AERIE PHARMACEUTICALS INC
Form 424B5
September 15, 2016
Table of Contents

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-199821

PROSPECTUS SUPPLEMENT

(To Prospectus dated November 3, 2014)

Up to $50,000,000 of Shares of

Common Stock

We have entered into a sales agreement with Cantor Fitzgerald & Co., the Agent, relating to shares of our common stock offered by this prospectus supplement. In accordance with the terms of the sales agreement, we may offer and sell through this prospectus supplement shares of our common stock having an aggregate offering price of up to $50,000,000 from time to time through the Agent, acting as our agent.

Our common stock is listed on the Nasdaq Global Market under the symbol AERI. On September 14, 2016, the last reported sale price of our common stock on the Nasdaq Global Market was $21.13 per share.

Sales of our common stock, if any, under this prospectus supplement may be made in sales deemed to be at-the-market equity offerings as defined in Rule 415 promulgated under the Securities Act of 1933, as amended (the Securities Act). The Agent will act as a sales agent on a best efforts basis and use commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us, consistent with its normal trading and sales practices, on mutually agreed terms between the Agent and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

Except as otherwise described in the sales agreement, the Agent will be entitled to compensation at a commission rate of up to 3.0% of the gross sales price per share sold. In connection with the sale of our common stock on our behalf, the Agent may be deemed to be an underwriter within the meaning of the Securities Act and the compensation of the Agent may be deemed to be underwriting commissions or discounts.

Investing in our common stock involves risks. You should carefully consider all of the information set forth in this prospectus supplement, the accompanying base prospectus and the documents incorporated by reference in this prospectus supplement before deciding to invest in our common stock. Please see Risk Factors on page

S-10 of this prospectus supplement and page 6 of the accompanying base prospectus and in the documents incorporated by reference in this prospectus supplement and the accompanying base prospectus to read about factors you should consider before buying shares of our common stock.

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

Cantor Fitzgerald & Co.

The date of this prospectus supplement is September 15, 2016.

Table of Contents

You should rely only on the information contained or incorporated by reference in this prospectus supplement, in the accompanying base prospectus and in any free writing prospectus with respect to this offering filed by us with the Securities and Exchange Commission (the SEC). Neither we nor the Agent has authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information you should not rely on it. You should assume that the information appearing in this prospectus supplement, the accompanying base prospectus, any free writing prospectus with respect to the offering filed by us with the SEC and the documents incorporated by reference herein and therein is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

TABLE OF CONTENTS

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

We may offer shares of our common stock having an aggregate offering price of up to $50.0 million from time to time under this prospectus supplement at prices and on terms to be determined by market conditions at the time of offering.

This document is in two parts. The first part is this at-the-market sales agreement prospectus supplement, which describes the specific terms of this offering and also adds to and updates information contained in the accompanying base prospectus and the documents incorporated by reference into the accompanying base prospectus. The second part, the accompanying base prospectus, gives more general information, some of which may not apply to this offering. You should read both this prospectus supplement and the accompanying base prospectus before deciding to invest in our common stock.

To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying base prospectus or in any document incorporated by reference in this prospectus supplement having an earlier date than the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. You should also read and consider the additional information under the captions Information Incorporated by Reference and Where You Can Find More Information in this prospectus supplement.

We and the Agent are offering to sell, and seeking offers to buy, shares of common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying base prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying base prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying base prospectus outside the United States. This prospectus supplement and the accompanying base prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying base prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

References in this prospectus supplement to the Company, Aerie, we, us and our and similar terms refer to Aerie Pharmaceuticals, Inc. and its subsidiaries.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference contain 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, wou should, exploring, pursuing or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements.

