ability to recruit, retain, manage and motivate our employees. We are highly dependent on our senior management team and our scientific founders, as well as the other principal members of our management and scientific teams. Although we have formal employment agreements with our executive officers, these agreements do not prevent them from terminating their employment with us at any time. The loss of the services of any member of our senior management or scientific team or the inability to hire or retain experienced management personnel could adversely affect our ability to execute our business plan and harm our operating results.

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Because of the specialized scientific and managerial nature of our business, we rely heavily on our ability to attract and retain qualified scientific, technical and managerial personnel. In particular, the loss of Vicente Anido, Jr., our Chairman of the Board of Directors and Chief Executive Officer, Thomas A. Mitro, our President and Chief Operating Officer, Richard J. Rubino, our Chief Financial Officer or Casey C. Kopczynski, our Chief Scientific Officer, could be detrimental to us if we cannot recruit suitable replacements in a timely manner. We do not currently carry "key person" insurance on the lives of members of executive management. The competition for qualified personnel in the pharmaceutical field is intense. Due to this intense competition, we may be unable to continue to attract and retain qualified personnel necessary for the development of our business or to recruit suitable replacement personnel. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

We will need to continue to significantly increase the size of our organization, and we may experience difficulties in managing growth.

We are currently a small company with 95 full-time employees as of December 31, 2016. In order to commercialize and manufacture our potential products, we will need to substantially increase our operations. We plan to continue to build our compliance, financial and operating infrastructure to ensure the maintenance of a well-managed company. We expect to expand our employment base to approximately 300 when we are in the full commercial stages of our current potential products' life cycle.

Future growth will impose significant added responsibilities on members of management, including the need to identify, recruit, maintain and integrate additional employees. Our management, personnel and systems currently in place may not be adequate to support our future growth. Our future financial performance and our ability to commercialize our potential products and to compete effectively will depend, in part, on our ability to manage any future growth effectively. To that end, we must be able to:

- manage our clinical trials and the regulatory process effectively;
- manage the development of our manufacturing plant and the manufacturing of product candidates and potential products for clinical and commercial use;
- integrate current and additional management, administrative, financial, manufacturing and sales and marketing personnel;
- develop a marketing and sales infrastructure;
- hire new personnel necessary to effectively commercialize and manufacture our product candidates;
- continue to develop and maintain our administrative, accounting and management information systems and controls; and
- hire and train additional qualified personnel.

Product candidates that we may acquire or develop in the future may be intended for patient populations that are large. In order to continue development and marketing of these product candidates, if approved, we would need to significantly expand our operations. Our staff, financial resources, systems, procedures or controls may be inadequate to support our operations and our management may be unable to manage successfully future market opportunities or our relationships with customers and other third parties.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading, which could significantly harm our business.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with the regulations of the FDA and non-U.S. regulators, provide accurate information to the FDA and non-U.S. regulators, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may

restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We adopted a code of conduct, but it is not always possible to

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identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

Our business is affected by macroeconomic conditions.

Various macroeconomic factors could adversely affect our business and the results of our operations and financial condition, including changes in inflation, interest rates and foreign currency exchange rates and overall economic conditions and uncertainties, including those resulting from the current and future conditions in the global financial markets. For instance, if and when our product candidates are approved, if inflation or other factors were to significantly increase our business costs, it may not be feasible to pass through price increases to patients. Interest rates, the liquidity of the credit markets and the volatility of the capital markets could also affect the value of our investments and our ability to liquidate our investments in order to fund our operations.

Interest rates and the ability to access credit markets could also adversely affect the ability of patients, payors and distributors to purchase, pay for and effectively distribute our potential products. Similarly, these macroeconomic factors could affect the ability of our potential future contract manufacturers, sole-source or single-source suppliers, collaboration partners or licensees to remain in business or otherwise develop, manufacture or supply product. Failure by any of them to remain in business could affect our ability to manufacture potential products.

If we engage in acquisitions or licenses in the future, we will incur a variety of costs and we may never realize the anticipated benefits of such acquisitions or licenses.

We may attempt to acquire or license businesses, technologies, services, products or product candidates in the future that we believe are a strategic fit with our business. We have no present agreement regarding any material acquisitions or licenses. However, if we do undertake any acquisitions or licenses, the process of integrating an acquired or licensed business, technology, service, product or product candidate into our business may result in unforeseen operating difficulties and expenditures, including diversion of resources and management’s attention from our core business. In addition, we may fail to retain key executives and employees of the companies we acquire, which may reduce the value of the acquisition or give rise to additional integration costs. Future acquisitions or licenses could result in additional issuances of equity securities that would dilute the ownership of existing stockholders. Future acquisitions or licenses could also result in the incurrence of debt, actual or contingent liabilities or the amortization of expenses related to intangible assets, any of which could adversely affect our operating results.

We have limited experience identifying, negotiating and implementing acquisitions or licenses of additional businesses, technologies, services, products or product candidates, which is a lengthy and complex process. The market for acquiring or licensing businesses, technologies, services, products or product candidates is intensely competitive, and other companies, including some with substantially greater financial, marketing and sales resources, may also pursue strategies to acquire or license businesses, technologies, products or product candidates that we may consider attractive. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us.

We have limited resources to identify and execute the acquisition or licensing of additional businesses, technologies, services, products, or product candidates and integrate them into our current infrastructure. Moreover, we may devote resources to potential acquisitions or licensing opportunities that are never completed, or we may fail to realize the anticipated benefits of such efforts. We may not be able to acquire or license the rights to additional businesses, technologies, services, products or product candidates on terms that we find acceptable, or at all. In particular, any product candidate that we acquire or license may require additional development efforts prior to commercial sale, including extensive clinical testing and approval by the FDA and applicable foreign regulatory authorities. All product candidates are prone to risks of failure typical of pharmaceutical product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities.

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Business interruptions could delay the development of our potential products and our manufacturing acitivies, and could disrupt our potential sales.

Our principal executive offices are located in Irvine, California, our clinical and finance operations are located in Bedminster, New Jersey and our research and development facility is located in Durham, North Carolina. We also have offices in Malta and Ireland and recently signed a lease for a new manufacturing plant in Ireland. We are vulnerable to natural disasters, such as severe storms and other events that could disrupt our operations. We carry limited insurance for natural disasters and we may not carry sufficient business interruption insurance to compensate us for losses that may occur. Any losses or damages we incur could have a material adverse effect on our business operations.

Our business and operations would suffer in the event of system failures.

Despite the implementation of security measures, our internal computer systems, and those of our CROs and other third parties on which we rely, are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our drug development programs, manufacturing activities and/or potential commercialization efforts. For example, the loss of clinical trial data from completed or ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development or commercialization of our current and potential future product candidates could be delayed.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

As a public company, we are subject to the periodic reporting requirements of the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

If product liability lawsuits are successfully brought against us, our insurance may be inadequate and we may incur substantial liability.

We face an inherent risk of product liability claims as a result of the clinical testing of our product candidates. We will face an even greater risk if we commercially sell our potential products or any other product candidate that we develop. We maintain primary product liability insurance and excess product liability insurance that cover our clinical trials, and we plan to maintain insurance against product liability lawsuits for commercial sale of our potential products. Historically, the potential liability associated with product liability lawsuits for pharmaceutical products has been unpredictable. Although we believe that our current insurance is a reasonable estimate of our potential liability and represents a commercially reasonable balancing of the level of coverage as compared to the cost of the insurance, we may be subject to claims in connection with our clinical trials and, in the future, commercial use of our potential products, for which our insurance coverage may not be adequate, and the cost of any product liability litigation or other proceeding, even if resolved in our favor, could be substantial.

For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Large judgments have been awarded in class action lawsuits based on drugs that

had unanticipated adverse effects. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Regardless of the merits or eventual outcome, liability claims may result in:

- reduced resources of our management to pursue our business strategy;
- decreased demand for our product candidates or products that we may develop;

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- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- termination of clinical trial sites or entire trial programs;
- initiation of investigations by regulators;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- significant costs to defend resulting litigation;
- diversion of management and scientific resources from our business operations;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize any products that we may develop.

We will need to increase our insurance coverage if and when we begin selling our product candidates if and when they receive marketing approval. However, the product liability insurance we will need to obtain in connection with the commercial sales of our product candidates if and when they receive regulatory approval may be unavailable in meaningful amounts or at a reasonable cost. In addition, insurance coverage is becoming increasingly expensive. If we are unable to obtain or maintain sufficient insurance coverage at an acceptable cost or to otherwise protect against potential product liability claims, it could prevent or inhibit the development and commercial production and sale of our product candidates if and when they obtain regulatory approval, which could materially adversely affect our business, financial condition, results of operations, cash flows and prospects.

Additionally, we do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include general liability, employment practices liability, property, auto, workers' compensation, products liability and directors' and officers' insurance. We do not know, however, if we will be able to maintain insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would materially adversely affect our financial position, cash flows and results of operations.

Risks Related to Ownership of Our Common Stock

The market price of our common stock has been, and may continue to be, highly volatile.

Our stock price has been volatile and is likely to continue to be volatile. The following factors, in addition to other factors described in this "Risk Factors" section, may have a significant impact on the market price of our common stock:

- the results of our testing and clinical trials, including the results of our Phase 3 registration trials for Rhopressa™ and Roclatan™;
- announcements of regulatory approval or a complete response letter, or specific label indications or patient populations for its use, or changes or delays in the regulatory review process;
- announcements of therapeutic innovations or new products by us or our competitors;
- adverse actions taken by regulatory agencies with respect to our clinical trials, manufacturing supply chain or sales and marketing activities;
- any adverse changes to our relationships with manufacturers, suppliers, licensees or collaboration partners;
- the results of our efforts to develop, acquire or license additional product candidates or technologies;
- variations in the level of expenses related to our existing product candidates or preclinical and clinical development programs;
- any intellectual property infringement actions in which we may become involved;
- announcements concerning our competitors or the pharmaceutical industry in general;
- achievement of expected product sales and profitability;
- manufacture, supply or distribution shortages;
- actual or anticipated fluctuations in our quarterly or annual operating results;

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- changes in financial estimates or recommendations by securities analysts;
- trading volume of our common stock;
- sales of our common stock by us, our executive officers and directors or our stockholders in the future;
- general economic and market conditions and overall fluctuations in the capital markets;
- changes in accounting principles; and
- the loss of any of our key scientific or management personnel.

In addition, the stock market, in general, and small pharmaceutical and biotechnology companies have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. Further, any decline in the financial markets and related factors beyond our control may cause our stock price to decline rapidly and unexpectedly.

We previously had been named a defendant in a purported securities class action lawsuit. This, and any additional securities litigation, could result in substantial damages and may divert management's time and attention from our business.

A putative securities class action lawsuit captioned Kelley et al. v. Aerie Pharmaceuticals, Inc., et al., Case No. 3:15-cv-03007, was filed against us and certain of our officers and directors in the United States District Court for the District of New Jersey on April 29, 2015. An amended complaint was filed on September 28, 2015 on behalf of a purported class of persons and entities who purchased or otherwise acquired our publicly traded securities between June 25, 2014 and April 23, 2015. The amended complaint asserted claims under the Securities Exchange Act of 1934, as amended, and alleged that the defendants made materially false and misleading statements or omitted allegedly material information during that period related to, among other things, the prospects of our initial Phase 3 registration trial of Rhopressa™, named "Rocket 1," and Rhopressa™. On November 30, 2015, the defendants filed a motion to dismiss the amended complaint. On June 20, 2016, the United States District Court for the District of New Jersey granted the defendants' motion to dismiss the amended complaint. The time for a motion for reconsideration and/or appeal has expired. The matter has now concluded.

If our stock price experiences volatility, we may be the subject of additional securities litigation in the future. Litigation of this type could result in substantial costs and diversion of management's attention and resources, which could adversely impact our business. Monitoring and defending against legal actions is time-consuming for our management and detracts from our ability to fully focus on our business activities. Any adverse determination in litigation could also subject us to significant liabilities.

Certain of our existing stockholders, executive officers and directors own a significant percentage of our common stock and may be able to influence or control matters submitted to our stockholders for approval.

Our officers and directors, and stockholders who own more than 5% of our outstanding common stock, beneficially own approximately 51.7% of our common stock as of December 31, 2016. This significant concentration of share ownership may adversely affect the trading price for our common stock because investors often perceive disadvantages in owning stock in companies with ownership concentration. Some or all of our stockholders may be able to influence or determine matters requiring stockholder approval. The interests of these stockholders may not always coincide with our interests or the interests of other stockholders.

This may also prevent or discourage unsolicited acquisition proposals or offers for our common stock that other stockholders may feel are in their best interest, and certain of our existing stockholders may act in a manner that advances their best interests and not necessarily those of other stockholders, including seeking a premium value for their common stock, and might affect the prevailing market price for our common stock.

Additionally, under certain circumstances, our amended and restated certificate of incorporation renounces any interest or expectancy that we have in, or in being offered an opportunity to participate in, corporate opportunities that are presented to certain of our existing stockholders or their affiliates and certain other related parties (whether or not

any such person is our director). These provisions will apply even if the opportunity is one that we might reasonably have pursued or had the ability or desire to pursue if granted the opportunity to do so.

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Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.
Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.
If securities or industry analysts do not publish or cease publishing research or reports about us, our business or our market, or if they adversely change their recommendations or publish negative reports regarding our business or our stock, 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 may publish about us, our business, our market or our competitors. We do not have any control over these analysts and we cannot provide any assurance that analysts will continue to cover us or provide favorable coverage. If any of the analysts who may cover us adversely change their recommendation regarding our stock, or provide more favorable relative recommendations about our competitors, our stock price could decline. If any analyst who may cover us were to cease coverage of our company or fail 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.

Because we do not intend to declare cash dividends on our shares of common stock in the foreseeable future, stockholders must rely on appreciation of the value of our common stock for any return on their investment.
We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends in the foreseeable future. In addition, the terms of the 2014 Convertible Notes and any future debt agreements may preclude us from paying dividends. As a result, we expect that only appreciation of the price of our common stock, if any, will provide a return to investors for the foreseeable future.
The requirements associated with being a public company require significant company resources and management attention.
We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, the listing requirements of the securities exchange on which our common stock is traded, and other applicable securities rules and regulations. The Exchange Act requires that we file annual, quarterly and current reports with respect to our business and financial condition and maintain effective disclosure controls and procedures and internal control over financial reporting. In addition, subsequent rules implemented by the SEC and NASDAQ may also impose various additional requirements on public companies. As a result, we have incurred, and we will continue to incur, additional legal, accounting and other expenses that we did not incur as a nonpublic company, particularly after we are no longer an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. Further, the need to establish the corporate infrastructure demanded of a public company may divert management’s attention from implementing our growth strategy. We have made, and will continue to make, changes to our corporate governance standards, disclosure controls and financial reporting and accounting systems to meet our reporting obligations. However, the measures we take may not be sufficient to satisfy our obligations as a public company, which could subject us to delisting of our common stock, fines, sanctions and other regulatory action and potentially civil litigation.
The JOBS Act allows us to postpone the date by which we must comply with some of the laws and regulations intended to protect investors and to reduce the amount of information we provide in our reports filed with the SEC, which could undermine investor confidence in our company and adversely affect the market price of our common stock.
For so long as we remain an “emerging growth company” as defined in the JOBS Act, we may take advantage of certain exemptions from various requirements that are applicable to public companies that are not “emerging growth companies” including:

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the provisions of Section 404(b) of the Sarbanes-Oxley Act requiring that our independent registered public accounting firm provide an attestation report on the effectiveness of our internal control over financial reporting;

- the "say on pay" provisions (requiring a non-binding stockholder vote to approve compensation of certain executive officers) and the "say on golden parachute" provisions (requiring a non-binding stockholder vote to approve golden parachute arrangements for certain executive officers in connection with mergers and certain other business combinations) of the Dodd-Frank Act and some of the disclosure requirements of the Dodd-Frank Act relating to compensation of its chief executive officer; and

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- the requirement to provide detailed compensation discussion and analysis in proxy statements and reports filed under the Exchange Act, and instead provide a reduced level of disclosure concerning executive compensation.

We currently take advantage of some, but not all, of the reduced regulatory and reporting requirements that are available to us so long as we qualify as an "emerging growth company." For example, we have irrevocably elected under Section 107 of the JOBS Act not to take advantage of the extension of time to comply with new or revised financial accounting standards available under Section 102(b) of the JOBS Act. Our independent registered public accounting firm is not required to provide an attestation report on the effectiveness of our internal control over financial reporting so long as we qualify as an "emerging growth company," which may increase the risk that weaknesses or deficiencies in our internal control over financial reporting go undetected. Likewise, so long as we qualify as an "emerging growth company," we may elect not to provide investors with certain information, including certain financial information and certain information regarding compensation of our executive officers, that we would otherwise have been required to provide in filings we make with the SEC, which may make it more difficult for investors and securities analysts to evaluate our company. We cannot predict if investors will find our common stock less attractive because we may 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 and may decline.

We may take advantage of these exemptions until we are no longer an "emerging growth company." We would cease to be an "emerging growth company" upon the earliest of: (i) December 31, 2018; (ii) the last day of the first fiscal year in which our annual gross revenues are $1 billion or more; (iii) the date on which we have, during the previous three-year period, issued more than $1 billion in non-convertible debt securities; or (iv) as of the end of any fiscal year in which the market value of our common stock held by non-affiliates exceeded $700 million as of the end of the second quarter of that fiscal year.