Forward-looking statements appear in a number of places throughout this prospectus supplement and the documents incorporated by reference herein, 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 product candidates 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 request, 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 United States, Canada, Europe, Japan and elsewhere;
- our expectations related to the use of proceeds from our initial public offering (IPO) in October 2013, the issuance and sale of our privately placed senior secured convertible notes in September 2014 (the 2014 Convertible Notes) and the issuance and sale of common stock under our shelf registration statement on Form S-3 and at-the-market sales agreements;
- our estimates regarding anticipated 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 and manufacturing 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 and industry change, 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 our Annual Report on Form 10-K for the year ended December 31, 2015, as filed with the SEC on March 2, 2016. You should not rely upon forward-looking statements as predictions of future events.

Table of Contents

Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus supplement and the documents incorporated by reference herein, 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 prospectus supplement and the documents incorporated by reference herein. In addition, even if our results of operations, financial condition and liquidity, and events in the industry in which we operate are consistent with the forward-looking statements contained in this prospectus supplement and the documents incorporated by reference herein, they may not be predictive of results or developments in future periods. Any forward-looking statements that we make in this prospectus supplement are as of the date of this prospectus supplement. 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 prospectus supplement.

Table of Contents

SUMMARY

This summary highlights information about this prospectus supplement and may not contain all of the information that may be important to you. You should read the following summary together with the more detailed information appearing elsewhere in this prospectus supplement and accompanying base prospectus, as well as the financial statements and related notes thereto and other information included in or incorporated by reference in this prospectus supplement before making any investment decision.

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 strategy is to advance our product candidates, including Rhopressa (netarsudil ophthalmic solution) 0.02% and Roclatan (netarsudil/latanoprost ophthalmic solution) 0.02%/0.005%, to regulatory approval, and commercialize these products ourselves in North American markets. 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. We are directing our own clinical trials to gain regulatory approval in Europe, and are preparing to either use a contract research organization, or otherwise partner, to conduct the necessary trials to gain approval in Japan. For commercialization outside of North America, we expect to explore partnership opportunities through collaboration and licensing arrangements in Europe and Japan and may potentially commercialize ourselves in Europe. We are also enhancing our longer-term commercial potential by identifying and advancing additional product candidates, including through our internal discovery efforts, research collaborations, potential in-licensing or acquisitions of additional ophthalmic products or technologies or product candidates that would complement our current product portfolio.

We completed our initial public offering in October 2013 and raised net proceeds of approximately $68 million. Since our IPO, we have raised additional net proceeds of approximately $124 million, through the sale and issuance of our 2014 Convertible Notes in September 2014, and approximately $98 million, through at-the-market sales during 2015 and 2016 (through August 31, 2016). Our senior leadership team has extensive experience in the ophthalmology market and has overseen the development and commercialization at major pharmaceutical companies of several successful ophthalmic products. If our products are approved and we are commercially successful, we believe Aerie could become a major ophthalmic pharmaceutical company.

Our lead product candidate, Rhopressa , is a novel once-daily eye drop designed to lower intraocular pressure (IOP) in patients with glaucoma or ocular hypertension. We announced our submission of a new drug application (NDA) with the U.S. Food and Drug Administration (FDA) for Rhopressa on September 6, 2016. Rocket 1, our initial Phase 3 registration trial which was designed to measure efficacy over three months, 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 our second Phase 3 registration trial, named Rocket 2, which was designed to measure efficacy over three months and assess safety over 12 months. The modified clinical endpoint range for Rocket 2 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 Rhopressa compared to timolol. Safety data for the 12-month period of the Rocket 2 trial was released in February 2016. The NDA filing for Rhopressa utilized Rocket 2 as the pivotal clinical trial and Rocket 1 as supportive in nature. In addition to our Rocket 1 and Rocket 2 clinical trials, we are currently conducting a one year, safety-only study in Canada, named Rocket 3, and an additional Phase 3 registration trial for Rhopressa , named Rocket 4 in the United States, which commenced in September 2015. Rocket 4 is designed to generate adequate six-month safety data for

Table of Contents

European regulatory approval. Rocket 4 is not required for NDA filing purposes. We expect to report the 90-day topline primary efficacy data for Rocket 4 in the fourth quarter of 2016. European regulatory filings are currently expected to be submitted in the second half of 2017.

Our second product candidate, Roclatan , which is a fixed-dose combination of Rhopressa and latanoprost, the most commonly prescribed drug for the treatment of patients with glaucoma, successfully completed a Phase 2b clinical trial in patients with open-angle glaucoma and ocular hypertension in June 2014. The first Phase 3 registration trial for Roclatan , named Mercury 1, commenced in September 2015 and on September 14, 2016 we announced that Mercury 1 achieved its primary efficacy endpoint of demonstrating superiority of Roclatan to each of its components. For additional information, please see Recent Developments Mercury 1 below. We commenced an additional Phase 3 trial in the United States for Roclatan , named Mercury 2, in March 2016. Mercury 2 is a 90-day efficacy and safety trial. If Mercury 1 and Mercury 2 are successful, a Roclatan NDA filing is expected to take place near year-end 2017. We also plan to initiate a third Phase 3 registration trial for Roclatan , named Mercury 3, in Europe in the first half of 2017. Mercury 3 will be designed to compare Roclatan to a fixed dose combination product broadly marketed in Europe, which if successful should benefit our commercialization prospects in Europe. We believe Roclatan has 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 (prostaglandin analog) 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.

We are developing Rhopressa as the first of a new class of compounds that is designed to lower IOP in patients through novel mechanisms of action (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 clinical data to date, we expect that if Rhopressa is approved, it will compete with non-PGA products as a preferred adjunctive therapy to PGAs, due to its strong and consistent IOP-lowering effect with once-daily dosing relative to currently marketed non-PGA products and potential synergistic effect with PGA products. Adjunctive therapies currently represent approximately one-half of the entire glaucoma therapy market in the United States. 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 glaucoma, as well as for patients who choose to avoid the cosmetic issues associated with PGAs.

We are also evaluating possible uses of our existing proprietary portfolio of Rho Kinase inhibitors beyond glaucoma. We have issued several research updates on preclinical results demonstrating the potential for Rhopressa to have disease-modifying activity in glaucoma patients by stopping and potentially reversing fibrosis in the trabecular meshwork, and also increasing perfusion in the trabecular outflow pathway thus increasing both drainage and the delivery of nutrients to the diseased tissue. Our research has also shown the potential of Rhopressa to promote retinal ganglion cell survival and axon regeneration. We have also commenced 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. Additionally, an early-stage molecule, AR-13154, has shown preclinically the potential to decrease lesion size in wet age-related macular degeneration at numerically higher levels than a current market-leading product.

We may license, acquire or develop additional product candidates and technologies to broaden our presence in ophthalmology. We continually explore and discuss potential additional opportunities for new ophthalmic products, delivery alternatives and new therapeutic areas. 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 and are in the early stages of collaboration with a third party.

Table of Contents

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

In March 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 organized under the laws of the Cayman Islands (Aerie Limited). In addition, we assigned the beneficial rights to our non-U.S. and Canadian intellectual property to Aerie Limited (the IP Assignment). As part of the IP Assignment, we and Aerie Limited entered into a research and development and cost sharing agreement pursuant to which we and Aerie Limited will share the costs of the development of intellectual property. Additionally, in April 2015, we continued to prepare for foreign-based activities and established Aerie Pharmaceuticals Ireland Limited (Aerie Ireland Limited) as a wholly-owned subsidiary of Aerie Limited to develop and commercialize the beneficial rights of the intellectual property assigned as part of the IP Assignment pursuant to a license arrangement entered into between Aerie Limited and Aerie Ireland Limited.

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 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 announced our submission of the NDA for Rhopressa on September 6, 2016, using our successful Rocket 2 clinical trial as the pivotal trial and Rocket 1 data as supportive in nature. This will be 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 regulatory filings in Europe by approximately mid-2017.