If the market value of our common stock held by non-affiliates continues to exceed $700 million as of June 30, 2017, as of the end of the year ending December 31, 2017, we would cease to be an "emerging growth company." If we cease to be an "emerging growth company," beginning with our annual report on Form 10-K for the year ending December 31, 2017, we will be subject to Section 404(b) of the Sarbanes-Oxley Act, which requires that our independent registered public accounting firm provide an attestation report on the effectiveness of our internal control over financial reporting. Compliance with Section 404 will be expensive and time consuming for management and could result in the detection of internal control deficiencies of which we are currently unaware. Moreover, if we have a material weakness in our internal controls over financial reporting, we may not detect errors on a timely basis, and our financial statements may be materially misstated. We or our independent registered public accounting firm may not be able to conclude on an ongoing basis that we have effective internal controls over financial reporting, which could harm our operating results, cause investors to lose confidence in our reported financial information and cause the trading price of our common stock to fall. In addition, as a public company we are required to file accurate and timely quarterly and annual reports with the SEC under the Exchange Act. Any failure to report our results of operations on an accurate and timely basis could result in sanctions, lawsuits, delisting of our shares from The Nasdaq Global Market or other adverse consequences that would materially harm our business.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our restated certificate of incorporation and our bylaws, as well as provisions of the Delaware General Corporation Law, or DGCL, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions include:

- establishing a classified board of directors such that not all members of the board are elected at one time;
- allowing the authorized number of our directors to be changed only by resolution of our board of directors;

- limiting the removal of directors by the stockholders;
- authorizing the issuance of "blank check" preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;
- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;
- eliminating the ability of stockholders to call a special meeting of stockholders;

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- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings; and
- requiring the approval of the holders of at least 75% of the votes that all our stockholders would be entitled to cast to amend or repeal our bylaws.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, we are subject to Section 203 of the DGCL, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with an interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder, unless such transactions are approved by our board of directors. This provision could have the effect of delaying or preventing a change of control, whether or not it is desired by or beneficial to our stockholders.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our principal executive offices are located in Irvine, California, our clinical and finance operations are located in Bedminster, New Jersey and our research and development facility is located in Durham, North Carolina. We also have offices in Malta and Ireland and recently signed a lease for a new manufacturing plant in Athlone, Ireland. Our Irvine, California location consists of approximately 14,500 square feet of office space under a lease that expires in January 2021 and our Bedminster, New Jersey location consists of approximately 16,000 square feet of office space under a lease that expires in August 2020. Our Durham, North Carolina research and development facility consists of approximately 19,500 square feet of laboratory and office space under a lease that expires in January 2022. Our new manufacturing plant in Ireland consists of approximately 30,000 square feet of interior floor space for future build-out and is under lease through at least September of 2027. We may require additional space and facilities as our business expands.

ITEM 3. LEGAL PROCEEDINGS

We may periodically become subject to legal proceedings and claims arising in connection with our business. Except as set forth below, we are not a party to any known litigation, are not aware of any unasserted claims and do not have contingency reserves established for any litigation liabilities.

A putative securities class action lawsuit captioned Kelley et al. v. Aerie Pharmaceuticals, Inc., et al., Case No. 3:15-cv-03007, was filed against us and certain of our officers and directors in the United States District Court for the District of New Jersey on April 29, 2015. An amended complaint was filed on September 28, 2015 on behalf of a purported class of persons and entities who purchased or otherwise acquired our publicly traded securities between June 25, 2014 and April 23, 2015. The amended complaint asserted claims under the Securities Exchange Act of 1934, as amended, and alleged that the defendants made materially false and misleading statements or omitted allegedly material information during that period related to, among other things, the prospects of our initial Phase 3 registration trial of Rhopressa™, named “Rocket 1,” and Rhopressa™. On November 30, 2015, the defendants filed a motion to dismiss the amended complaint. On June 20, 2016, the United States District Court for the District of New Jersey granted the defendants’ motion to dismiss the amended complaint. The time for a motion for reconsideration and/or appeal has expired. The matter has now concluded.

ITEM 4. MINE SAFETY DISCLOSURES

None.

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PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Our common stock is traded on the NASDAQ Global Market under the symbol "AERI." On February 28, 2017, the closing price for our common stock as reported on the NASDAQ Global Market was $47.35. The following table sets forth the high and low intraday sale prices per share of our common stock for the periods indicated as reported by the NASDAQ Global Market.

	High	Low
2016		
Fourth Quarter	$43.40	$32.05
Third Quarter	41.72	16.61
Second Quarter	19.99	11.89
First Quarter	24.08	10.82
2015		
Fourth Quarter	$28.21	$16.52
Third Quarter	33.25	14.29
Second Quarter	35.89	8.84
First Quarter	32.07	22.36

Stockholders

As of February 28, 2017, we had 33,626,226 shares of common stock outstanding held by approximately 5 stockholders of record. The actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in "street" name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

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Stock Performance Graph

The following graph illustrates a comparison of the total cumulative stockholder return on our common stock since October 25, 2013, which is the date our common stock first began trading on the NASDAQ Global Market, to two indices: the NASDAQ Composite Index and the NASDAQ Biotechnology Index. The graph assumes an initial investment of $100 on October 25, 2013, in our common stock and in each index. It also assumes reinvestment of dividends, if any. Historical stockholder return shown is not necessarily indicative of future performance, and we do not make or endorse any predictions as to future stockholder returns.

*This performance graph shall not be deemed “soliciting material” or be deemed “filed” for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

Dividend Policy

We have not declared or paid any cash dividends on our capital stock in the last two fiscal years. We currently anticipate that we will retain future earnings, if any, for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends in the foreseeable future. In addition, the terms of our current and any future debt agreements may preclude us from paying dividends. As a result, we anticipate that only appreciation of the price of our common stock, if any, will provide a return to investors for at least the foreseeable future.

Purchase of Equity Securities

We did not purchase any of our equity securities during the period covered by this report.

Recent Sales of Unregistered Securities

None.

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Use of Proceeds from Registered Securities

On November 3, 2014, we filed a shelf registration statement on Form S-3 (the "2014 Registration Statement") that permitted the offering, issuance and sale by us of up to a maximum aggregate offering price of $150.0 million of our common stock and permits sales of common stock by certain selling stockholders.

From November 10, 2014 through December 31, 2016, we issued and sold 5,933,712 shares of common stock under our former "at-the-market" sales agreements, of which 4,179,156 shares were issued and sold during the year ended December 31, 2016, and received net proceeds of approximately $146.6 million, of which $96.2 million were received during the year ended December 31, 2016, in each case, after deducting commissions at a rate of up to 3% of the gross sales price per share sold and other fees and expenses. Sales under the "at-the-market" sales agreement were made pursuant to the 2014 Registration Statement. As of December 31, 2016, no shares remain available for issuance under the "at-the-market" sales agreements or the 2014 Registration Statement.

Any remaining net proceeds from these sales are held as cash deposits and in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

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ITEM 6. SELECTED FINANCIAL DATA

The following table sets forth our selected financial data for the periods and as of the dates indicated. You should read the following selected financial data together with the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this report and our audited consolidated financial statements and the accompanying notes included elsewhere in this report. We have derived the statements of operations data for the years ended December 31, 2016, 2015 and 2014 and the balance sheet data as of December 31, 2016 and 2015 from our audited consolidated financial statements included elsewhere in this report. We have derived the statement of operations data for the years ended December 31, 2013 and 2012 and the balance sheet data as of December 31, 2014, 2013 and 2012 from our audited consolidated financial statements not included in this report. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period.

	YEAR ENDED DECEMBER 31,				
	2016	2015	2014	2013	2012
	(in thousands)				
Statement of Operations Data:					
General and administrative	$(44,478)	$(30,635)	$(20,103)	$(10,287)	$(5,020)
Research and development	(52,394)	(44,451)	(29,869)	(11,883)	(9,273)
Loss from operations	(96,872)	(75,086)	(49,972)	(22,170)	(14,293)
Other income (expense), net	(1,994)	862	1,839	(8,978)	(685)
Net loss before income taxes	$(98,866)	$(74,224)	$(48,133)	$(31,148)	$(14,978)
Income tax expense	(193)	(139)	—	—	—
Net loss	$(99,059)	$(74,363)	$(48,133)	$(31,148)	$(14,978)
Net loss attributable to common stockholders—basic and diluted[1]	$(99,059)	$(74,363)	$(48,133)	$(31,598)	$(15,643)
Net loss per share attributable to common stockholders—basic and diluted[1]	$(3.40)	$(2.88)	$(2.00)	$(6.38)	$(16.39)
Weighted average number of common shares outstanding—basic and diluted[1]	29,135,583	25,781,230	24,086,651	4,955,760	954,695

	AS OF DECEMBER 31,				
	2016	2015	2014	2013	2012
	(in thousands)				
Balance Sheet Data:					
Cash and cash equivalents	$197,945	$91,060	$85,586	$69,649	$2,925
Short-term investments	35,717	45,502	54,339	—	—
Long-term investments	—	13,808	18,275	—	—
Total assets	248,254	159,127	159,835	70,458	3,219
Notes payable, net of discount, and accrued interest thereon	—	—	—	—	2,347
Warrants liability—related parties	—	—	—	—	2,456
Convertible notes, net of discounts	123,539	123,236	122,906	—	—
Convertible preferred stock	—	—	—	—	60,898
Total stockholders' equity (deficit)	105,344	18,775	28,042	66,976	(63,919)

(1) Prior to 2014, net loss attributable to common stockholders reflects the accretion on convertible preferred stock and, where applicable, preferred stock dividends. See Note 2 to our audited consolidated financial statements

appearing elsewhere in this report for an explanation of the method used to calculate the basic and diluted net loss per share attributable to common stockholders.

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ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following management's discussion and analysis should be read in conjunction with our audited financial statements and related notes that appear elsewhere in this Annual Report on Form 10-K. This management's discussion and analysis contains forward-looking statements that involve risks and uncertainties. Please see "Special Note Regarding Forward-Looking Statements" for additional factors relating to such statements, and see "Risk Factors" in Part I, Item 1A of this report for a discussion of certain risk factors applicable to our business, financial condition and results of operations. Past operating results are not necessarily indicative of operating results in any future periods.

Overview

We are a clinical-stage pharmaceutical company focused on the discovery, development and commercialization of first-in-class therapies for the treatment of patients with glaucoma and other diseases of the eye. Our two advanced stage product candidates are designed to lower intraocular pressure, or IOP, in patients with open-angle glaucoma and ocular hypertension. Both product candidates are small molecule eye-drops dosed once-daily and have shown in preclinical and clinical trials to be effective in lowering IOP, with novel mechanisms of action, or MOAs, and a positive safety profile.

Our lead product candidate is once-daily Rhopressa™ ophthalmic solution (netarsudil ophthalmic solution) 0.02% ("Rhopressa™"). We resubmitted our new drug application ("NDA") with the U.S. Food and Drug Administration ("FDA") fo Rhopressa™ on February 28, 2017 and expect a standard 12-month FDA review period for the NDA from the date of resubmission. Our initial submission, announced in September 2016, was withdrawn as a result of a contract manufacturer of our drug product not being prepared for pre-approval inspection by the FDA. The NDA submission included our second Phase 3 registration trial for Rhopressa™, named "Rocket 2," as the pivotal clinical trial and our initial Phase 3 registration trial, named "Rocket 1," as supportive in nature. We successfully completed the 90-day efficacy component of Rocket 2 in September 2015 when the trial achieved its primary efficacy endpoint of demonstrating non-inferiority of Rhopressa™ compared to timolol. The final primary baseline IOPs for Rocket 2 were above 20 mmHg, or millimeters of mercury, to below 25 mmHg. We also included as supportive data the 90-day efficacy results of Rocket 4 and Mercury 1, each as further discussed below, with the NDA submission for Rhopressa™. In Rocket 2, in addition to successfully achieving non-inferiority to timolol at the primary efficacy endpoint range, the 12-month safety data from this registration trial also confirmed a positive safety profile for the drug and demonstrated a consistent IOP lowering effect throughout the 12-month period at the specified 8 a.m. measurement time points. In the primary efficacy results from Mercury 1, Rhopressa™ demonstrated non-inferiority to latanoprost, the most commonly prescribed drug for the treatment of patients with glaucoma.

We are also conducting a third Phase 3 registration trial for Rhopressa™, named "Rocket 3," in Canada, which is designed as a supplementary 12-month safety-only trial and is not required for NDA filing purposes. Rocket 3 commenced in September 2014 and patients are no longer being enrolled in this trial.

Further, we are conducting a fourth Phase 3 registration trial for Rhopressa™, named "Rocket 4," in the U.S., which is designed to generate adequate six-month safety data for European regulatory approval, which we expect to file for in the second half of 2018. In October 2016, we announced the 90-day efficacy results from Rocket 4 where Rhopressa™ achieved its primary efficacy endpoint of demonstrating non-inferiority of Rhopressa™ compared to timolol for patients with baseline IOPs ranging from above 20 mmHg to below 25 mmHg, and also at a pre-specified secondary range from above 20 mmHg to below 28 mmHg.

We are developing Rhopressa™ as the first of a new class of compounds that is designed to lower IOP in patients through novel MOAs. We believe that, if approved, Rhopressa™ will represent the first new MOAs for lowering IOP in patients with glaucoma in over 20 years. Based on preclinical studies and clinical data to date, we expect that

Rhopressa™, if approved, will have the potential to compete with non-PGA (prostaglandin analog) products as a preferred adjunctive therapy to PGAs, due to its targeting of the diseased tissue known as the trabecular meshwork, or TM, its demonstrated IOP-lowering ability at consistent levels across tested baselines with once-daily dosing relative to currently marketed non-PGA products, its potential synergistic effect with PGA products, its once daily dosing and its lack of serious drug related adverse events. In addition, if approved, we believe that Rhopressa™ may also potentially become a preferred therapy where PGAs are contraindicated, for patients who do not respond to PGAs, for patients who have lower IOPs but nevertheless present with glaucomatous damage to

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the optic nerve, which is commonly referred to as “low-tension” or “normal tension” glaucoma, as well as for patients who choose to avoid the cosmetic issues associated with PGA products.

Our second product candidate, once-daily Roclatan™ ophthalmic solution (netarsudil/latanoprost ophthalmic solution) 0.02%/0.005% (“Roclatan™”), is a fixed-dose combination of Rhopressa™ and latanoprost, the most commonly prescribed drug for the treatment of patients with open-angle glaucoma. The first Phase 3 registration trial for Roclatan™, named “Mercury 1,” which is a 12-month safety trial with a 90-day efficacy readout, commenced in September 2015 and, in September 2016, we announced that Mercury 1 achieved its primary efficacy endpoint of demonstrating superiority of Roclatan™ to each of its components.

The trial is designed to evaluate patients with maximum baseline IOPs ranging from above 20 mmHg to below 36 mmHg at nine measured time points over the 90-day efficacy period. In the 90-day efficacy results, the IOP-lowering effect of Roclatan™ exceeded that of the latanoprost monotherapy in a range of 1.3 mmHg to 2.5 mmHg and that of the Rhopressa™ monotherapy in a range of 1.8 mmHg to 3.0 mmHg. Roclatan™ reduced mean diurnal IOPs to 16 mmHg or lower in 61% of patients, a significantly higher percentage than observed in the comparator arms in the study.

The safety and tolerability results for Roclatan™ from the 90-day efficacy period of Mercury 1 showed no drug-related serious adverse events. The most common adverse event observed in the Roclatan™ arm was conjunctival hyperemia, or eye redness, which was reported in approximately 50% of patients, approximately 80% of which was reported as mild. There were no drug-related serious adverse events for any of the comparators in the trial. We expect to report Mercury 1 topline 12-month safety data in the third quarter of 2017.

The second Phase 3 registration trial for Roclatan™, named “Mercury 2,” commenced in March 2016. Mercury 2 is a 90-day
efficacy and safety trial designed to demonstrate superiority of Roclatan™ to each of its components. We expect to report the
topline 90-day efficacy data for Mercury 2 in the second quarter of 2017. If both Mercury 1 and Mercury 2 are successful, we expect to submit an NDA for Roclatan™ in late 2017 or early 2018, which may be prior to obtaining approval for Rhopressa™. We are permitted to submit the Roclatan™ NDA while the Rhopressa™ is still being reviewed by the FDA.

Mercury 1 and Mercury 2 will also be used for European approval of Roclatan™, and we plan to initiate a third Phase 3 registration trial for Roclatan™, named “Mercury 3,” in Europe in mid-2017. Mercury 3 will be designed to compare Roclatan™ to Ganfort®, a fixed-dose combination product of bimatoprost and timolol marketed in Europe, which if successful, should improve our commercialization prospects in that region.

We believe, based on our preclinical studies and clinical trials to date, that Roclatan™, if approved, will be the only glaucoma product that covers the full spectrum of currently known IOP-lowering MOAs, giving it the potential to provide a greater IOP-lowering effect than any currently marketed glaucoma product. Therefore, we believe that Roclatan™, if approved, could compete with both PGA and non-PGA therapies for patients requiring maximal IOP lowering, including those with higher IOPs and those who present with significant disease progression despite currently available therapies.

Our stated objective is to build a major ophthalmic pharmaceutical company. In addition to our primary product candidates, Rhopressa™ and Roclatan™, we continue to explore the impact of Rhopressa™ on the diseased TM. We have issued several research updates on preclinical results demonstrating that Rhopressa™ may have the potential for disease modification, including stopping and potentially reversing fibrosis in the TM, and also increasing perfusion in the

trabecular outflow pathway thus increasing both drainage and the delivery of nutrients to the diseased tissue. We are also conducting ongoing research to evaluate injectable sustained release formulation technologies with the potential capability of delivering Rhopressa™ internally in the eye over several months for the treatment of glaucoma.

We are also evaluating possible uses of our existing proprietary portfolio of Rho kinase inhibitors beyond glaucoma. Our owned preclinical small molecule, AR-13154, has demonstrated the potential for the treatment of wet age-related macular degeneration (AMD) by inhibiting Rho kinase and Protein kinase C and has shown lesion size decreases in a model of wet AMD at levels similar to current market-leading products, and even greater lesion size reduction in combination with the current market-leading wet AMD anti-VEGF product. As we look forward to next steps for AR-13154, we expect to continue evaluating sustained delivery systems and establish long-term efficacy and pharmacokinetics in preclinical models.

We may enter into research collaboration arrangements, license, acquire or develop additional product candidates and technologies to broaden our presence in ophthalmology, and we continually explore and discuss potential additional opportunities for new ophthalmic products, delivery alternatives and new therapeutic areas with potential partners. Our approach has consistently been to explore opportunities with minimal initial investment allowing us to more fully evaluate

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the probability of success prior to making a material commitment. We are currently focused on the evaluation of delivery technologies for the delivery of our owned molecules to the front and back of the eye over sustained periods. In 2016, we terminated our collaboration and license arrangements with GrayBug, Inc. for drug delivery technology and elected not to extend our collaboration agreement with Ramot at Tel Aviv University, Ltd. for a preclinical anti-beta amyloid molecule. Neither of these collaborations represented a material financial commitment by Aerie.

Our strategy includes developing our business outside of North America, including obtaining regulatory approval on our own for our current product candidates in Europe and Japan. For commercialization outside of North America, we expect to explore partnership opportunities through collaboration and licensing arrangements in Europe and Japan.

In 2015, we revised our corporate structure to align with our business strategy outside of North America by establishing Aerie Pharmaceuticals Limited, a wholly-owned subsidiary ("Aerie Limited"), and Aerie Pharmaceuticals Ireland Limited, a wholly owned subsidiary ("Aerie Ireland Limited"). We assigned the beneficial rights to our non-U.S. and non-Canadian intellectual property for our lead product candidates to Aerie Limited (the "IP Assignment"). As part of the IP Assignment, we and Aerie Limited entered into a research and development cost sharing agreement pursuant to which we and Aerie Limited will share the costs of the development of intellectual property and Aerie Limited and Aerie Ireland Limited entered into a license arrangement pursuant to which Aerie Ireland Limited will develop and commercialize the beneficial rights of the intellectual property assigned as part of the IP Assignment. In 2016, we assigned the beneficial rights to certain of our intellectual property in the United States and Canada to Aerie Distribution, Inc., a wholly owned subsidiary ("Aerie Distribution"), and amended and restated the research and development cost sharing agreement to transfer our rights and obligations under the agreement to Aerie Distribution.

In January 2017, we entered into a lease agreement for a new manufacturing plant in Athlone, Ireland. The building shell was constructed by the Industrial Development Agency of Ireland and we are in the early stages of building out the plant. If we obtain regulatory approval, the manufacturing plant is expected to produce commercial supplies of our current product candidates, with commercial product supply of Rhopressa™ from the plant expected to be available by 2020.

We have incurred net losses since our inception in June 2005. Our operations to date have been limited to research and development and raising capital. As of December 31, 2016, we had an accumulated deficit of $316.6 million. We recorded net losses of $99.1 million, $74.4 million and $48.1 million for the years ended December 31, 2016, 2015 and 2014, respectively. We anticipate that a substantial portion of our capital resources and efforts in the foreseeable future will be focused on completing the development and obtaining regulatory approval and preparing for potential commercialization and manufacturing of our product candidates.

We incurred increased research and development expenses for the year ended December 31, 2016 as compared to the year ended December 31, 2015 as we continued to initiate and conduct clinical trials for Rhopressa™ and Roclatan™ and pursue regulatory approval. As we prepare for commercialization, we will incur increasing levels of commercial, sales, marketing and manufacturing expenses. Since our initial public offering ("IPO") in October 2013, we are also incurring additional expenses associated with operating as a public company. As a result, we expect to continue to incur significant operating losses until such a time when our product candidates are commercially successful, if at all.

Prior to our IPO, we raised net cash proceeds of $78.6 million from the private placement of convertible preferred stock and convertible notes. Prior to and in connection with our IPO, all outstanding shares of convertible preferred stock and all convertible notes were converted into shares of common stock. On October 30, 2013, we completed our IPO and raised net proceeds of approximately $68.3 million, after deducting underwriting discounts and commissions of $5.4 million and expenses of $3.6 million.

Since our IPO, we have issued $125.0 million aggregate principal amount of senior secured convertible notes (the "2014 Convertible Notes"), for which we received net proceeds of approximately $122.9 million, after deducting discounts and certain expenses of $2.1 million, have issued 5,933,712 shares of our common stock under our former "at-the-market" sales agreements, for which we received net proceeds of approximately $146.6 million, after deducting

commissions at a rate of up to 3% of the gross sales price per share sold and other fees and expenses, and have issued 2,542,373 shares of our common stock pursuant to an underwriting agreement, dated September 15, 2016, with Cantor Fitzgerald & Co., for which we received net proceeds of approximately $71.0 million, after deducting the underwriting discount, fees and expenses of approximately $4.0 million.

Our cash, cash equivalents and investments totaled $233.7 million as of December 31, 2016 and are currently expected to provide sufficient resources for our ongoing needs. See “-Operating Capital Requirements.”

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To date, we have not generated product revenue and we do not expect to generate product revenue unless and until we successfully complete development and obtain regulatory approval for one or more of our product candidates. If we do not successfully commercialize any of our product candidates, we may be unable to generate product revenue or achieve profitability.

We may be required to obtain further funding through public or private offerings, debt financing, collaboration and licensing arrangements or other sources. Adequate additional funding may not be available to us on acceptable terms, or at all. If we are unable to raise capital when needed or on acceptable terms, we would be forced to delay, reduce or eliminate our research and development programs or commercialization or manufacturing efforts.

Financial Overview

Revenue

We have not generated any revenue from the sale of any products, and we do not expect to generate any revenue unless or until we obtain regulatory approval of and commercialize our product candidates.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries, benefits and stock-based compensation for all officers and employees in general management, marketing, finance and administration. Other significant expenses include commercial related manufacturing costs, facilities expenses and professional fees for audit, tax, legal and other services.

We expect that our general and administrative expenses will increase with the continued advancement of our product candidates and with our increased management, legal, compliance and accounting expenses as we continue to grow. We expect these increases will likely be associated with manufacturing, commercialization and related activities, the hiring of additional personnel and outside service provider activities.

Research and Development Expenses

Since our inception, we have focused on our development programs. Research and development expenses consist primarily of costs incurred for the research and development of our preclinical and clinical candidates, which include:

- employee-related expenses, including salaries, benefits, travel and stock-based compensation expense for research and development personnel;
- expenses incurred under agreements with contract research organizations (“CROs”), contract manufacturing organizations and service providers that assist in conducting clinical trials and preclinical studies;
- costs associated with preclinical activities and development activities;
- costs associated with regulatory operations; and
- depreciation expense for assets used in research and development activities.

We expense research and development costs to operations as incurred. The costs for certain development activities, such as clinical trials, are recognized based on the terms of underlying agreements as well as an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations along with additional information provided to us by our vendors.

Expenses relating to activities, such as manufacturing and stability and toxicology studies, that are supportive of the product candidate itself, are classified as direct non-clinical. Expenses relating to clinical trials and similar activities, including costs associated with CROs and FDA related fees, are classified as direct clinical. Expenses relating to activities that support more than one development program or activity such as personnel costs, stock-based compensation and depreciation are not allocated to direct clinical or non-clinical expenses and are separately classified as “unallocated.”

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The following table shows our research and development expenses by product candidate and by type of activity for the years ended December 31, 2016, 2015 and 2014:

	YEAR ENDED DECEMBER 31,		
	2016	2015	2014
	(in thousands)		
Rhopressa™			
Direct non-clinical	$2,631	$6,958	$8,765
Direct clinical	9,944	15,635	10,994
Total	$12,575	$22,593	$19,759
Roclatan™			
Direct non-clinical	$2,640	$2,151	$690
Direct clinical	15,366	4,240	1,869
Total	$18,006	$6,391	$2,559
Other research and development activities	$1,955	$1,110	$90
Unallocated	$19,858	$14,357	$7,461
Total research and development expense	$52,394	$44,451	$29,869

Our research and development expenditures are subject to numerous uncertainties in timing and cost to completion. Development timelines, the probability of success and development expenses can differ materially from expectations. The cost of clinical trials may vary significantly over the life of a project as a result of differences arising during clinical development, including, among others, the following:

- number of trials required for approval;
- number of sites included in the trials;
- length of time required to enroll suitable patients;
- number of patients that participate in the trials;
- drop-out or discontinuation rates of patients;
- duration of patient follow-up;
- costs related to compliance with regulatory requirements;
- number and complexity of analyses and tests performed during the trial;
- phase of development of the product candidate; and
- efficacy and safety profile of the product candidate.

Our expenses related to clinical trials are based on estimates of patient enrollment and related expenses at clinical investigator sites as well as estimates for the services received and efforts expended pursuant to contracts with research institutions, consultants and CROs that assist in conducting and managing clinical trials. We accrue expenses related to clinical trials based on contracted amounts applied to the level of patient enrollment and activity according to the protocol. If future timelines or contracts are modified based upon changes in the clinical trial protocol or scope of work to be performed, we modify our estimates of accrued expenses accordingly on a prospective basis. Historically, such modifications have not been material.

Direct costs associated with collaboration arrangements and other pipeline opportunities are included in Other research and development activities. Internal personnel costs associated with these activities are included in Unallocated expenses.

As a result of the uncertainties discussed above, we are unable to determine with certainty the duration and completion costs of our development programs or precisely when and to what extent we will receive revenue from the commercialization and sale of any products that we may develop. We may never succeed in achieving regulatory approval for one or more of our product candidates. The duration, costs and timing of clinical trials and development

of any product candidate will depend on a variety of factors, including the uncertainties of future preclinical studies and clinical trials, uncertainties in the clinical trial enrollment rate and changing government regulation. In addition, the probability of success for each product candidate will depend on

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numerous factors, including efficacy and tolerability profiles, manufacturing capability, competition, market acceptance and commercial viability.

Other Income (Expense), Net

Other income primarily consists of interest earned on our cash and cash equivalents and investments as well as the net proceeds from the sale of our net operating loss tax benefits for the state of New Jersey. Refer to Note 3 to our audited consolidated financial statements appearing elsewhere in this report for further information.

Other expense consists of interest expense under the 2014 Convertible Notes, amortization and accretion of debt discounts and premiums and other miscellaneous expense.

Critical Accounting Policies and Use of Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or U.S. GAAP. The preparation of consolidated financial statements also requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, costs and expenses and related disclosures. We evaluate our estimates and judgments on an ongoing basis. Significant estimates include assumptions used in the determination of stock-based compensation and certain research and development expenses. We base our estimates on historical experience and on various other factors that we believe are 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. Our significant accounting policies are more fully described in Note 2 to our audited consolidated financial statements included elsewhere in this report. The following accounting policies are the most critical in fully understanding and evaluating our reported financial results and affect significant judgments and estimates that we use in the preparation of our financial statements.

Accrued Expenses

As part of the process of preparing our consolidated financial statements, we are required to estimate accrued expenses. This process involves reviewing open contracts and purchase orders, communicating with applicable vendor 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. We make estimates of our accrued expenses as of each balance sheet date in our consolidated financial statements based on facts and circumstances known to us. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary. Examples of estimated accrued expenses include:

- fees paid to CROs in connection with clinical trials;
- fees paid to investigative sites in connection with clinical trials;
- fees paid to contract manufacturing organizations and service providers that assist in conducting preclinical and clinical trials; and
- fees paid to service providers for audit, tax, legal and other services.

We accrue our expenses related to clinical trials based on our estimates of the services received and efforts expended pursuant to contracts with multiple research institutions and CROs that conduct research activities and/or manage clinical trials on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. Payments under some of these contracts depend on factors such as the successful enrollment of patients and the completion of clinical trial milestones. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If the level of effort varies from our estimate, we will adjust the accrual accordingly.

If we underestimate or overestimate the level of services performed or the costs of these services, our actual expenses could differ from our estimates. Although we do not currently anticipate the future settlement of existing accruals to differ materially from our estimates, our understanding of the status and timing of services performed relative to the actual status and timing of

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services performed may vary and could result in us reporting amounts that are too high or too low for any period. There have been no material changes in estimates for the periods presented.

Fair Value Measurements

We record certain financial assets and liabilities at fair value based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. The fair value of our financial instruments, including cash and cash equivalents, short-term investments, other current assets, accounts payable and accrued expenses approximate their respective carrying values due to the short-term nature of these instruments. The carrying amounts of long-term investments represent their estimated fair values. The estimated fair value of the 2014 Convertible Notes was $209.6 million and $140.1 million as of December 31, 2016 and 2015, respectively. The increase in the estimated fair value of the 2014 Convertible Notes was primarily attributable to the change in the closing price of our common stock on December 31, 2016 as compared to December 31, 2015.

Stock-Based Compensation

We recognize compensation costs related to stock options granted to employees ratably over the requisite service period, which in most cases is the vesting period of the award for employees, based on the estimated fair value of the awards on the date of grant. Compensation expense for options granted to non-employees is determined as the fair value of consideration received or the fair value of the equity instruments issued, whichever is more reliably measured. The fair value of the awards granted to non-employees is re-measured each period until the related service is complete. Compensation expense related to restricted stock awards is based on the market value of our common stock on the grant date and is expensed ratably over the vesting period. Compensation expense for stock purchase rights under our employee stock purchase plan is measured and recognized on the date that we become obligated to issue shares of our common stock and is based on the difference between the fair value of our common stock and the purchase price on such date.

Stock-based compensation expense was $16.8 million, $12.9 million and $9.2 million for the years ended December 31, 2016, 2015 and 2014, respectively. As of December 31, 2016, we had $29.0 million of unrecognized compensation expense.

The intrinsic value of all stock options outstanding as of December 31, 2016 was $123.6 million, of which $88.7 million and $34.9 million related to stock options that were vested and unvested, respectively, at that date.

Significant Factors, Assumptions and Methodologies Used in Determining Fair Value

Determining the appropriate fair value measurement of stock-based awards requires the use of subjective assumptions. In the absence of a public trading market for our common stock prior to the completion of our IPO, we conducted periodic assessments of the valuation of our common stock. The determination of the fair value measurement of options using the Black-Scholes option pricing model is affected by our estimated common stock fair values as well as assumptions regarding a number of other subjective variables. These other variables include the expected term of the options, our expected stock price volatility over the expected term of the options, stock option exercise and cancellation behaviors, risk-free interest rates and expected dividends.

We estimated the fair value of stock options at the grant date using the following assumptions:

- Fair Value of our Common Stock. For all stock options granted after the completion of our IPO, the fair value for our underlying common stock is determined using the closing price on the date of grant as reported on the NASDAQ Global Market. For all stock options granted prior to the completion of our IPO, the fair value for our underlying common stock was determined by our board of directors in its sole discretion based on recommendations from management and taking into account advice and assistance provided by third-party valuation consultants engaged to assist us in connection with such valuations.
- Volatility. We calculate expected volatility based on our historical volatility in combination with reported data for a selected group of similar publicly traded companies, or guideline peer group, for which the relevant historical information is available. We selected representative companies from the pharmaceutical industry with similar characteristics to us, including stage of product development and therapeutic focus. We will continue to use a

combination of our historical volatility and the guideline peer group volatility information for the foreseeable future.

- Expected Term. We used the simplified method as prescribed by the SEC Staff Accounting Bulletin No. 107, Share-Based Payment, as we do not have sufficient historical exercise and post-vesting termination data to

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provide a reasonable basis upon which to estimate the expected term of stock options granted to employees. The simplified method is based on the vesting period and the contractual term for each grant, or for each vesting-tranche for awards with graded vesting. The midpoint between the vesting date and the maximum contractual expiration date is used as the expected term under this method.

- Risk-free Rate. The risk-free interest rate is based on the yields of U.S. Treasury securities with maturities similar to the expected time to exercise.
- Forfeiture. Forfeitures are estimated such that we only recognize expense for the shares expected to vest, and adjustments are made if actual forfeitures differ from those estimates. We estimate our annual forfeiture rates based on our historical analysis of actual stock option forfeitures and our future expectations.
- Dividend Yield. Except for a one-time cash dividend related to the spin-off of certain non-core intellectual property that occurred in 2012, we have never declared or paid any cash dividends and do not presently plan to pay cash dividends in the foreseeable future.

The estimation of the number of stock awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from our current estimates, such amounts will be recorded as a cumulative adjustment in the period in which estimates are revised.

Key weighted average assumptions utilized in the fair value calculation for the underlying common stock as of December 31, 2016, 2015 and 2014 appear in the table below.

	YEAR ENDED DECEMBER 31,		
	2016	2015	2014
Expected term (years)	5.99	6.07	6.25
Expected stock price volatility	83.94%	74.11%	80.44%
Risk-free interest rate	1.43 %	1.63 %	1.90 %
Dividend yield	—	—	—

Tax Valuation Allowance

A valuation allowance is recorded if it is more likely than not that a deferred tax asset will not be realized. We provide a full valuation allowance on our deferred tax assets that consist of net federal and state net operating losses, stock based compensation and tax credits. Due to our three year cumulative loss position, history of operating losses and lack of available evidence supporting future taxable income, we believe that a valuation allowance on our deferred tax assets as of December 31, 2016 remains appropriate.

Results of Operations

Comparison of the Years Ended December 31, 2016 and 2015

The following table summarizes the results of our operations for the years ended December 31, 2016 and 2015:

	YEAR ENDED DECEMBER 31,		INCREASE (DECREASE)	% INCREASE (DECREASE)
	2016	2015		
	(in thousands)			
Expenses				
General and administrative	$(44,478)	$(30,635)	$ 13,843	45 %
Research and development	(52,394)	(44,451)	7,943	18 %
Other income (expense), net	(1,994)	862	(2,856)	N/A
Net loss before income taxes	$(98,866)	$(74,224)		

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General and administrative expenses

General and administrative expenses increased by $13.8 million for the year ended December 31, 2016 as compared to the year ended December 31, 2015. This increase was primarily associated with the expansion of our employee base to support the growth of our operations and preparatory commercial manufacturing activities, which commenced in 2016.

Personnel costs increased by $6.2 million, including an increase in salaries and related expenses of $3.6 million and an increase in employee stock based compensation expense of $2.6 million. Our preparatory commercial manufacturing activities have primarily been related to the validation and scale-up of our current manufacturing activities for which we incurred $7.5 million of expenses during the year ended December 31, 2016.

Research and development expenses

For the year ended December 31, 2016, our research and development activity was primarily associated with Phase 3 registration trials for Rhopressa™ and Roclatan™. Research and development expenses increased by $7.9 million for the year ended December 31, 2016 as compared to the year ended December 31, 2015. Costs for Roclatan™ increased by $11.6 million, including increased direct clinical costs of $11.1 million and increased direct non-clinical costs of $0.5 million primarily as a result of commencing Mercury 1 and Mercury 2 in September 2015 and March 2016, respectively. Costs for Rhopressa™ decreased by $10.0 million as direct clinical costs decreased by $5.7 million and direct non-clinical costs decreased by $4.3 million due to the timing of our clinical trials and initial NDA submission. Direct clinical costs for Rhopressa™ were primarily associated with Rocket 4 which commenced in mid-2015 and is currently on-going.