Roclatan successfully completed a Phase 2b clinical trial in patients with open-angle glaucoma and ocular hypertension in June 2014. Our first Phase 3 registration trial for Roclatan , named Mercury 1, commenced in September 2015 and on September 14, 2016 we announced that Mercury 1 achieved its primary efficacy endpoint of demonstrating superiority of Roclatan to each of its components. We commenced our second Phase 3 trial for Roclatan , named Mercury 2, in March 2016. If Mercury 1 and Mercury 2 are successful, we expect to file an NDA for Roclatan near year-end 2017. We expect to commence a third Phase 3 registration trial for Roclatan , named Mercury 3, in Europe in the first half of 2017, which will be designed to compare Roclatan to a fixed dose combination product broadly 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 lead product candidates in Europe and possibly obtaining regulatory approval on our own or through the use of a partner in Japan. Regarding our international

commercialization strategy, if our product candidates are successful, we may potentially commercialize ourselves or with a partner in Europe, and likely with a partner in Japan. We expect to finalize our European commercialization strategy by the end of 2016.

Table of Contents

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. patents and pending U.S. and foreign patent applications related to composition of matter, pharmaceutical compositions and methods of use for our product candidates. 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 and possible in-licensing or acquisitions of additional ophthalmic product candidates or products. 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 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.

Recent Developments

Mercury 1

On September 14, 2016, we reported the successful 90-day primary efficacy results of our 12-month Phase 3 Mercury 1 clinical trial for Roclatan. The study achieved its primary efficacy endpoint demonstrating statistical superiority over each of its components, including Rhopressa, and market-leading PGA, latanoprost, all of which were dosed once daily in the evening. The study evaluated patients with maximum baseline IOPs ranging from above 20 to below 36 mmHg (millimeters of mercury) at nine measured time points over the 90-day trial. The IOP-lowering effect of Roclatan exceeded that of monotherapy with latanoprost in a range of 1.3 to 2.5 mmHg and Rhopressa in a range of 1.8 to 3.0 mmHg, with efficacy levels remaining consistent for all arms in the study throughout the 90-day trial. Throughout the duration of the study, the mean diurnal IOP-lowering effect of Roclatan exceeded that of latanoprost by an average of 1.9 mmHg and exceeded Rhopressa by an average of 2.6 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 most common Roclatan adverse event observed in the study was hyperemia, or eye redness, which was reported in approximately 50% of patients, or 30% above baseline, and was scored as mild for approximately 80% of affected patients. There were no drug-related serious adverse events for any of the comparators in the trial.

Topline results of a clinical trial do not necessarily predict final results. The information presented above reflects our preliminary review of the 90-day topline primary efficacy results for Mercury 1 based solely upon information available to us as of the date of this prospectus supplement. The preliminary topline primary efficacy results presented above are subject to the completion of our data review procedures and completion of the 12-month safety trial. Further review of these results, and the results obtained at the completion of Mercury 1, may change the conclusions drawn from our preliminary review indicating less promising results than we currently anticipate. Additional information about the Mercury 1 results will not be available until after this offering is completed. In particular, on September 14, 2016, we announced that we will participate in an investor conference on October 5, 2016 during which we plan to cover further details from the Mercury 1 trial. Accordingly, you should not place undue reliance upon this preliminary data. Adverse events may occur or other risks may be discovered as Mercury 1 or other Roclatan trials progress that may cause us to suspend or terminate clinical trials for this product candidate. Moreover, clinical data are often susceptible to varying interpretations and analyses, and while we believe that the 90-day topline primary efficacy

results for Mercury 1 are satisfactory, we do not know whether the full 12-month safety study will demonstrate consistent or adequate efficacy and safety sufficient to obtain regulatory approval to market Roclatan . See Risk Factors Additional

Table of Contents

Risks Relating to this Offering Additional information about the Mercury 1 results will not be available until after this offering is completed elsewhere in this prospectus supplement and Risk Factors Risks Related to Development, Regulatory Approval and Commercialization 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 contained in our Annual Report on Form 10-K for the year ended December 31, 2015 incorporated by reference herein.

At-the-Market Sales

Subsequent to June 30, 2016, we issued and sold a total of 2,543,533 shares of our common stock under separate at-the-market sales agreements with RBC Capital Markets, LLC and Cantor Fitzgerald & Co. and received net proceeds of approximately $45.3 million.