Unallocated expenses increased by $5.5 million, primarily related to an increase in personnel costs of $3.6 million and an increase in general research and development expenses and medical grants and sponsorships of $1.2 million. Further, other research and development expenses associated with collaboration arrangements and other pipeline opportunities increased by $0.8 million.

Other income (expense), net

Other income (expense), net decreased by $2.9 million for the year ended December 31, 2016 as compared to the year ended December 31, 2015. The decrease was primarily due to the sale of deferred tax benefits to unrelated parties of $2.9 million that occurred during the year ended December 31, 2015, as further described in Note 9 to our audited consolidated financial statements appearing elsewhere in this report.

Comparison of the Years Ended December 31, 2015 and 2014

The following table summarizes the results of our operations for the years ended December 31, 2015 and 2014:

	YEAR ENDED DECEMBER 31,		INCREASE (DECREASE)	% INCREASE (DECREASE)
	2015	2014		
	(in thousands)			
General and administrative expenses	$(30,635)	$(20,103)	$ 10,532	52 %
Research and development expenses	(44,451)	(29,869)	14,582	49 %
Other income (expense), net	862	1,839	(977)	N/A
Net loss before income taxes	$(74,224)	$(48,133)		

General and administrative expenses

General and administrative expenses increased by $10.5 million for the year ended December 31, 2015 as compared to the year ended December 31, 2014. This increase was primarily associated with the expansion of our employee base to support the growth of our operations.

Personnel costs increased by $4.5 million, including employee stock based compensation expense of $2.6 million and an increase in salaries and related expenses of $1.9 million, and facilities, travel and other expenses increased by $2.4 million. Outside professional fees increased by $3.6 million as a result of the IP Assignment and associated tax and legal activities, as well as increased system integration expenses.

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Research and development expenses

For the year ended December 31, 2015, our research and development activity was primarily associated with Phase 3 registration trials for Rhopressa™ and Roclatan™. Research and development expenses increased by $14.6 million for the year ended December 31, 2015 as compared to the year ended December 31, 2014. Costs for Roclatan™ increased by $3.8 million as direct clinical costs increased by $2.4 million and direct non-clinical costs increased by $1.4 million as a result of commencing Mercury 1 and preparatory activities for our other Phase 3 registration trials for Roclatan™. Costs for Rhopressa™ increased by $2.8 million as direct clinical costs increased by $4.6 million and direct non-clinical costs decreased by $1.8 million. Both Rocket 1 and Rocket 2 commenced in July 2014. Rocket 1 was completed in April 2015 and we received three-month topline efficacy results for Rocket 2 in September 2015. Additionally, we began to incur expenses for Rocket 4 in mid-2015.

Unallocated expenses increased by $6.9 million, primarily related to an increase in personnel costs of $5.4 million and an increase in facilities and travel costs of $1.2 million. Further, Other research and development expenses associated with collaboration arrangements and other pipeline opportunities increased by $1.1 million.

Other income (expense), net

Other income (expense), net decreased by $1.0 million for the year ended December 31, 2015 as compared to the year ended December 31, 2014. The decrease was primarily due to an increase in interest and amortization expense of $1.9 million partially offset by an increase in income of $0.9 million, which was the result of an increase in the sale of deferred state tax benefits to unrelated third parties of $0.6 million, as further described in Note 9 to our audited consolidated financial statements appearing elsewhere in this report, and an increase in investment income of $0.3 million.

Liquidity and Capital Resources

Since our inception, we have funded operations primarily through the sale of equity securities and the issuance of convertible notes. We have incurred losses and experienced negative operating cash flows since our inception and anticipate that we will continue to incur losses until such a time when our product candidates are commercially successful, if at all.

Prior to our IPO, we raised net cash proceeds of $78.6 million from the private placement of convertible preferred stock and convertible notes. Prior to and in connection with our IPO, all outstanding shares of convertible preferred stock and all convertible notes were converted into shares of common stock.

On October 30, 2013, we completed our IPO and issued 7,728,000 shares of our common stock at an IPO price of $10.00 per share. We received net proceeds from the IPO of approximately $68.3 million.

On September 30, 2014, we issued $125.0 million aggregate principal amount of the 2014 Convertible Notes, of which we received net proceeds of approximately $122.9 million.

On November 3, 2014, we filed a shelf registration statement on Form S-3 (“the 2014 Registration Statement”) that permitted the offering, issuance and sale by us of up to a maximum aggregate offering price of $150.0 million of our common stock and permits sales of common stock by certain selling stockholders.

From November 10, 2014 through December 31, 2016, we issued and sold 5,933,712 shares of common stock under our former “at-the-market” sales agreements, of which 4,179,156 shares were issued and sold during the year ended December 31, 2016, and received net proceeds of approximately $146.6 million, of which $96.2 million were received during the year ended December 31, 2016, in each case, after deducting commissions at a rate of up to 3% of the gross sales price per share sold and other fees and expenses. Sales under the “at-the-market” sales agreement were made pursuant to the 2014 Registration Statement. As of December 31, 2016, no shares remain available for issuance under the “at-the-market” sales agreements or the 2014 Registration Statement.

On September 15, 2016, we filed an automatic shelf registration statement on Form S-3 (the “2016 Registration Statement”) that permits the offering, issuance and sale by us of an unlimited number of shares of common stock from time to time.

On September 15, 2016, we entered into an underwriting agreement with Cantor Fitzgerald & Co., relating to the registered public offering of 2,542,373 shares of our common stock at a price to the public of $29.50 per share. We received net proceeds of approximately $71.0 million, after deducting underwriting discounts, fees and expenses of approximately $4.0 million. The offering was made pursuant to the 2016 Registration Statement.

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As of December 31, 2016, our principal sources of liquidity were our cash and cash equivalents and investments, which totaled approximately $233.7 million. We believe that our cash and cash equivalents and investments as of December 31, 2016 will provide sufficient resources for our current ongoing needs. See "-Operating Capital Requirements."

The following table summarizes our sources and uses of cash:

	YEAR ENDED DECEMBER 31,		
(in thousands)	2016	2015	2014
Net cash (used in) provided by:	(in thousands)		
Operating activities	$(79,840)	$(55,746)	$(33,726)
Investing activities	18,100	9,382	(73,318)
Financing activities	168,625	51,838	122,981
Net increase in cash and cash equivalents	$106,885	$5,474	$15,937

During the years ended December 31, 2016, 2015 and 2014, our operating activities used net cash of $79.8 million, $55.7 million and $33.7 million, respectively. The use of net cash in each of these periods primarily resulted from our net losses, adjusted for certain non-cash items. The increase in net loss from operations for the year ended December 31, 2016 as compared to the year ended December 31, 2015 and for the year ended December 31, 2015 as compared to the year ended December 31, 2014 was primarily due to increased research and development expenses and the growth of our operations as previously described, see "-Results of Operations." Additionally, in connection with the initial NDA submission for Rhopressa™, announced in September 2016, we paid the FDA a user fee of $2.4 million, of which $1.8 million was reimbursed to us in the first quarter of 2017. The $0.6 million retention by the FDA results from our withdrawal of the initial NDA submission prior to FDA acceptance of the NDA for review. For the years ended December 31, 2015 and 2014, we received $2.9 million and $2.3 million, respectively, of cash proceeds from the sale of deferred state tax benefits to unrelated third parties, which decreased net cash used in operating activities. We did not make any sales of deferred state tax benefits in 2016 and currently do not expect to make any further sales in the future.

During the year ended December 31, 2016, our investing activities provided net cash of $18.1 million primarily related to maturities and sales of available-for-sale investments of $58.3 million, which were partially offset by purchases of available-for-sale investments of $35.2 million and by purchases of equipment and office furnishings of $5.1 million to facilitate our increased research and development and corporate activities. During the year ended December 31, 2015, our investing activities provided net cash of $9.4 million primarily related to maturities and sales of available-for-sale investments of $59.5 million, which were partially offset by purchases of available-for-sale investments of $46.9 million and purchases of software and equipment of $3.3 million to support the growth of our operations. During the year ended December 31, 2014, our investing activities used net cash of $73.3 million primarily related to purchases of available-for-sale investments of $95.4 million, which was partially offset by maturities and sales of available-for-sale investments of $22.2 million.

During the years ended December 31, 2016, 2015 and 2014, our financing activities provided net cash of $168.6 million, $51.8 million and $123.0 million, respectively. The net cash provided by financing activities during the year ended December 31, 2016 was primarily related to the issuance and sale of common stock under our former "at-the-market" sales agreements pursuant to our 2014 Registration Statement, from which we received net proceeds of approximately $96.2 million, and under an underwriting agreement, dated September 15, 2016, from which we received net proceeds of approximately $71.0 million. Further we received proceeds of approximately $0.8 million from exercises of stock purchase rights associated with our employee stock purchase plan and $0.6 million from exercises of stock options. The net cash provided by financing activities during the year ended December 31, 2015 was primarily related to the issuance and sale of common stock pursuant to our former "at-the-market" sales agreements pursuant to our 2014 Registration Statement, from which we received net proceeds of approximately $50.5 million, as

well as proceeds of $1.3 million from exercises of stock options. The net cash provided by financing activities during the year ended December 31, 2014 was related to net proceeds of $122.9 million from the issuance of the 2014 Convertible Notes, after deducting discounts and certain expenses.

Operating Capital Requirements

We expect to incur on-going operating losses as we continue to conduct and complete significant Phase 3 clinical trial activity
for Rhopressa™ and Roclatan™, and further prepare in 2017 for the potential commercialization in the U.S. of Rhopressa™ as early as 2018. Clinical trial expenses for trials conducted in the U.S. are expected to decrease in 2017 and we expect to incur additional clinical and other expenses abroad as we execute our strategy for future commercialization in Europe and Japan.

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Additionally, in January 2017, we entered into a lease agreement for a new manufacturing plant in Ireland under which we are leasing approximately 30,000 square feet of interior floor space for future build-out. Estimated project-wide construction and equipment costs are expected to total approximately $25.0 million (excluding ongoing labor-related and lease expenses), of which approximately $16.0 million is expected to be spent in 2017.

We currently expect that our existing cash and cash equivalents and investments will provide sufficient resources for our ongoing needs to complete all currently known non-clinical and clinical requirements for our development programs advancing Rhopressa™ and Roclatan™ approval by the FDA and product commercialization, pending successful outcome of the trials.

We also intend to use these funds for general corporate purposes and for strategic growth opportunities, including the execution of clinical trials in Japan, the commencement of construction of our manufacturing plant in Ireland as described above and the continuation of preclinical activity in support of our product pipeline. In the future, we may decide based on ongoing forecast updates, new strategic initiatives, market conditions, or for other reasons that additional financings are desirable or needed.

We also expect to continue to incur increasing costs associated with the growth of our operations, including but not limited to, increased costs and expenses for personnel associated with the expected commercialization of our product candidates, costs associated with our new manufacturing plant in Ireland and other third-party expenses and fees.

Due to the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, we are unable to estimate the exact amount of our operating capital requirements. We based our projections on assumptions that may prove to be incorrect or unreliable or may change due to circumstances beyond our control, and as a result we may consume our available capital resources earlier than we originally projected. Our future funding requirements will depend on many factors, including, but not limited to the following:

- timing and costs of our ongoing and future preclinical studies and clinical trials for our product candidates;
- costs of any follow-on development or products, including the exploration and/or development of any additional opportunities for new ophthalmic products, delivery alternatives and new therapeutic areas;
- costs of any new business strategies;
- costs to build-out our new manufacturing plant in Ireland;
- timing and cost of the ongoing supportive preclinical studies and clinical activities for our product candidates;
- outcome, timing and costs of seeking regulatory approval;
- costs of commercialization activities for our product candidates, if we receive regulatory approval, including the costs and timing of establishing product sales, marketing, manufacturing and distribution capabilities;
- costs of operating as a public company, including legal, compliance, accounting and investor relations expenses;
- terms and timing of any acquisitions or collaborations, licensing, consulting or other arrangements; and
- filing and prosecuting patent applications, maintaining and protecting our intellectual property rights and defending against intellectual property related claims.

We may need to obtain additional financing to fund our future operations, including supporting our international operations and sales and marketing activities, funding our internal manufacturing capabilities, funding the ongoing development of any additional product candidates and technologies that we might license, acquire or develop internally or through research and collaboration arrangements. To the extent that we raise additional capital through the sale of common stock, convertible securities or other equity securities, the ownership interests of our existing stockholders may be materially diluted and the terms of these securities could include liquidation or other preferences that could adversely affect the rights of our existing stockholders. If we are unable to raise capital when needed or on acceptable terms, we could be forced to delay, reduce or discontinue our research and development programs or commercialization and manufacturing efforts.

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Outstanding Indebtedness

As of December 31, 2016, our total indebtedness consisted of our $125.0 million aggregate principal amount of 2014 Convertible Notes. For a discussion of the 2014 Convertible Notes, see Note 8 to our audited consolidated financial statements appearing elsewhere in this report.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations at December 31, 2016:

	TOTAL	LESS THAN 1 YEAR	1 TO 3 YEARS	3 TO 5 YEARS	MORE THAN 5 YEARS
	(in thousands)				
Operating lease and other obligations[1]	$6,540	$ 1,759	$ 2,830	$ 1,906	$ 45
Convertible Notes[2]	125,000	—	—	—	125,000
	$131,540	$ 1,759	$ 2,830	$ 1,906	$ 125,045

(1) Our operating lease and other obligations are primarily related to our principal executive office in Irvine, California, corporate office in Bedminster, New Jersey and new research facility in Durham, North Carolina.

(2) On September 30, 2014, we issued the 2014 Convertible Notes to Deerfield Partners, L.P., Deerfield International Master Fund, L.P., Deerfield Private Design Fund III, L.P., Deerfield Special Situations Fund, L.P. and Deerfield Special Situations International Master Fund, L.P. The 2014 Convertible Notes mature on the seventh anniversary from the date of issuance, unless earlier converted. On January 1, 2015, Deerfield Special Situations International Master Fund, L.P. transferred all of its rights under the 2014 Convertible Notes to Deerfield Special Situations Fund, L.P. Refer to Note 8 to our audited consolidated financial statements appearing elsewhere in this report for further information.

In January 2017, we entered into a lease agreement for a new manufacturing plant in Athlone, Ireland under which we are leasing approximately 30,000 square feet of interior floor space for future build-out. We are permitted to terminate the lease agreement beginning in September 2027. Total additional rental payments through September 2027 are approximately $2.5 million and are excluded from the table above.

We have no other contractual obligations or commitments that are not subject to our existing financial statement accrual processes.

Off-Balance Sheet Arrangements

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

Net Operating Loss Carry-Forwards

We have incurred significant net operating losses since our inception in June 2005. We expect to continue to incur net operating losses until such a time when our product candidates are commercially successful, if at all, including as we continue to develop our product portfolio, seek regulatory approval, and, if such approval is obtained, prepare to commercialize and manufacture our products.

As of December 31, 2016, we had federal and state net operating loss carry-forwards of approximately $104.1 million and $122.5 million, respectively, which will begin to expire at various dates beginning in 2024, if not utilized.

Net operating loss and tax credit carry-forwards are subject to review and possible adjustment by the Internal Revenue Service and state tax authorities and may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant stockholders over a three-year period in excess of 50%, as defined under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, as well as similar state provisions. This could limit the amount of tax attributes that can be utilized annually to offset future taxable income or tax liabilities. The amount of the annual limitation is determined based on the value of our company immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years.

Certain transactions occurred in 2015 and prior years that resulted in ownership changes as defined under Section 382 and similar state provisions which will limit the future use of certain federal and state net operating loss carry-forwards. Those

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federal and state net operating losses that are not limited are included as deferred tax assets and have been fully offset by a valuation allowance as of December 31, 2016, as we believe, based on our history of operating losses, it is more likely than not that the tax benefits will not be realized.

Jumpstart Our Business Startups Act of 2012

The Jumpstart Our Business Startups Act of 2012 (the "JOBS Act") provides that an emerging growth company can take advantage of certain exemptions from various reporting and other requirements that are applicable to public companies that are not emerging growth companies. We currently take advantage of some, but not all, of the reduced regulatory and reporting requirements that are available to us for as long as we qualify as an emerging growth company. We have irrevocably elected under Section 107 of the JOBS Act not to take advantage of the extension of time to comply with new or revised financial accounting standards available under Section 102(b) of the JOBS Act and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. Our independent registered public accounting firm will not be required to provide an attestation report on the effectiveness of our internal control over financial reporting for as long as we qualify as an emerging growth company.

Recent Accounting Pronouncements

In October 2016, the Financial Accounting Standards Board (the "FASB") issued ASU 2016-16, which eliminates the exception to the principle in ASC 740, Income Taxes, that generally requires comprehensive recognition of current and deferred income taxes for all intra-entity sales of assets other than inventory. As a result, a reporting entity would recognize the tax expense from the sale of the asset in the seller's tax jurisdiction when the transfer occurs, even though the pre-tax effects of that transaction are eliminated in consolidation. The new standard is effective for us for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years, with early adoption permitted, and must be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. We are currently evaluating the impact of this accounting standard update on our consolidated financial statements and disclosures.

In June 2016, the FASB issued ASU 2016-13, which requires that financial assets measured at amortized cost be presented at
the net amount expected to be collected. Currently, U.S. GAAP delays recognition of the full amount of credit losses until the loss is probable of occurring. Under this new standard, the income statement will reflect an entity's current estimate of all expected credit losses. The measurement of expected credit losses will be based upon historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. Credit losses relating to available-for-sale debt securities will be recorded through an allowance for credit losses rather than as a direct write-down to the security. The new standard is effective for us for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted as of fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The new guidance prescribes different transition methods for the various provisions. We are currently evaluating the impact of this accounting standard update on our consolidated financial statements and disclosures.