Corporate 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 also have offices in Bedminster, New Jersey and Durham, North Carolina. We were incorporated in Delaware in June 2005. Our internet address is http://www.aeriepharma.com. The information found on our website is not incorporated by reference into this prospectus supplement.

Implications of Being an Emerging Growth Company

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012. We will remain an emerging growth company until the earlier of December 31, 2018 or such time when we have more than $1 billion in annual revenue, we issue more than $1 billion of non-convertible debt over a three-year period, or we have more than $700 million in market value of our stock held by non-affiliates as of the end of the second quarter of that fiscal year.

Table of Contents

THE OFFERING

Common stock to be offered by us	Shares of our common stock having an aggregate offering price of up to $50.0 million.
Manner of offering	At-the-market offering that may be made from time to time through the Agent. See Plan of Distribution on page S-20 of this prospectus supplement. In addition, at any time, including during the pendency of this offering, we may sell additional equity, other than pursuant to this offering, in amounts that may be material to us, including, without limitation, through underwritten public offerings, privately negotiated transactions, block trades, or any combination of the above, subject, in certain circumstances, to the consent of the Agent. See Risk Factors Additional Risks Relating to this Offering We may sell additional equity or debt securities to fund our operations, which may result in dilution to our stockholders and impose restrictions on our business on page S-10 and Dilution on page S-13 of this prospectus supplement.
Use of proceeds	We currently intend to use the net proceeds from this offering, if any, for general corporate purposes, including the further funding of Rhopressa™ commercialization costs, execution of clinical trials in Japan, commencement of construction of a manufacturing plant in Ireland and continuation of preclinical activity in support of our product pipeline, along with ongoing working capital requirements. See Use of Proceeds on page S-12 of this prospectus supplement.
Nasdaq Global Market symbol	AERI.
Risk factors	Investing in our common stock involves risks. Please see Risk Factors on page S-10 of this prospectus supplement and page 6 of the accompanying base prospectus, and in the documents incorporated by reference herein, to read about factors you should consider before deciding to purchase shares of our common stock.

Table of Contents

RISK FACTORS

You should consider carefully the risks described below and discussed under the section captioned Risk Factors contained in our Annual Report on Form 10-K for the year ended December 31, 2015, which is incorporated by reference in this prospectus supplement in its entirety, together with other information in this prospectus supplement, and the information and documents incorporated by reference in this prospectus supplement, and any free writing prospectus with respect to this offering filed by us with the SEC, before you make a decision to invest in our common stock. 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 these risks 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.

Additional Risks Relating to this Offering

Our management will have broad discretion in the use of the net proceeds from this offering and may allocate the net proceeds from this offering in ways that you and other stockholders may not approve.

Our management will have broad discretion in the use of the net proceeds, including for any of the purposes described in the section entitled Use of Proceeds, and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure of our management to use these funds effectively could have a material adverse effect on our business, cause the market price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing instruments and U.S. government securities. These investments may not yield a favorable return to our stockholders.

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

In order to raise additional funds to support our operations, 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. In addition, at any time, including during the pendency of this offering, we may sell additional equity, other than pursuant to this offering, in amounts that may be material to us, including, without limitation, through underwritten public offerings, privately negotiated transactions, block trades, or any combination of the above, subject, in certain circumstances, to the consent of the Agent. See Dilution on page S-13 of this prospectus supplement. 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.

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 have never declared or paid cash dividends on our common stock. 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 any existing or 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 in this offering for the foreseeable future.

Table of Contents

You will experience immediate dilution in the book value per share of the common stock you purchase.

Because the price per share of our common stock being offered may be higher than the book value per share of our common stock, you may suffer immediate substantial dilution in the net tangible book value of the common stock you purchase in this offering. See Dilution on page S-13 of this prospectus supplement for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

Additional information about the Mercury 1 results will not be available until after this offering is completed.