In March 2016, the FASB issued ASU 2016-09, which provides guidance related to how companies account for certain aspects
of share-based payment awards to employees, including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification in the statement of cash flows. The new standard is effective for us for annual periods beginning after December 15, 2016 and for annual and interim periods thereafter, with early adoption permitted. The new guidance prescribes different transition methods for the various provisions. We are currently evaluating the impact of this accounting standard update on our consolidated financial statements and disclosures.

In February 2016, the FASB issued ASU 2016-02, which requires lessees to recognize a right of use asset and related lease
liability for those leases classified as operating leases at the commencement date and for those leases that have lease terms of more than 12 months. The guidance is effective for annual periods beginning after December 15, 2018, and all annual and interim periods thereafter, with early adoption permitted, and must be adopted using a modified retrospective transition approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements, and provides for certain practical expedients. We are currently evaluating the impact of this accounting standard update on our consolidated financial statements and disclosures.

In January 2016, the FASB issued ASU 2016-01, which provides guidance related to the accounting for equity investments, financial liabilities under the fair value option and the presentation and disclosure requirements for financial instruments. The guidance is effective for annual periods beginning after December 15, 2017, and all annual and interim periods thereafter, with

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early adoption permitted. The new guidance prescribes different transition methods for the various provisions. We are currently evaluating the impact of this accounting standard update on our consolidated financial statements and disclosures.

In August 2014, the FASB issued ASU 2014-15, which provides guidance about management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. The new standard is effective for us for the annual period ending after December 15, 2016 and for annual and interim periods thereafter, with early adoption permitted. We adopted this standard on December 31, 2016. The adoption of this standard did not have a material impact on our consolidated financial statements or disclosures.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. We had cash and cash equivalents of $197.9 million as of December 31, 2016, which consisted primarily of cash and money market funds with original maturities of three months or less from the date of purchase. We had investments of $35.7 million as of December 31, 2016, which consisted of certificates of deposit, corporate bonds and government agency securities. We had cash, cash equivalents and investments of $150.4 million as of December 31, 2015. Given the short-term nature of our cash equivalents and investments and our investment policy, a sudden change in market interest rates would not be expected to have a material impact on our financial condition or results of operations. We do not engage in any hedging activities against changes in interest rates. The 2014 Convertible Notes carry a fixed interest rate and, as such, are not subject to interest rate risk. We do not have any material foreign currency or other derivative financial instruments.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The financial statements required by this item are set forth beginning at page F-1 of this report and are incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15(d)-15(e)), as of the end of the period covered by this report. Based upon the evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of the end of such period, the disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in the reports we file and submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) or 15d-15(f) under the Exchange Act as a process designed by, or under the supervision of, our principal executive officer and principal financial officer and effected by our board of directors, management, and other personnel, to provide reasonable assurance regarding the reliability of

financial reporting and the preparation of our financial statements for external reporting purposes in conformity with generally accepted accounting principles and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets;

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- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and

- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision of and with the participation of our principal executive officer and principal financial officer, our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2016 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in 2013 in Internal Control-Integrated Framework (2013). Based on this assessment, management concluded that our internal control over financial reporting was effective as of December 31, 2016.

This annual report on Form 10-K does not include an attestation report of our independent registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our independent registered public accounting firm pursuant to an exemption under Section 989G of the Dodd-Frank Wall Street Reform and Consumer Protection Act made available to us under the Jumpstart Our Business Startups Act of 2012.

Changes in Internal Control Over Financial Reporting

There have been no significant changes in our internal control over financial reporting during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Director Resignation

On March 8, 2017, Geoffrey Duyk, M.D., Ph.D. notified the Board of Directors of his intention to resign from the Board of Directors and from all committees thereof, effective at 8:00 a.m. (Eastern time) on June 8, 2017. Dr. Duyk's decision to resign was not due to any disagreement with the Company on any matter relating to the operations, policies (including accounting or financial policies) or practices of the Company. The Company expresses its appreciation for Dr. Duyk's service as a member of the Board of Directors.

Employment Agreement Amendments

On March 6, 2017, the Company entered into amendments (each, an "EA Amendment") to the employment agreement for Casey Kopczynski and the amended and restated employment agreements for each of Richard Rubino and Thomas Mitro (each, an "Employment Agreement"). Each EA Amendment amends the applicable executive's Employment Agreement to provide that if a change in control (as defined in the Employment Agreement) occurs during the employment term, and the successor corporation (or its parent or subsidiary) (a) does not offer the executive employment on terms comparable to the executive's then existing terms of employment with the Company and in connection therewith, the executive terminates employment; or (b) the executive's employment is terminated by such successor corporation without cause or by the executive for good reason (in each case, as defined in the Employment Agreement), within one year after the change in control, the executive will be entitled to the following, in addition to any accrued benefits: (i) base salary continuation at the rate in effect at the time of termination for the 18-month period following termination; (ii) an amount equal to 1.5 times the greater of (1) the target bonus for the applicable

calendar year and (2) the average of the performance bonus received by the executive for the two years immediately preceding termination; and (iii) payment by the Company of the Company-paid portion of the premiums for COBRA continuation coverage for the executive and his dependents for the 18 month period following termination. In addition, under the circumstances described above, the executive would also be entitled to full vesting of all then unvested equity awards as provided under his Employment Agreement.

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PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item is incorporated by reference to the information set forth in the sections titled "Nominees for Election as Directors," "Information About Our Executive Officers," "Directors Continuing in Office," "Section 16(a) Beneficial Ownership Reporting Compliance," "Code of Business Conduct and Ethics" and "Information about the Board of Directors and Corporate Governance - Audit Committee" in our Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference to the information set forth in the sections titled "Executive Compensation," "Director Compensation" and "Information about the Board of Directors and Corporate Governance - Compensation Committee Interlocks and Insider Participation" in our Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item is incorporated by reference to the information set forth in the sections titled "Securities Authorized for Issuance under Equity Compensation Plans" and "Security Ownership of Certain Beneficial Owners and Management" in our Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated by reference to the information set forth in the sections titled "Board of Directors' Independence" and "Transactions with Related Persons" in our Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item is incorporated by reference to the information set forth in the section titled "Independent Registered Public Accounting Firm Fees and Services" in our Proxy Statement.

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PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

The financial statement schedules and exhibits filed as part of this annual report on Form 10-K are as follows:

(a)(1) Financial Statements

See “Index to Consolidated Financial Statements” beginning on page F-1of this report.

(a)(2) Financial Statement Schedules

Financial statement schedules have been omitted because the required information is not present, or not present in amounts sufficient to require submission of the schedules, or because the required information is provided in the financial statements or notes thereto.

(a)(3) Exhibits

The exhibits required to be filed as part of this report are listed in the Exhibit Index attached hereto and are incorporated herein by reference.

ITEM 16. FORM 10-K SUMMARY

None.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AERIE PHARMACEUTICALS, INC.

Date: March 9, 2017 By: /S/ VICENTE ANIDO, JR., PH.D.
Vicente Anido, Jr., Ph.D.
Chief Executive Officer, Chairman of the Board

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/S/ VICENTE ANIDO, JR., PH.D. Vicente Anido, Jr., Ph.D.	Chief Executive Officer, Chairman of the Board (Principal Executive Officer)	March 9, 2017
/S/ RICHARD J. RUBINO Richard J. Rubino	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 9, 2017
/S/ GERALD D. CAGLE, PH.D. Gerald D. Cagle, Ph.D.	Director	March 9, 2017
/S/ RICHARD CROARKIN Richard Croarkin	Director	March 9, 2017
/S/ MICHAEL M. DU TOIT Michael M. du Toit	Director	March 9, 2017
/S/ GEOFFREY DUYK, M.D., PH.D. Geoffrey Duyk, M.D., Ph.D.	Director	March 9, 2017
/S/ MURRAY A. GOLDBERG Murray A. Goldberg	Director	March 9, 2017
/S/ BENJAMIN F. MCGRAW III, PHARM. D. Benjamin F. McGraw III, Pharm. D.	Director	March 9, 2017

/S/ JULIE MCHUGH Julie McHugh	Director	March 9, 2017

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INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

AERIE PHARMACEUTICALS, INC.

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Report of Independent Registered Public Accounting Firm
To the Board of Directors and Stockholders of
Aerie Pharmaceuticals, Inc.

In our opinion, the accompanying Consolidated Balance Sheets and the related Consolidated Statements of Operations and Comprehensive Loss, of Stockholders' Equity, and of Cash Flows present fairly, in all material respects, the financial position of Aerie Pharmaceuticals, Inc. and its subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.
/s/ PricewaterhouseCoopers LLP
Florham Park, New Jersey
March 9, 2017

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AERIE PHARMACEUTICALS, INC.
Consolidated Balance Sheets
(in thousands, except share and per share data)

	DECEMBER 31,	
	2016	2015
Assets		
Current assets		
Cash and cash equivalents	$197,945	$91,060
Short-term investments	35,717	45,502
Prepaid expenses and other current assets	4,028	1,865
Total current assets	237,690	138,427
Long-term investments	—	13,808
Furniture, fixtures and equipment, net	7,857	3,816
Other assets, net	2,707	3,076
Total assets	$248,254	$159,127
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable and other current liabilities	$18,820	$16,565
Interest payable	551	551
Total current liabilities	19,371	17,116
Convertible notes, net of discounts	123,539	123,236
Total liabilities	142,910	140,352
Commitments and contingencies (Note 13)		
Stockholders' equity		
Preferred stock, $0.001 par value; 15,000,000 shares authorized as of December 31, 2016 and December 31, 2015; None issued and outstanding	—	—
Common stock, $0.001 par value; 150,000,000 shares authorized as of December 31, 2016 and December 31, 2015; 33,458,607 and 26,458,495 shares issued and outstanding as of December 31, 2016 and December 31, 2015, respectively	33	26
Additional paid-in capital	422,002	236,492
Accumulated other comprehensive loss	(68)	(179)
Accumulated deficit	(316,623)	(217,564)
Total stockholders' equity	105,344	18,775
Total liabilities and stockholders' equity	$248,254	$159,127

The accompanying notes are an integral part of these consolidated financial statements.

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AERIE PHARMACEUTICALS, INC.
Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except share and per share data)

	YEAR ENDED DECEMBER 31,		
	2016	2015	2014
Operating expenses			
General and administrative	$(44,478)	$(30,635)	$(20,103)
Research and development	(52,394)	(44,451)	(29,869)
Loss from operations	(96,872)	(75,086)	(49,972)
Other income (expense), net	(1,994)	862	1,839
Net loss before income taxes	$(98,866)	$(74,224)	$(48,133)
Income tax expense	(193)	(139)	—
Net loss	$(99,059)	$(74,363)	$(48,133)
Net loss attributable to common stockholders—basic and diluted	$(99,059)	$(74,363)	$(48,133)
Net loss per share attributable to common stockholders—basic and diluted	$(3.40)	$(2.88)	$(2.00)
Weighted average number of common shares outstanding—basic and diluted	29,135,583	25,781,230	24,086,651
Net loss	$(99,059)	$(74,363)	$(48,133)
Unrealized gain/(loss) on available-for-sale investments	111	(72)	(107)
Comprehensive loss	$(98,948)	$(74,435)	$(48,240)

The accompanying notes are an integral part of these consolidated financial statements.

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AERIE PHARMACEUTICALS, INC.
Consolidated Statements of Stockholders' Equity
(in thousands, except share and per share data)

	COMMON STOCK SHARES	AMOUNT	ADDITIONAL PAID-IN CAPITAL	ACCUMULATED OTHER COMPREHENSIVE LOSS	ACCUMULATED DEFICIT	TOTAL
Balances at December 31, 2013	23,285,549	$ 23	$ 162,021	$ —	$ (95,068)	$66,976
Issuance of common stock upon exercise of stock purchase rights	10,941	—	119	—	—	119
Exercise of stock options	579,083	1	8	—	—	9
Vesting of restricted stock	143,004	—	—	—	—	—
Stock-based compensation	—	—	9,178	—	—	9,178
Unrealized loss on available-for-sale investments	—	—	—	(107)	—	(107)
Net loss	—	—	—	—	(48,133)	(48,133)
Balances at December 31, 2014	24,018,577	24	171,326	(107)	(143,201)	28,042
Proceeds from issuance of common stock, net of commissions and expenses of $1,496	1,754,556	2	50,371	—	—	50,373
Issuance of common stock upon exercise of stock purchase rights	5,029	—	96	—	—	96
Exercise of stock options	296,716	—	1,282	—	—	1,282
Issuance of common stock upon exercise of warrants	314,368	—	9	—	—	9
Vesting of restricted stock	69,249	—	—	—	—	—
Stock-based compensation	—	—	12,945	—	—	12,945
Excess tax benefit	—	—	463	—	—	463
Unrealized loss on available-for-sale investments	—	—	—	(72)	—	(72)
Net loss	—	—	—	—	(74,363)	(74,363)
Balances at December 31, 2015	26,458,495	26	236,492	(179)	(217,564)	18,775
Proceeds from issuance of common stock, net of underwriting discounts, commissions and expenses of $5,963	6,721,529	7	167,158	—	—	167,165
Issuance of common stock upon exercise of stock purchase rights	75,205	—	1,120	—	—	1,120
Exercise of stock options	149,186	—	591	—	—	591
Vesting of restricted stock	54,192	—	(153)	—	—	(153)
Stock-based compensation	—	—	16,794	—	—	16,794
Unrealized gain on available-for-sale investments	—	—	—	111	—	111
Net loss	—	—	—	—	(99,059)	(99,059)
Balances at December 31, 2016	33,458,607	$ 33	$ 422,002	$ (68)	$ (316,623)	$105,344

The accompanying notes are an integral part of these consolidated financial statements.

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AERIE PHARMACEUTICALS, INC.
Consolidated Statements of Cash Flows
(in thousands, except share and per share data)

	YEAR ENDED DECEMBER 31,		
	2016	2015	2014
Cash flows from operating activities			
Net loss	$(99,059)	$(74,363)	$(48,133)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation	970	252	73
Amortization of deferred financing costs and debt discount	303	305	77
Amortization and accretion of premium or discount on available-for-sale investments, net	525	570	416
Stock-based compensation	16,794	12,945	9,178
Changes in operating assets and liabilities			
Prepaid, current and other assets	(1,852)	(840)	(717)
Accounts payable and other current liabilities	2,479	5,385	4,829
Interest payable	—	—	551
Net cash used in operating activities	(79,840)	(55,746)	(33,726)
Cash flows from investing activities			
Purchase of available-for-sale investments	(35,169)	(46,872)	(95,376)
Maturity of available-for-sale investments	53,156	55,785	20,739
Sale of available-for-sale investments	5,190	3,749	1,500
Purchase of furniture, fixtures and equipment	(5,077)	(3,280)	(181)
Net cash provided by (used in) investing activities	18,100	9,382	(73,318)
Cash flows from financing activities			
Proceeds from sale of common stock, net of commissions and underwriting discounts	168,479	50,451	—
Payments of stock issuance costs and expenses	(1,096)	—	—
Proceeds from exercise of stock options	591	1,282	9
Proceeds from exercise of stock purchase rights	804	96	119
Tax withholdings related to restricted stock awards	(153)	—	—
Proceeds from exercise of warrants	—	9	—
Proceeds from issuance of convertible notes, net of discounts and issuance costs	—	—	122,853
Net cash provided by financing activities	168,625	51,838	122,981
Net change in cash and cash equivalents	106,885	5,474	15,937
Cash and cash equivalents			
Beginning of period	91,060	85,586	69,649
End of period	$197,945	$91,060	$85,586
Supplemental disclosures			
Interest paid	$2,192	$2,186	$—
Income taxes paid	1,790	600	—
Non-cash financing activities			
Deferred costs from the sale of common stock and issuance of convertible notes	$70	$—	$25

The accompanying notes are an integral part of these consolidated financial statements.

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AERIE PHARMACEUTICALS, INC.
Notes to the Consolidated Financial Statements

1. The Company

Aerie Pharmaceuticals, Inc. (“Aerie”), with its wholly-owned subsidiaries Aerie Distribution, Inc., Aerie Pharmaceuticals Limited and Aerie Pharmaceuticals Ireland Limited (“Aerie Distribution,” “Aerie Limited” and “Aerie Ireland Limited,” respectively, together with Aerie, the “Company”), is a clinical-stage pharmaceutical company focused on the discovery, development and commercialization of small molecule products to treat patients with glaucoma and other diseases of the eye.

In 2015, the Company revised its corporate structure to align with its business strategy outside of North America by establishing Aerie Limited and Aerie Ireland Limited. Aerie assigned the beneficial rights to its non-United States and non-Canadian intellectual property for its lead product candidates to Aerie Limited (the “IP Assignment”). As part of the IP Assignment, Aerie and Aerie Limited entered into a research and development cost sharing agreement pursuant to which Aerie and Aerie Limited will share the costs of the development of intellectual property and Aerie Limited and Aerie Ireland Limited entered into a license arrangement pursuant to which Aerie Ireland Limited will develop and commercialize the beneficial rights of the intellectual property assigned as part of the IP Assignment.

In 2016, Aerie assigned the beneficial rights to certain of Aerie’s intellectual property in the United States and Canada to Aerie Distribution, and amended and restated the research and development cost sharing agreement to transfer Aerie’s rights and obligations under the agreement to Aerie Distribution.

The Company has its principal executive offices in Irvine, California and operates as one business segment.

The Company has not yet commenced commercial operations and therefore has not generated product revenue. The Company’s activities since inception have primarily consisted of developing product candidates, raising capital and performing research and development activities. The Company does not expect to generate revenue until and unless it receives regulatory approval of and successfully commercializes its product candidates. The Company has incurred losses and experienced negative operating cash flows since inception. The Company has funded its operations primarily through the sale of equity securities and issuance of convertible notes (Note 8).

If the Company does not successfully commercialize any of its product candidates, it may be unable to generate product revenue or achieve profitability. Accordingly, the Company may be required to obtain further funding through other public or private offerings, debt financing, collaboration and licensing arrangements or other sources. Adequate additional funding may not be available to the Company on acceptable terms, or at all. If the Company is unable to raise capital when needed or on attractive terms, it may be forced to delay, reduce or eliminate its research and development programs or commercialization efforts.