The information presented in this prospectus supplement under Summary Recent Developments Mercury 1 reflects our preliminary review of the 90-day topline primary efficacy results for Mercury 1 based solely upon information available to us as of the date of this prospectus supplement. These preliminary topline primary efficacy results are subject to the completion of our data review procedures and completion of the 12-month safety trial. Further review of these results, and the results obtained at the completion of Mercury 1, may change the conclusions drawn from our preliminary review indicating less promising results than we currently anticipate. Additional information about the Mercury 1 results will not be available until after this offering is completed. In particular, on September 14, 2016, we announced that we will participate in an investor conference on October 5, 2016 during which we plan to cover further details from the Mercury 1 trial. Accordingly, you should not place undue reliance upon this preliminary data. Adverse events may occur or other risks may be discovered as Mercury 1 or other Roclatan™ trials progress that may cause us to suspend or terminate clinical trials for this product candidate. Moreover, clinical data are often susceptible to varying interpretations and analyses, and while we believe that the 90-day topline primary efficacy results for Mercury 1 are satisfactory, we do not know whether the full 12-month safety study will demonstrate consistent or adequate efficacy and safety sufficient to obtain regulatory approval to market Roclatan™. See Risk Factors Risks Related to Development, Regulatory Approval and Commercialization 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 contained in our Annual Report on Form 10-K for the year ended December 31, 2015 incorporated by reference herein.

Table of Contents

USE OF PROCEEDS

We currently intend to use the net proceeds from this offering, if any, for general corporate purposes, including the further funding of Rhopressa™ commercialization costs, execution of clinical trials in Japan, commencement of construction of a manufacturing plant in Ireland and continuation of preclinical activity in support of our product pipeline, along with ongoing working capital requirements. We may also use a portion of the net proceeds for the licensing or acquisition of, or the development of, additional product candidates and/or to fund possible investments in and the acquisition of complementary businesses or partnerships. However, we have no present plans, agreements or commitments with respect to any potential acquisition, investment or license. The amount of the proceeds from this offering will depend upon the number of shares of our common stock sold and the market price at which they are sold. There can be no assurance that we will sell any shares under or fully utilize the sales agreement with the Agent as a source of financing.

The expected use of the net proceeds from the sale of common stock offered by this prospectus supplement represents our intentions based upon our current plans and business conditions. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our clinical trials and development efforts, as well as any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering. Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

Table of Contents

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock upon closing of this offering. Net tangible book value per share of our common stock is determined at any date by subtracting our total liabilities from the amount of our total tangible assets (total assets less intangible assets) and dividing the difference by the number of shares of our common stock deemed to be outstanding at that date.

Our historical net tangible book value (deficit) as of June 30, 2016 was approximately $(17.5) million, or $(0.66) per share, based on 26,649,605 shares of common stock outstanding as of June 30, 2016.

After giving effect to our receipt of approximately $49.0 million of estimated net proceeds (after deducting underwriting discounts and commissions and estimated offering expenses payable by us) from our sale of common stock in this offering at an assumed public offering price of $21.13 per share (the last reported sale price of our common stock on the Nasdaq Global Market on September 14, 2016), our as adjusted net tangible book value as of June 30, 2016 would have been $31.5 million, or $1.09 per share. This amount represents an immediate increase in net tangible book value of $1.75 per share of our common stock to existing stockholders and an immediate dilution in net tangible book value of $20.04 per share of our common stock to new investors purchasing shares of common stock in this offering at the assumed public offering price.

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

Assumed public offering price per share		$ 21.13
Historical net tangible book value per share	$ (0.66)	
Increase per share attributable to new investors	1.75	
As adjusted net tangible book value per share after this offering		1.09
Dilution per share to new investors		$ 20.04

The table above assumes for illustrative purposes that an aggregate of 2,366,304 shares of our common stock are sold at a price of $21.13 per share, the last reported sale price of our common stock on The Nasdaq Global Market on September 14, 2016, for aggregate gross proceeds of approximately $50.0 million. The shares sold in this offering, if any, will be sold from time to time at various prices.

In addition, at any time, including during the pendency of this offering, we may sell additional equity, other than pursuant to this offering, in amounts that may be material to us, including, without limitation, through underwritten public offerings, privately negotiated transactions, block trades, or any combination of the above, subject, in certain circumstances, to the consent of the Agent. Any additional equity that we may sell from time to time would result in further dilution to all of our stockholders. See Risk Factors Additional Risks Relating to this Offering We may sell additional equity or debt securities to fund our operations, which may result in dilution to our stockholders and impose restrictions on our business on page S-10 of this prospectus supplement.

The information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing.

The above table is based on 26,649,605 shares of common stock outstanding as of June 30, 2016, and excludes, as of such date:

- 184,633 shares of restricted stock outstanding as of June 30, 2016 that are subject to vesting restrictions and are not considered outstanding for accounting purposes;

Table of Contents

5,271,279 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2016, under our equity compensation plans, having a weighted average exercise price of $11.04 per share;

613,426 shares of common stock reserved for issuance under our 2013 Employee Stock Purchase Plan as of June 30, 2016;

2,449,607 shares of common stock reserved as of June 30, 2016, for future issuance under our Amended and Restated Equity Plan;

380,982 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2016, having a weighted average exercise price of $2.10 per share; and

2,543,553 shares of common stock issued after June 30, 2016 pursuant to our at-the-market sales agreements.

Table of Contents

PRICE RANGE OF COMMON STOCK

Our common stock has been trading on the Nasdaq Global Market under the symbol AERI since our IPO on October 25, 2013. Prior to this date, there was no public market for our common stock. 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		
Third Quarter (through September 14, 2016)	$ 21.99	$ 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

As of June 30, 2016, we had 26,649,605 shares of common stock outstanding held by approximately eight 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.

Table of Contents

U.S. FEDERAL INCOME AND ESTATE TAX CONSIDERATIONS

The following is a summary of the material U.S. federal income and estate tax consequences of the ownership and disposition of our common stock that is being issued pursuant to this offering. This summary is limited to a non-U.S. holder (as defined below) that holds our common stock as a capital asset (generally, investment property). This summary does not discuss all of the aspects of U.S. federal income and estate taxation that may be relevant to a non-U.S. holder in light of the non-U.S. holder s particular investment or other circumstances. In addition, this summary also does not address any tax considerations arising under the laws of any U.S. state or local jurisdiction or non-U.S. jurisdiction or under the U.S. federal gift tax laws. Accordingly, all prospective non-U.S. holders should consult their own tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the ownership and disposition of our common stock.

This summary is based on provisions of the U.S. Internal Revenue Code of 1986, as amended, or the Code, applicable U.S. Treasury regulations and administrative and judicial interpretations, all as in effect or in existence on the date of this prospectus. Subsequent developments in U.S. federal income or estate tax law, including changes in law or differing interpretations, which may be applied retroactively, could alter the U.S. federal income and estate tax consequences of owning and disposing of our common stock as described in this summary. We cannot assure you that the U.S. Internal Revenue Service, or the IRS, will not challenge one or more of the tax consequences described in this summary, and we have not obtained, nor do we intend to obtain, any ruling from the IRS or opinion of counsel with respect to any of the tax consequences of the ownership or disposition of our common stock by a non-U.S. holder.

As used in this summary, the term non-U.S. holder means a beneficial owner of our common stock that is not, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States or of any state thereof or the District of Columbia;
- an entity or arrangement treated as a partnership for U.S. federal income tax purposes;
- an estate whose income is includible in gross income for U.S. federal income tax purposes regardless of its source; or
- a trust, if (1) a U.S. court is able to exercise primary supervision over the trust s administration and one or more United States persons (within the meaning of the Code) has the authority to control all of the trust s substantial decisions, or (2) the trust has a valid election in effect under applicable U.S. Treasury regulations to be treated as a United States person.

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership generally will depend upon the status of the partner, the activities of the partnership and certain determinations made at the partner level. Partnerships, and partners in partnerships, that hold

our common stock should consult their own tax advisors as to the particular U.S. federal income and estate tax consequences of owning and disposing of our common stock that are applicable to them.