2. Significant Accounting Policies

Basis of Presentation

The Company’s consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (“U.S. GAAP”).

Principles of Consolidation

The consolidated financial statements include the accounts of Aerie and its wholly-owned subsidiaries. All intercompany accounts, transactions and profits have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and reported amounts of income and expenses during the reporting periods. Significant items subject to such estimates and assumptions include the valuation of stock

options and operating expense accruals. Actual results could differ from the Company's estimates.

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Segment Information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company views its operations and manages its business in one operating segment.

Cash Equivalents

Cash equivalents consist of short-term, highly liquid investments with an original term of three months or less at the date of purchase. Cash deposits are held by six financial institutions in the United States and two financial institutions in Europe.

Concentration of Credit Risk

The Company's cash and cash equivalent balances with financial institutions exceed the $250,000 amount insured by the Federal Deposit Insurance Corporation.

Debt Issuance Costs

Debt issuance costs consisting of financing costs incurred by the Company in connection with the closing of the 2014 Convertible Notes (as defined in Note 8) are included as a direct deduction from the carrying amount of the 2014 Convertible Notes on the Company's consolidated balance sheets. The Company amortizes debt issuance costs through the earlier of maturity or the conversion of the 2014 Convertible Notes using the effective interest method. Refer to Note 8 for further information regarding the 2014 Convertible Notes.

Debt Discounts

Debt discounts consist of fees and expenses incurred by the Company in connection with the closing of Aerie's 2014 Convertible Notes that were paid directly to the note holders. The Company amortizes debt discounts through the earlier of maturity or the conversion of the 2014 Convertible Notes using the effective interest method. Refer to Note 8 for further information regarding the 2014 Convertible Notes.

Deferred Financing Costs

Deferred financing costs represent financing costs associated with the issuance of new shares of common stock and include only those specific incremental costs directly attributable to the issuance of shares, such as legal, accounting, printing, and filing fees. Deferred financing costs are offset against proceeds from the issuance within stockholders' equity on the consolidated balance sheet upon the completion of the transaction.

Furniture, Fixtures and Equipment, Net

Furniture, fixtures and equipment is recorded at historical cost. Depreciation is calculated using the straight-line method over the estimated useful lives of the related assets. Repairs and maintenance are expensed when incurred. Upon retirement or sale, the cost of the assets disposed of and the related accumulated depreciation are removed from the accounts, and any resulting gain or loss is included in the determination of net income.

Software Capitalization

The Company capitalizes certain costs incurred in connection with obtaining or developing internal-use software including external direct costs of materials and services involved with the software development. Capitalized software costs are included in Furniture, fixtures, and equipment and are amortized over a period of three years beginning when the software project is substantially complete and the asset is ready for its intended use. Costs incurred during the preliminary project stage and post-implementation stage, along with maintenance and training costs, are expensed as incurred.

Research and Development Costs

Research and development costs are charged to expense as incurred and include, but are not limited to:

- Employee-related expenses including salaries, benefits, travel and stock-based compensation expense for research and development personnel;
- expenses incurred under agreements with contract research organizations ("CROs"), contract manufacturing organizations and service providers that assist in conducting clinical and preclinical studies;
- costs associated with preclinical activities and development activities;
- costs associated with regulatory operations; and

- depreciation expense for assets used in research and development activities.

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Costs for certain development activities, such as clinical studies, are recognized based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations, or information provided to the Company by its vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the patterns of costs incurred, and are reflected in the consolidated financial statements as prepaid expenses or accrued expenses as deemed appropriate. No material adjustments to these estimates have been recorded in these consolidated financial statements.

Stock-Based Compensation

Compensation cost of stock-based awards granted to employees is measured at grant date, based on the estimated fair value of the award. The Company estimates the fair value of stock options using a Black-Scholes option pricing model. Compensation cost for options granted to non-employees is determined as the fair value of consideration received or the fair value of the equity instruments issued, whichever is more reliably measured. The fair value of restricted stock awards ("RSAs") is determined based on the fair value of Aerie's common stock on the date of grant. Stock-based compensation costs are expensed on a straight-line basis (net of estimated forfeitures) over the relevant vesting period. The fair value of unvested awards granted to non-employees is re-measured each period until the related service is complete. Compensation expense for employee stock purchase plan rights ("stock purchase rights") is measured and recognized on the date that Aerie becomes obligated to issue shares of common stock and is based on the difference between the fair value of Aerie's common stock and the purchase price on such date. All stock-based compensation expense is recorded between general and administrative and research and development costs in the consolidated statements of operations based upon the underlying employees roles within the Company. As a result of the taxable gain recognized in connection with the IP Assignment, during the year ended December 31, 2015, the Company utilized certain net operating losses, including $462,978 in excess tax benefits related to stock-based compensation, to offset taxable income. In accordance with ASC 718, this excess tax benefit was recorded in additional paid-in capital for the year ended December 31, 2015. No excess tax benefits related to stock-based compensation were recognized for the years ended December 31, 2016 or 2014.

Investments

The Company determines the appropriate classification of its investments in debt and equity securities at the time of purchase. The Company's investments are comprised of certificates of deposit, commercial paper, corporate bonds and government agency securities that are classified as available-for-sale in accordance with ASC 320, Investments—Debt and Equity Securities. The Company classifies investments available to fund current operations as current assets on its consolidated balance sheets. Investments are classified as long-term assets on the consolidated balance sheets if (i) the Company has the intent and ability to hold the investments for a period of at least one year and (ii) the contractual maturity date of the investments is greater than one year.

Available-for-sale investments are recorded at fair value, with unrealized gains or losses included in Comprehensive loss on the consolidated statements of operations and comprehensive loss and in Accumulated other comprehensive loss on the consolidated balance sheets. For the years ended December 31, 2016, 2015 and 2014, the Company recorded unrealized gains of $111,000 and unrealized losses of $72,000 and $107,000, respectively. Realized gains and losses are determined using the specific identification method and are included as a component of Other income (expense), net (Note 3). There were no realized gains or losses recognized for the years ended December 31, 2016, 2015 or 2014.

The Company reviews investments for other-than-temporary impairment whenever the fair value of an investment is less than the amortized cost and evidence indicates that an investment's carrying amount is not recoverable within a reasonable period of time. To determine whether an impairment is other-than-temporary, the Company considers its intent to sell, or whether it is more likely than not that the Company will be required to sell the investment before recovery of the investment's amortized cost basis. Evidence considered in this assessment includes reasons for the impairment, the severity and the duration of the impairment and changes in value subsequent to period end. As of December 31, 2016, there were no investments with a fair value that was significantly lower than the amortized cost basis or any investments that had been in an unrealized loss position for a significant period.

Fair Value Measurements

The Company records certain financial assets and liabilities at fair value based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. The fair value of the Company's financial instruments, including cash and cash equivalents, short-term investments, other current assets, accounts payable and accrued expenses approximate their respective carrying values due to the short-term nature of these instruments. The carrying amounts of long-term investments represent their estimated fair values. The estimated fair value of the 2014 Convertible Notes was $209.6 million and $140.1 million as of December 31, 2016 and 2015, respectively.
Stock Purchase Warrants

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The Company accounts for its stock purchase warrants as either equity or liabilities based upon the characteristics and provisions of the underlying instruments. Warrants classified as equity are recorded at their fair value on the date of issuance as additional paid-in capital on the consolidated balance sheets and no further adjustments are made to their valuation. Warrants classified as liabilities are recorded at their fair value on the date of issuance and are re-measured on each subsequent balance sheet date until the earlier of the exercise or expiration of the applicable warrants or until such time that the warrants are no longer determined to be derivative instruments. The fair value changes are recognized as income (decreases in fair value) or expense (increases in fair value) in Other income (expense), net in the consolidated statements of operations and comprehensive loss. The fair value of these liabilities is estimated using the Black-Scholes method, which, under the Company's facts and circumstances, approximates, in all material respects, the values determined when using a Monte Carlo simulation. As of December 31, 2016 and 2015, all outstanding warrants are classified as equity and are recorded within additional paid-in capital on the consolidated balance sheets (Note 11).

Comprehensive Loss

Comprehensive loss is comprised of net loss and other comprehensive loss. Other comprehensive loss includes changes in stockholders' equity that are excluded from net income (loss), specifically changes in unrealized gains and losses on the Company's available-for-sale securities.

Income Taxes

Deferred tax assets or liabilities are recorded for temporary differences between financial statement and tax basis of assets and liabilities, using enacted rates in effect for the year in which the differences are expected to reverse. The Company recognizes the impact of an uncertain tax position in the consolidated financial statements only if it is more likely than not that the tax position will be sustained upon examination by the taxing authorities. The Company's policy is to record interest and penalties on uncertain tax positions as income tax expense. The Company did not recognize interest or penalties on uncertain tax positions for the years ended December 31, 2016, 2015 or 2014. As of December 31, 2016 and 2015, the Company had no uncertain tax positions and no interest or penalties were accrued for any uncertain tax positions.

Tax Valuation Allowance

A valuation allowance is recorded if it is more likely than not that a deferred tax asset will not be realized. The Company has provided a full valuation allowance on its deferred tax assets that consist of federal and state net operating losses, stock based compensation and tax credits. Due to the Company's three year cumulative loss position, history of operating losses and lack of available evidence supporting future taxable income, the Company believes that a valuation allowance on its deferred tax assets as of December 31, 2016 remains appropriate.

Recent Accounting Pronouncements

In October 2016, the Financial Accounting Standards Board (the "FASB") issued ASU 2016-16, which eliminates the exception to the principle in ASC 740, Income Taxes, that generally requires comprehensive recognition of current and deferred income taxes for all intra-entity sales of assets other than inventory. As a result, a reporting entity would recognize the tax expense from the sale of the asset in the seller's tax jurisdiction when the transfer occurs, even though the pre-tax effects of that transaction are eliminated in consolidation. The new standard is effective for the Company for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years, with early adoption permitted, and must be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company is currently evaluating the impact of this accounting standard update on the Company's consolidated financial statements and disclosures.

In June 2016, the FASB issued ASU 2016-13, which requires that financial assets measured at amortized cost be presented at the net amount expected to be collected. Currently, U.S. GAAP delays recognition of the full amount of credit losses until the loss is probable of occurring. Under this new standard, the income statement will reflect an entity's current estimate of all expected credit losses. The measurement of expected credit losses will be based upon

historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. Credit losses relating to available-for-sale debt securities will be recorded through an allowance for credit losses rather than as a direct write-down to the security. The new standard is effective for the Company for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted as of fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The new guidance prescribes different transition methods for the various provisions. The Company is currently evaluating the impact of this accounting standard update on the Company’s consolidated financial statements and disclosures.

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In March 2016, the FASB issued ASU 2016-09, which provides guidance related to how companies account for certain aspects of share-based payment awards to employees, including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification in the statement of cash flows. The new standard is effective for the Company for annual periods beginning after December 15, 2016 and for annual and interim periods thereafter, with early adoption permitted. The new guidance prescribes different transition methods for the various provisions. The Company is currently evaluating the impact of this accounting standard update on the Company's consolidated financial statements and disclosures.

In February 2016, the FASB issued ASU 2016-02, which requires lessees to recognize a right of use asset and related lease liability for those leases classified as operating leases at the commencement date and for those leases that have lease terms of more than 12 months. The guidance is effective for annual periods beginning after December 15, 2018, and all annual and interim periods thereafter, with early adoption permitted, and must be adopted using a modified retrospective transition approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements, and provides for certain practical expedients. The Company is currently evaluating the impact of this accounting standard update on the Company's consolidated financial statements and disclosures.

In January 2016, the FASB issued ASU 2016-01, which provides guidance related to the accounting for equity investments, financial liabilities under the fair value option and the presentation and disclosure requirements for financial instruments. The guidance is effective for annual periods beginning after December 15, 2017, and all annual and interim periods thereafter, with early adoption permitted. The new guidance prescribes different transition methods for the various provisions. The Company is currently evaluating the impact of this accounting standard update on the Company's consolidated financial statements and disclosures.

In August 2014, the FASB issued ASU 2014-15, which provides guidance about management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. The new standard is effective for the Company for the annual period ending after December 15, 2016 and for annual and interim periods thereafter, with early adoption permitted. The Company adopted this standard on December 31, 2016. The adoption of this standard did not have a material impact on the Company's consolidated financial statements or disclosures.

Net Loss per Share Attributable to Common Stock

Basic net loss per share attributable to common stock ("Basic EPS") is calculated by dividing the net loss attributable to common stockholders by the weighted average number of shares of common stock outstanding for the period, without consideration for potentially dilutive securities with the exception of warrants for common stock with a $0.05 exercise price, which are exercisable for nominal consideration and are therefore included in the calculation of the weighted-average number of shares of common stock as common stock equivalents. Diluted net loss per share attributable to common stock ("Diluted EPS") gives effect to all dilutive potential shares of common stock outstanding during this period. For Diluted EPS, net loss attributable to common stockholders used in calculating Basic EPS is adjusted for certain items related to the dilutive securities.

For all periods presented, Aerie's potential common stock equivalents have been excluded from the computation of Diluted EPS as their inclusion would have the effect of reducing the net loss per share of common stock. Therefore, the denominator used to calculate Basic EPS and Diluted EPS is the same in all periods presented.

The Aerie's potential common stock equivalents that have been excluded from the computation of Diluted EPS for all periods presented consist of the following:

	DECEMBER 31,		
	2016	2015	2014
2014 Convertible Notes[(1)]	5,040,323	5,040,323	5,040,323
Outstanding stock options	5,255,930	4,583,586	3,826,459

Stock purchase warrants	157,500	157,500	309,506
Unvested restricted common stock awards	164,194	119,993	103,064

(1) Conversion is limited to a 9.985% ownership cap in shares of common stock by the holder. In addition to the common stock equivalents presented above, the 2014 Convertible Notes provide for an increase in the conversion rate if conversion is elected in connection with a significant corporate transaction. Refer to Note 8 for further information regarding the 2014 Convertible Notes.

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3. Other Income (Expense), Net

Other income (expense), net consists of the following:

	YEAR ENDED DECEMBER 31,		
(in thousands)	2016	2015	2014
Interest and amortization expense	$(2,537)	$(2,493)	$(628)
Sale of New Jersey state tax benefit	—	2,898	2,288
Investment and other income, net	543	457	179
	$(1,994)	$862	$1,839

4. Investments

Cash, cash equivalents and investments as of December 31, 2016 included the following:

(in thousands)	AMORTIZED COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES	FAIR VALUE
Cash and cash equivalents:				
Cash and money market accounts	$ 196,445	$ —	$ —	$196,445
Commercial paper	1,500	—	—	1,500
Total cash and cash equivalents	$ 197,945	$ —	$ —	$197,945
Investments:				
Certificates of deposit (due within 1 year)	$ 6,920	$ 4	$ (1)	$6,923
Corporate bonds (due within 1 year)	27,615	4	(75)	27,544
Government agencies (due within 1 year)	1,250	—	—	1,250
Total investments	$ 35,785	$ 8	$ (76)	$35,717
Total cash, cash equivalents, and investments	$ 233,730	$ 8	$ (76)	$233,662

Cash, cash equivalents and investments as of December 31, 2015 included the following:

(in thousands)	AMORTIZED COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES	FAIR VALUE
Cash and cash equivalents:				
Cash and money market accounts	$ 91,060	$ —	$ —	$91,060
Total cash and cash equivalents	$ 91,060	$ —	$ —	$91,060
Investments:				
Certificates of deposit (due within 1 year)	$ 13,611	$ 1	$ (7)	$13,605
Certificates of deposit (due within 2 years)	4,760	—	(10)	4,750
Commercial paper (due within 1 year)	5,977	—	(11)	5,966
Corporate bonds (due within 1 year)	24,002	—	(65)	23,937
Corporate bonds (due within 2 years)	9,142	—	(84)	9,058
Government agencies (due within 1 year)	1,997	—	(3)	1,994
Total investments	$ 59,489	$ 1	$ (180)	$59,310
Total cash, cash equivalents, and investments	$ 150,549	$ 1	$ (180)	$150,370

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5. Fair Value Measurements

The Company records certain financial assets and liabilities at fair value in accordance with the provisions of ASC Topic 820 on fair value measurements. As defined in the guidance, fair value, defined as an exit price, represents the amount that would be received to sell an asset or pay to transfer a liability in an orderly transaction between market participants. As a result, fair value is a market-based approach that should be determined based on assumptions that market participants would use in pricing an asset or a liability. As a basis for considering these assumptions, the guidance defines a three-tier value hierarchy that prioritizes the inputs used in the valuation methodologies in measuring fair value.

- Level 1—Unadjusted quoted prices in active, accessible markets for identical assets or liabilities.
- Level 2—Other inputs that are directly or indirectly observable in the marketplace.
- Level 3—Unobservable inputs that are supported by little or no market activity.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

The following tables summarize the fair value of financial assets and liabilities that are measured at fair value and the classification by level of input within the fair value hierarchy:

	FAIR VALUE MEASUREMENTS AS OF DECEMBER 31, 2016			
(in thousands)	LEVEL 1	LEVEL 2	LEVEL 3	TOTAL
Cash and cash equivalents:				
Cash and money market accounts	$196,445	$—	$—	$196,445
Commercial paper	—	1,500	—	1,500
Total cash and cash equivalents:	$196,445	$1,500	$—	$197,945
Investments:				
Certificates of deposit	$—	$6,923	$—	$6,923
Corporate bonds	—	27,544	—	27,544
Government agencies	—	1,250	—	1,250
Total investments	$—	$35,717	$—	$35,717
Total cash, cash equivalents, and investments:	$196,445	$37,217	$—	$233,662

	FAIR VALUE MEASUREMENTS AS OF DECEMBER 31, 2015			
(in thousands)	LEVEL 1	LEVEL 2	LEVEL 3	TOTAL
Cash and cash equivalents:				
Cash and money market accounts	$91,060	$—	$—	$91,060
Total cash and cash equivalents:	$91,060	$—	$—	$91,060
Investments:				
Certificates of deposit	$—	$18,355	$—	$18,355
Commercial paper	—	5,966	—	5,966
Corporate bonds	—	32,995	—	32,995
Government agencies	—	1,994	—	1,994
Total investments	$—	$59,310	$—	$59,310
Total cash, cash equivalents, and investments:	$91,060	$59,310	$—	$150,370

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As of December 31, 2016 and 2015, the estimated fair value of the 2014 Convertible Notes was $209.6 million and $140.1 million, respectively. The estimated fair value of the 2014 Convertible Notes was determined using a scenario analysis and Monte Carlo simulation model to capture the various features of the 2014 Convertible Notes. The scenario analysis and Monte Carlo simulation require the use of Level 3 unobservable inputs and subjective assumptions, including but not limited to the probability of conversion, stock price volatility, the risk free interest rate and credit spread. The increase in the estimated fair value of the 2014 Convertible Notes was primarily attributable to the change in the closing price of Aerie's common stock on December 31, 2016 compared to December 31, 2015. The estimates presented are not necessarily indicative of amounts that could be realized in a current market exchange. The use of alternative market assumptions and estimation methodologies could have a material effect on these estimates of fair value.

6. Furniture, Fixtures and Equipment, Net

Furniture, fixtures and equipment, net consists of the following:

(in thousands)	ESTIMATED USEFUL LIVES (YEARS)	DECEMBER 31, 2016	2015
Manufacturing equipment	10	$4,384	$988
Laboratory equipment	7	2,537	1,619
Furniture and fixtures	5	808	491
Software and computer equipment	3	1,732	1,695
Leasehold improvements	Term of lease	641	298
		$10,102	$5,091
Less: Accumulated depreciation		(2,245)	(1,275)
		$7,857	$3,816

Depreciation expense was $970,000, $252,000 and $73,000 for the years ended December 31, 2016, 2015 and 2014, respectively.

7. Accounts Payable & Other Current Liabilities

Accounts payable and other current liabilities consist of the following:

(in thousands)	DECEMBER 31, 2016	2015
Accounts payable	$5,610	$1,629
Accrued expenses and other liabilities:		
Employee benefits and compensation related accruals[1]	4,111	3,085
General and administrative related accruals[2]	2,908	2,389
Research and development related accruals[3]	6,191	7,741
Accrued income taxes[4]	—	1,721
	$18,820	$16,565

(1) Comprised of accrued bonus, accrued vacation and other employee related expenses, and liabilities under the Company's employee stock purchase plan.

(2) Comprised of accruals such as outside professional fees and other business related expenses.

(3) Comprised of accruals such as fees for investigative sites, contract research organizations, contract manufacturing organizations and other service providers that assist in conducting preclinical research studies and clinical trials.

(4) Accrued income taxes were the result of the taxable gain associated with the IP Assignment that occurred in March 2015 and were paid in the three months ended March 31, 2016. Refer to Note 9 for a description of the tax impact of the IP Assignment.

8. Convertible Notes

On September 30, 2014, Aerie issued $125.0 million aggregate principle amount of senior secured convertible notes (“the 2014 Convertible Notes”) to Deerfield Partners, L.P., Deerfield International Master Fund, L.P., Deerfield Private Design Fund III, L.P., Deerfield Special Situations Fund, L.P. and Deerfield Special Situations International Master Fund, L.P. On January 1,

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2015, Deerfield Special Situations International Master Fund, L.P. transferred all of its rights under the 2014 Convertible Notes to Deerfield Special Situations Fund, L.P. (together with the other Deerfield entities listed above, "Deerfield"). The 2014 Convertible Notes were issued pursuant to a note purchase agreement (as amended and supplemented from time to time, the "Note Purchase Agreement"), dated as of September 8, 2014, among Aerie and the Deerfield entities party thereto.

The 2014 Convertible Notes bear interest at a rate of 1.75% per annum payable quarterly in arrears on the first business day of each January, April, July and October. The 2014 Convertible Notes mature on the seventh anniversary from the date of issuance, unless earlier converted.

The 2014 Convertible Notes are guaranteed on a senior secured basis by Aerie Distribution. The 2014 Convertible Notes constitute the senior secured obligations of Aerie and Aerie Distribution, collateralized by a first priority security interest in substantially all of the assets of Aerie and Aerie Distribution. The Note Purchase Agreement provides that, upon the request of Aerie, Deerfield will release all of the liens on the collateral and the security agreement will terminate if both of the following occur: (i) beginning one month after FDA approval of either Rhopressa™ or Roclatan™, shares of Aerie's common stock have traded at a price above $30 per share (subject to adjustment for any subdivision or combination of outstanding common stock) for 30 consecutive trading days, and (ii) Aerie is prepared to close a financing that will be secured by a lien on Aerie's assets, subject only to the release of the lien on Aerie's assets held by Deerfield.

At closing, Aerie paid Deerfield a one-time transaction fee of $625,000. In addition, Aerie reimbursed Deerfield in the amount of $250,000 for certain expenses incurred by Deerfield in connection with the transaction. Aerie also incurred $1.3 million of legal and advisory fees in connection with the transaction.

The 2014 Convertible Notes are convertible at any time at the option of Deerfield, in whole or in part, into shares of common stock, including upon the repayment of the 2014 Convertible Notes at maturity (the "Conversion Option"). However, upon conversion, Deerfield (together with their affiliates) is limited to a 9.985% ownership cap in shares of common stock (the "9.985% Cap"). The 9.985% Cap would remain in place upon any assignment of the 2014 Convertible Notes by Deerfield.

The initial conversion price is $24.80 per share of common stock (equivalent to an initial conversion rate of 40.32 shares of common stock per $1,000 principal amount of 2014 Convertible Notes), representing a 30% premium over the closing price of the common stock on September 8, 2014. The conversion rate and the corresponding conversion price are subject to adjustment for stock dividends (other than a dividend for which Deerfield would be entitled to participate on an as-converted basis), stock splits, reverse stock splits and reclassifications. In addition, in connection with certain significant corporate transactions, Deerfield, at its option, may (i) require Aerie to prepay all or a portion of the principal amount of the 2014 Convertible Notes, plus accrued and unpaid interest, or (ii) convert all or a portion of the principal amount of the 2014 Convertible Notes into shares of common stock or receive the consideration Deerfield would have received had Deerfield converted the 2014 Convertible Notes immediately prior to the consummation of the transaction. The 2014 Convertible Notes provide for an increase in the conversion rate if Deerfield elects to convert their 2014 Convertible Notes in connection with a significant corporate transaction. The current maximum increase to the initial conversion rate, in connection with a significant corporate transaction, is 12.07 shares of common stock per $1,000 principal amount of 2014 Conversion Notes, which decreases over time and is determined by reference to the price of the common stock prior to the consummation of the significant corporate transaction or the value of the significant corporate transaction.

The Note Purchase Agreement contains various representations and warranties, and affirmative and negative covenants, customary for financings of this type, including restrictions on the incurrence of additional debt and liens on Aerie's and its subsidiaries' assets. As of December 31, 2016, Aerie was in compliance with the covenants. The Note Purchase Agreement also provides for certain events of default, including the failure to pay principal and interest when due; inaccuracies in Aerie's or Aerie Distribution's representations and warranties to Deerfield; failure to comply with any of the covenants; Aerie's or Aerie Distribution's insolvency or the occurrence of certain bankruptcy-related events; certain judgments against Aerie and its subsidiaries; the suspension, cancellation or revocation of governmental authorizations that are reasonably expected to have a material adverse effect on Aerie's business; the

acceleration of a specified amount of indebtedness; and the failure to deliver shares of common stock upon conversion of the 2014 Convertible Notes. If any event of default were to occur, and continue beyond any applicable cure period, the holders of more than 50% of the aggregate principal amount of the then outstanding 2014 Convertible Notes would be permitted to declare the principal and accrued and unpaid interest to be immediately due and payable.
The Company recorded the 2014 Convertible Notes as long-term debt at face value less debt discounts relating to fees and certain expenses paid to Deerfield in connection with the transaction. The Conversion Option is a derivative that qualifies for an exemption from bifurcation and liability accounting as provided for in ASC Topic 815, Derivatives and Hedging – Contracts in Entity's Own Equity ("ASC 815"). Since the Conversion Option is not bifurcated as a derivative pursuant to ASC 815, the Company further evaluated the Conversion Option to determine whether it is considered a beneficial conversion feature ("BCF"). The Company determined that the initial accounting conversion price was greater than the fair value of the common stock at the close of trading on the date of issuance, therefore no BCF existed at inception. However, if Deerfield elects to

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convert their 2014 Convertible Notes in connection with a significant corporate transaction, the increase to the initial conversion rate may cause a contingent BCF to exist at the time of conversion. The contingent BCF, if any, will be recognized in earnings when the contingency is resolved and will be measured using the fair value of the common stock at the close of trading on the date of issuance and the accounting conversion price as adjusted for such an increase to the initial conversion rate.

In connection with the IP Assignment, Aerie granted Deerfield a security interest in certain intercompany promissory notes and pledged 65% of the voting stock of Aerie Limited. Upon the request of Aerie, Deerfield will release the lien on the intercompany promissory notes under certain circumstances.

As of December 31, 2016, the Company recognized unamortized debt discounts and debt issuance costs of $1.5 million. Debt discounts and debt issuance costs are amortized using the effective interest method through the earlier of maturity or the conversion of the 2014 Convertible Notes.

The table below summarizes the carrying value of the 2014 Convertible Notes as of December 31, 2016:

(in thousands)	DECEMBER 31, 2016
Gross proceeds	$ 125,000
Initial value of issuance costs recorded as debt discount	(2,146)
Amortization of debt discount and issuance costs	685
Carrying value	$ 123,539

For the years ended December 31, 2016, 2015 and 2014, interest expense related to the 2014 Convertible Notes was $2.2 million, $2.2 million and $551,000, respectively.

9. Income Taxes

The provision for income taxes is based on net loss before income taxes as follows:

	DECEMBER 31,		
(in thousands)	2016	2015	2014
Net loss before income taxes:			
United States	$(88,123)	$(59,211)	$(48,133)
Other	(10,743)	(15,013)	—
Net loss before income taxes	$(98,866)	$(74,224)	$(48,133)

The components of the provision for income taxes are as follows:

	DECEMBER 31,		
(dollars in thousands)	2016	2015	2014
Provision for income taxes:			
Current:			
United States	$193	$139	$—
Other	—	—	—
Total	$193	$139	$—
Deferred:			
United States	$—	$—	$—
Other	—	—	—
Total	—	—	—
Provision for income taxes	$193	$139	$—
Effective tax rate	(0.19)%	(0.19)%	—%

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Significant components of the Company's net deferred income tax assets as of December 31, 2016 and 2015 consist of the following:

	DECEMBER 31,	
(in thousands)	2016	2015
Net deferred tax assets:		
Net operating loss carry-forwards	$39,188	$6,335
Share based compensation	11,845	7,231
U.S. tax credit carry-forwards	4,566	3,823
Other assets	1,998	1,488
Other liabilities	(860)	(696)
Valuation allowance	(56,737)	(18,181)
Total net deferred income taxes	$—	$—

A reconciliation of the statutory tax rates and the effective tax rates for the years ended December 31, 2016, 2015 and 2014 is as follows:

	DECEMBER 31,		
	2016	2015	2014
U.S. federal tax rate	35.00 %	35.00 %	35.00 %
State income taxes, net of federal benefit	5.34 %	(0.90)%	6.13 %
Taxable gain resulting from IP Assignment	— %	(75.31)%	— %
Non-taxable foreign loss	(2.69)%	(6.98)%	— %
Tax deferral from IP Assignment	(0.19)%	3.56 %	— %
Other	(1.45)%	0.02 %	(0.04)%
Valuation allowance	(36.20)%	44.42 %	(41.09)%
Effective tax rate	(0.19)%	(0.19)%	— %

In January 2015, the Company participated in the New Jersey Economic Development Authority's Sponsored Technology Business Tax Certificate Transfer Program to transfer $3.1 million in state tax benefits to unrelated profitable businesses with operations in the state of New Jersey. The Company received net proceeds of $2.9 million from the transfer.

The IP Assignment resulted in the recognition of a taxable gain for U.S. federal and state income tax purposes. Under ASC 810, Consolidation, the income tax expense of $2.8 million for the year ended December 31, 2015 was recorded as a prepaid asset. In accordance with ASC 810, Consolidation, the estimated prepaid asset will be amortized into income tax expense over the estimated remaining patent life of the intellectual property subject to the IP Assignment. For the years ended December 31, 2016 and 2015, the Company recognized $193,000 and $139,000 of income tax expense related to the amortization of the prepaid asset.

In addition, the IP Assignment is subject to complex tax and transfer pricing regulations administered by taxing authorities in various jurisdictions. The relevant taxing authorities may disagree with the Company's determinations as to the income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and the Company's position were not sustained, the Company could be required to pay additional taxes, interest and penalties, which could result in one-time tax charges, higher effective tax rates and reduced cash flows than otherwise would be expected.

It is Aerie's intention to reinvest the earnings of Aerie Limited and Aerie Ireland Limited in those operations. Generally, such amounts become subject to U.S. taxation upon the remittance of dividends and under certain other circumstances. Aerie Limited and Aerie Ireland Limited have incurred losses and experienced negative operating cash flows since inception, and as such, Aerie has not recognized a deferred tax liability related to its investment in either subsidiary as of December 31, 2016.

Realization of future tax benefits is dependent on the Company's ability to generate sufficient taxable income within the carry-forward period. Due to the Company's history of operating losses and lack of available evidence supporting future taxable income, the Company believes that a valuation allowance on its remaining deferred tax assets as of

December 31, 2016 remains appropriate. The Company did not reverse any of its valuation allowance on deferred tax assets as of December 31, 2016 and the change in the valuation allowance as of December 31, 2016 as compared to December 31, 2015 was the result of an increase in deferred tax assets.

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As of December 31, 2016, the Company had federal and state net operating loss carry-forwards of approximately $104.1 million and $122.5 million, respectively, which expire from 2024 through 2036. Included in the net operating loss carry-forwards are approximately $8.9 million and $2.3 million, respectively, of federal and state net operating loss carry-forwards related to exercises of stock-based awards, the tax benefit from which, if realized, will be credited to additional paid-in capital. Net operating loss and tax credit carry-forwards are subject to review and possible adjustment by the Internal Revenue Service and state tax authorities and may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant stockholders over a three-year period in excess of 50%, as defined under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, as well as similar state provisions. This could limit the amount of tax attributes that can be utilized annually to offset future taxable income or tax liabilities.

Certain transactions occurred in 2015 and prior years that resulted in ownership changes which will limit the future use of certain federal and state net operating loss and credit carry-forwards. Those federal and state net operating losses and credits that are not limited are included as deferred tax assets and have been fully offset by a valuation allowance as of December 31, 2016, as the Company believes, based on our history of operating losses, it is more likely than not that the tax benefits will not be realized.

10. Stockholders' Equity

On October 30, 2013, Aerie completed its initial public offering ("IPO"), and issued 7,728,000 shares of its common stock at an IPO price of $10.00. The Company received net proceeds from the IPO of approximately $68.3 million.

On September 30, 2014, Aerie issued the 2014 Convertible Notes, of which the Company received net proceeds of approximately $122.9 million. Refer to Note 8 for further information regarding the 2014 Convertible Notes.

On November 3, 2014, the Company filed a shelf registration statement on Form S-3 (the "2014 Registration Statement") that permitted the offering, issuance and sale by Aerie of up to a maximum aggregate offering price of $150.0 million of Aerie's common stock and permits sales of common stock by certain selling stockholders.

From November 10, 2014 through December 31, 2016, Aerie issued and sold 5,933,712 shares of common stock under its former "at-the-market" sales agreements, of which 4,179,156 shares were issued and sold during the year ended December 31, 2016, and received net proceeds of approximately $146.6 million, of which $96.2 million were received during the year ended December 31, 2016, in each case, after deducting commissions at a rate of up to 3% of the gross sales price per share sold and other fees and expenses. Sales under the "at-the-market" sales agreement were made pursuant to the 2014 Registration Statement. As of December 31, 2016, no shares remain available for issuance under the "at-the-market" sales agreements or the 2014 Registration Statement.

On September 15, 2016, the Company filed an automatic shelf registration on Form S-3 (the "2016 Registration Statement") that permits the offering, issuance and sale of an unlimited number of shares of common stock from time to time by Aerie.

On September 15, 2016, the Company entered into an underwriting agreement with Cantor Fitzgerald & Co., relating to the registered public offering of 2,542,373 shares of Aerie's common stock at a price to the public of $29.50 per share. The Company received net proceeds of approximately $71.0 million, after deducting underwriting discounts, fees and expenses of approximately $4.0 million. The offering was made pursuant to the 2016 Registration Statement.

Holders of common stock are entitled to dividends when and if declared by Aerie's Board of Directors subject to prior rights of the holders of any preferred stock. The holder of each share of common stock is entitled to one vote.

11. Stock Purchase Warrants

As of December 31, 2016, the following equity classified warrants were outstanding:

NUMBER OF UNDERLYING SHARES	EXERCISE PRICE PER SHARE	WARRANT EXPIRATION DATE	TYPE OF EQUITY SECURITY
75,000	$ 5.00	February 2019	Common Stock
75,000	$ 5.00	November 2019	Common Stock
7,500	$ 5.00	August 2020	Common Stock

223,482	$ 0.05	December 2019	Common Stock

The warrants outstanding as of December 31, 2016 are all currently exercisable with weighted-average remaining lives of 2.8 years. As of December 31, 2016 and 2015, all outstanding warrants are classified as equity and are recorded within additional paid-in capital on the consolidated balance sheets.

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12. Stock-based Compensation

Stock-based compensation expense for options granted, RSAs, and stock purchase rights are reflected in the consolidated statements of operations as follows:

	YEAR ENDED DECEMBER 31,		
(in thousands)	2016	2015	2014
Research and development	$ 3,781	$ 2,500	$ 1,339
General and administrative	13,013	10,445	7,839
Total	$ 16,794	$ 12,945	$ 9,178

The estimated fair value of options granted is determined on the date of grant using the Black-Scholes option pricing model. Options granted to non-employees are revalued at each financial reporting period until the required service is performed. Compensation expense related to RSAs is based on the market value of Aerie's common stock on the date of grant and is expensed on a straight-line basis over the vesting period. Compensation expense for stock purchase rights under the Company's employee stock purchase plan is measured and recognized on the date that Aerie becomes obligated to issue shares of common stock and is based on the difference between the fair value of Aerie's common stock and the purchase price on such date.

As of December 31, 2016, the Company had $26.7 million of unrecognized compensation expense related to options granted under its equity plans. This cost is expected to be recognized over a weighted average period of 2.4 years as of December 31, 2016. The weighted average remaining contractual life on all outstanding options as of December 31, 2016 was 7.4 years.

As of December 31, 2016, the Company had $2.3 million of unrecognized compensation expense, related to unvested RSAs. This cost is expected to be recognized over a weighted average period of 2.5 years as of December 31, 2016. The weighted average remaining contractual term on all unvested RSAs as of December 31, 2016 was 2.5 years.

Key weighted average assumptions utilized in the fair value calculation for the underlying common stock as of December 31, 2016, 2015 and 2014 appear on the table below.

	YEAR ENDED DECEMBER 31,		
	2016	2015	2014
Expected term (years)	5.99	6.07	6.25
Expected stock price volatility	83.94%	74.11%	80.44%
Risk-free interest rate	1.43 %	1.63 %	1.90 %
Dividend yield	— %	— %	— %

Based on the Company's historical experience of employee turnover, an annualized forfeiture rate was assumed for options and RSAs. Under the true-up provisions of the stock compensation guidance, additional expense is recognized as the awards vest if the actual forfeiture rate is lower than estimated, and a recovery of prior expense if the actual forfeiture is higher than estimated.

The Company utilized the guidance set forth in the SEC Staff Accounting Bulletin 107, Share-Based Payment ("SAB 107"), to determine the expected term of options, as it does not have sufficient historical exercise and post vesting termination data to provide a reasonable basis upon which to estimate the expected term of stock options granted to employees. The simplified method is based on the vesting period and the contractual term for each grant, or for each vesting-tranche for awards with graded vesting. The midpoint between the vesting date and the maximum contractual expiration date is used as the expected term under this method.

The risk-free interest rate is based on the yields of U.S. Treasury securities with maturities similar to the expected time to liquidity.

Volatility is based on the historical volatility of the Company as well as several public entities that are similar to the Company. This peer group of companies utilized in 2016 remained consistent with that of 2015.

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Equity Plans

The Company maintains three equity compensation plans, the 2005 Aerie Pharmaceutical Stock Plan (the "2005 Plan"), the 2013 Omnibus Incentive Plan (the "2013 Equity Plan"), which was amended and restated as the Aerie Pharmaceuticals, Inc. Amended and Restated Omnibus Incentive Plan (the "Amended and Restated Equity Plan"), as described below, and the Aerie Pharmaceuticals, Inc. Inducement Award Plan (the "Inducement Award Plan"), as described below. The 2005 Plan, the Amended and Restated Equity Plan and the Inducement Award Plan are referred to collectively as the "Plans."

On October 30, 2013, the effective date of the 2013 Equity Plan, the 2005 Plan was frozen and no additional awards have been or will be made under the 2005 Plan. Any remaining shares available for future grant under the 2005 Plan were allocated to the 2013 Equity Plan.

At the 2015 Annual Meeting of Stockholders held on April 10, 2015, Aerie's stockholders approved the adoption of the Amended and Restated Equity Plan and no additional awards have been or will be made under the 2013 Equity Plan. Any remaining shares available under the 2013 Equity Plan were allocated to the Amended and Restated Equity Plan.

The Amended and Restated Equity Plan provides for the granting of up to 5,729,068 equity awards in respect of common stock of Aerie, including equity awards that were available for issuance under the 2013 Equity Plan.

On December 7, 2016, Aerie's Board of Directors approved the Inducement Award Plan which provides for the granting of up to 418,000 equity awards in respect of common stock of Aerie. Awards granted under the Inducement Award Plan are intended to qualify as employment inducement awards under NASDAQ Listing Rule 5635(c)(4).

The following table summarizes the stock option activity under the Plans:

	NUMBER OF SHARES	WEIGHTED AVERAGE EXERCISE PRICE	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE (YEARS)	AGGREGATE INTRINSIC VALUE (000's)
Options outstanding at December 31, 2015	4,583,586	$ 12.86		
Granted	993,836	20.51		
Exercised	(166,295)	5.71		
Canceled	(155,197)	19.33		
Options outstanding at December 31, 2016	5,255,930	$ 14.34	7.4	$ 123,649
Options vested or expected to vest[(1)]	5,198,266	$ 14.25	7.4	$ 122,751
Options exercisable at December 31, 2016	3,276,694	$ 10.77	6.8	$ 88,745

(1) Includes vested options and options that are expected to vest in the future after applying an estimated annual forfeiture rate.

The weighted-average fair values of all stock options granted for the years ended December 31, 2016, 2015 and 2014 was $20.51, $24.83 and $20.83 respectively. The aggregate intrinsic value of options exercised for the years ended December 31, 2016, 2015 and 2014 was $3.9 million, $4.3 million and $10.5 million, respectively. The intrinsic value is calculated as the difference between the fair market value and the exercise price per share of the stock options. The fair market value per share of common stock as of December 31, 2016 was $37.85.

The following table provides additional information about stock options that are outstanding and exercisable at December 31, 2016:

EXERCISE PRICE	OPTIONS OUTSTANDING	WEIGHTED AVERAGE REMAINING CONTRACTUAL	OPTIONS EXERCISABLE

		LIFE (YEARS)	
$0.20 - $3.15	2,116,127	6.2	1,898,863
$10.44 - $15.97	419,188	8.9	105,380
$16.05 - $21.08	1,590,359	8.0	845,903
$22.31 - $26.76	317,781	8.3	125,372
$26.77 - $40.91	812,475	8.6	301,176
	5,255,930		3,276,694

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The following table summarizes the RSA activity under the Plans:

	NUMBER OF SHARES	WEIGHTED AVERAGE FAIR VALUE PER SHARE
RSAs outstanding at December 31, 2015	119,993	$ 20.31
Granted	112,655	15.98
Vested	(62,905)	13.71
Canceled	(5,549)	20.04
RSAs outstanding at December 31, 2016	164,194	$ 19.87

The vesting of the RSAs is time and service based with terms of one to four years.

13. Commitments and Contingencies

Lease Commitment Summary

The following table presents future minimum commitments of the Company due under non-cancelable operating leases with original or remaining terms in excess of one year as of December 31, 2016. Our operating lease obligations are primarily related to our principal executive offices in Irvine, California, offices in Bedminster, New Jersey and our research facility in Durham, North Carolina.

Minimum lease payments were as follows at December 31, 2016:

(in thousands)	
2017	$1,449
2018	1,373
2019	1,457
2020	1,339
2021	566
2022 and thereafter	45
Total minimum lease payments	$6,229

Rent expense amounted to $1.4 million, $1.5 million and $579,000 for the years ended December 31, 2016, 2015 and 2014, respectively, and is reflected in general and administrative expenses and research and development expenses as determined by the underlying activities occurring at each of the Company's locations.

Litigation

The Company may periodically become subject to legal proceedings and claims arising in connection with its business. Except as set forth below, the Company is not a party to any known litigation, is not aware of any unasserted claims and does not have contingency reserves established for any litigation liabilities.

A putative securities class action lawsuit captioned Kelley et al. v. Aerie Pharmaceuticals, Inc., et al., Case No. 3:15-cv-03007, was filed against the Company and certain of its officers and directors in the United States District Court for the District of New Jersey on April 29, 2015. An amended complaint was filed on September 28, 2015 on behalf of a purported class of persons and entities who purchased or otherwise acquired the Company's publicly traded securities between June 25, 2014 and April 23, 2015. The amended complaint asserted claims under the Securities Exchange Act of 1934, as amended, and alleged that the defendants made materially false and misleading statements or omitted allegedly material information during that period related to, among other things, the prospects of the Company's initial Phase 3 registration trial of Rhopressa™, named "Rocket 1," and Rhopressa™. On November 30, 2015, the defendants filed a motion to dismiss the amended complaint. On June 20, 2016, the United States District Court for the District of New Jersey granted the defendants' motion to dismiss the amended complaint. The time for a motion for reconsideration and/or appeal has expired. The Company considers the matter concluded.

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Contract Service Providers

In the course of the Company's normal business operations, it has agreements with contract service providers to assist in the performance of its research and development, clinical research and manufacturing and other general business activities. Substantially all of these contracts are on an as needed basis. Future minimum commitments of the Company due under non-cancelable agreements with service providers was $310,000 as of December 31, 2016 and are expected to be incurred by December 2017.

14. Related-Party Transactions

Collaboration

In 2015, the Company entered into a research collaboration and license agreement with GrayBug, Inc. ("GrayBug"). The collaboration focused on researching the potential use of Graybug's biodegradable polymer technology to deliver certain of the Company's preclinical stage molecules to the back of the eye over a sustained period of time. The Board of Directors of the Company and that of GrayBug have a common Board member. In 2016, the Company terminated its collaboration and license arrangements with GrayBug. The common Board member did not participate in any deliberations associated with this transaction.

15. Benefit Plans

Defined Contribution Plans

Aerie has adopted a 401(k) deferred compensation plan. Eligible employees meeting the participant criteria may contribute up to the statutory limitation ($18,000 for 2016 and 2015). Aerie may contribute a discretionary match if it elects to do so. During the years ended December 31, 2016, 2015 and 2014, Aerie made no matching contributions to the plan.

In October 2015, Aerie Ireland Limited adopted the Aerie Pharmaceuticals Ireland Pension and Life Assurance Scheme. Eligible employees meeting the participation criteria may contribute up to the aggregate statutory limitation of 15% to 40% of remuneration depending on age. During the years ended December 31, 2016 and 2015, Aerie Ireland Limited contributed $25,000 and $0, respectively, as a matching contribution to the plan.

Employee Stock Purchase Plan

On October 30, 2013, the Company adopted the 2013 Employee Stock Purchase Plan (the "Purchase Plan") under which substantially all employees may purchase the Company's common stock through payroll deductions and lump sum contributions at a price equal to 85% of the lower of the fair market values of the stock as of the beginning or the end of the offering periods. Employees may not purchase more than the fair value equivalent of $25,000 of stock during any calendar year. The Purchase Plan provides for the issuance of up to 645,814 shares in respect of common stock of Aerie.

16. Subsequent Events

In January 2017, the Company entered into a lease agreement for a new manufacturing plant in Athlone, Ireland under which the Company is leasing approximately 30,000 square feet of interior floor space for future build-out. The Company is permitted to terminate the lease beginning in September 2027. Total additional rental payments through September 2027 are approximately $2.5 million.

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17. Selected Quarterly Financial Data (Unaudited)

The following table presents selected unaudited quarterly financial information for the years ended December 31, 2016 and 2015. The results for any quarter are not necessarily indicative of future quarterly results and, accordingly, period to period comparisons should not be relied upon as an indication of future performance.

	FOR THE QUARTER ENDED			
(in thousands, except per share amounts)	DECEMBER 31,	SEPTEMBER 30,	JUNE 30,	MARCH 31,
Year Ended December 31, 2016				
Operating expenses	$(28,757)	$ (23,315)	$(22,690)	$ (22,110)
Net loss attributable to common stockholders	$(29,322)	$ (23,814)	$(23,219)	$ (22,704)
Net loss per share attributable to common stockholders—basic and diluted	$(0.87)	$ (0.81)	$(0.87)	$ (0.85)
	DECEMBER 31,	SEPTEMBER 30,	JUNE 30,	MARCH 31,
Year Ended December 31, 2015				
Operating expenses	$(19,950)	$ (17,366)	$(18,129)	$ (19,641)
Net loss attributable to common stockholders	$(20,377)	$ (17,961)	$(18,786)	$ (17,239)
Net loss per share attributable to common stockholders—basic and diluted	$(0.76)	$ (0.69)	$(0.73)	$ (0.70)

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EXHIBIT INDEX

EXHIBIT NO.	EXHIBIT DESCRIPTION
3.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on October 31, 2013).
3.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on October 31, 2013).
4.1†	Note Purchase Agreement between Aerie Pharmaceuticals, Inc. and Deerfield Partners, L.P., Deerfield International Master Fund, L.P., Deerfield Private Design Fund III, L.P., Deerfield Special Situations Fund, L.P. and Deerfield Special Situations International Master Fund, L.P., dated as of September 8, 2014 (incorporated by reference to Exhibit 4.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-36152) filed on November 12, 2014).
4.1.1*	First Amendment to Note Purchase Agreement, dated as of December 28, 2016, by and among Aerie Pharmaceuticals, Inc., Deerfield Private Design Fund III, L.P., Deerfield International Master Fund, L.P., Deerfield Partners, L.P. and Deerfield Special Situations Funds, L.P.
4.2	Form of Note (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-36152) filed on November 12, 2014).
4.3	Security Agreement among Aerie Pharmaceuticals, Inc. and Deerfield Partners, L.P., Deerfield International Master Fund, L.P., Deerfield Private Design Fund III, L.P., Deerfield Special Situations Fund, L.P. and Deerfield Special Situations International Master Fund, L.P., as Purchasers, and Deerfield Management Company, L.P., as Agent for the Purchasers, dated September 8, 2014 (incorporated by reference to Exhibit 4.3 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-36152) filed on November 12, 2014).
4.4*	Form of Guaranty (included in Exhibit 4.1.1).
10.1	Form of Aerie Pharmaceuticals, Inc. Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).
10.2	Aerie Pharmaceuticals, Inc. Amended and Restated Omnibus Incentive Plan (incorporated by reference to the appendix to the Registrant's Definitive Proxy Statement on Schedule 14A (File No. 001-36152) filed on February 27, 2015).
10.3	Form of Aerie Pharmaceuticals, Inc. Incentive Stock Option Agreement (Cliff Vesting) (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on February 24, 2015).
10.4	Form of Aerie Pharmaceuticals, Inc. Incentive Stock Option Agreement (Monthly Vesting) (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on February 24, 2015).

10.5	Form of Aerie Pharmaceuticals, Inc. Restricted Stock Agreement (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on February 24, 2015).
10.6	Form of Aerie Pharmaceuticals, Inc. Incentive Stock Option Agreement (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on March 19, 2014).
10.7	Aerie Pharmaceuticals, Inc. 2005 Stock Option Plan, dated as of July 13, 2005 (incorporated by reference to Exhibit 10.5 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).
10.8	First Amendment of Aerie Pharmaceuticals, Inc. 2005 Stock Option Plan, dated as of February 19, 2008 (incorporated by reference to Exhibit 10.6 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).

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10.9	Second Amendment of Aerie Pharmaceuticals, Inc. 2005 Stock Option Plan, dated as of December 3, 2009 (incorporated by reference to Exhibit 10.7 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).
10.10	Third Amendment of Aerie Pharmaceuticals, Inc. 2005 Stock Option Plan, dated as of February 23, 2011 (incorporated by reference to Exhibit 10.8 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).
10.11	Fourth Amendment of Aerie Pharmaceuticals, Inc. 2005 Stock Option Plan, dated as of August 9, 2013 (incorporated by reference to Exhibit 10.9 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).
10.12	Fifth Amendment of Aerie Pharmaceuticals, Inc. 2005 Stock Option Plan, dated as of September 16, 2013 (incorporated by reference to Exhibit 10.10 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).
10.13	Form of Indemnification Agreement for officers and directors (incorporated by reference to Exhibit 10.19 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 21, 2013).
10.14	Employment Agreement, dated as of September 20, 2013, by and between Aerie Pharmaceuticals, Inc. and Vicente Anido, Jr., Ph.D. (incorporated by reference to Exhibit 10.18 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).
10.15	Employment Agreement, dated as of July 31, 2013, by and between Aerie Pharmaceuticals, Inc. and Thomas Mitro (incorporated by reference to Exhibit 10.17 to the Registrant's Form S-1 Registration Statement (File No. 333-191219) filed on October 3, 2013).
10.16	Amended and Restated Employment Agreement, dated as of December 18, 2013, between Aerie Pharmaceuticals, Inc. and Thomas Mitro (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on December 20, 2013).
10.16.1*	Amendment to Amended and Restated Employment Agreement, dated as of March 6, 2017, by and between Aerie Pharmaceuticals, Inc. and Thomas Mitro.
10.17	Amended and Restated Employment Agreement, dated as of December 18, 2013, between Aerie Pharmaceuticals, Inc. and Richard Rubino (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on December 20, 2013).
10.17.1*	Amendment to Amended and Restated Employment Agreement, dated as of March 6, 2017, by and between Aerie Pharmaceuticals, Inc. and Richard Rubino.
10.18	Employment Agreement, dated as of December 18, 2013, between Aerie Pharmaceuticals, Inc. and Casey Kopczynski (incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K (File No. 001-36152) filed on December 20, 2013).
10.18.1*	Amendment to Employment Agreement, dated as of March 6, 2017, by and between Aerie Pharmaceuticals, Inc. and Casey Kopczynski.

10.19*	Aerie Pharmaceuticals, Inc. Inducement Award Plan.
10.20*	Form of Aerie Pharmaceuticals, Inc. Inducement Award Plan Nonqualified Stock Option Agreement.
10.21*	Form of Aerie Pharmaceuticals, Inc. Inducement Award Plan Restricted Stock Agreement.
21.1*	Subsidiaries of the Registrant.
23.1*	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm.
31.1*	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
31.2*	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
32.1*	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

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32.2*	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS**	XBRL Instance Document.
101.SCH**	XBRL Taxonomy Extension Schema Document.
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document.
101.LAB**	XBRL Taxonomy Extension Label Linkbase Database.
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document.
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document.

† Certain portions of this exhibit have been omitted and separately filed with the SEC pursuant to a request for confidential treatment which has been granted by the SEC.

* Filed herewith.

** Attached as Exhibit 101 to this report are the following formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Balance Sheets at December 31, 2016 and 2015, (ii) Consolidated Statements of Operations and Comprehensive Loss for the years ended December 31, 2016, 2015 and 2014 (iii) Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015 and 2014 and (iv) Notes to Consolidated Financial Statements.