This summary does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address any special tax rules that may apply to particular non-U.S. holders, such as:

- financial institutions, insurance companies, tax-exempt organizations, pension plans, brokers, dealers or traders in stocks, securities or currencies, certain former citizens or long-term residents of the United States, controlled foreign corporations or passive foreign investment companies; or

- a non-U.S. holder holding our common stock as part of a conversion, constructive sale, wash sale or other integrated transaction or a hedge, straddle or synthetic security;

Table of Contents

a non-U.S. holder that holds or receives our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; or

a non-U.S. holder that at any time owns, directly, indirectly or constructively, 5% or more of our capital stock.

Each non-U.S. holder should consult a tax advisor regarding the U.S. federal, state, local and non-U.S. income and other tax consequences of owning and disposing of our common stock.

Dividends

Distributions on our common stock generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder s investment, up to (and will reduce, but not below zero) such non-U.S. holder s tax basis in the common stock. Any remaining excess will be treated as capital gain that will be subject to the tax treatment described below in Gain on Disposition of Our Common Stock.

As discussed above in the section titled Dividend Policy, we do not intend to pay cash dividends on our common stock for the foreseeable future. In the event that we do make cash distributions on our common stock, the gross amounts paid to a non-U.S. holder that are treated as dividends not effectively connected with such non-U.S. holder s conduct of a trade or business in the United States will be subject to withholding of U.S. federal income tax at a rate of 30%, or a lower rate under an applicable income tax treaty. In order to claim the benefit of an applicable income tax treaty, a non-U.S. holder will be required to provide to the applicable withholding agent a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable form) in accordance with the applicable certification and disclosure requirements. Special rules apply to partnerships and other pass-through entities, and these certification and disclosure requirements also may apply to beneficial owners of partnerships and other pass-through entities that hold our common stock.

Dividends paid on our common stock that are effectively connected with a non-U.S. holder s conduct of a trade or business in the United States and, if required by an applicable income tax treaty, that are attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States, will be taxed on a net income basis at the regular graduated rates and in the manner applicable to United States persons. In that case, withholding of U.S. federal income tax discussed above will not apply if the non-U.S. holder provides to the applicable withholding agent a properly executed IRS Form W-8ECI (or successor form) in accordance with the applicable certification and disclosure requirements. In addition, a non-U.S. holder that is treated as a corporation for U.S. federal income tax purposes may be subject to a branch profits tax at a 30% rate, or a lower rate under an applicable income tax treaty, on the non-U.S. holder s earnings and profits (attributable to dividends on our common stock or otherwise) that are effectively connected with the non-U.S. holder s conduct of a trade or business within the United States, subject to adjustments.

The certifications described above must be provided to the applicable withholding agent prior to the payment of dividends and must be updated periodically. A non-U.S. holder may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim for a refund with the U.S. Internal Revenue Service. Non-U.S. holders should consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty and the manner of claiming the benefits.

The foregoing is subject to the discussions below under U.S. Information Reporting and Backup Withholding and FATCA Withholding.

Table of Contents

Gain on Disposition of Our Common Stock

A non-U.S. holder generally will not be subject to U.S. federal income tax (including withholding thereof) on any gain recognized on a sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the non-U.S. holder s conduct of a trade or business in the United States and, if required by an applicable income tax treaty, is attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States; in this case, the gain will be subject to U.S. federal income tax on a net income basis at the regular graduated rates and in the manner applicable to United States persons (unless an applicable income tax treaty provides otherwise) and, if the non-U.S. holder is treated as a corporation for U.S. federal income tax purposes, the branch profits tax described above may also apply;

- the non-U.S. holder is an individual who is present in the United States for a period aggregating more than 182 days in the taxable year of the disposition and meets other requirements (in which case, except as otherwise provided by an applicable income tax treaty, the gain, which may be offset by certain U.S. source capital losses, generally will be subject to a flat 30% U.S. federal income tax, even though the non-U.S. holder is not considered a resident alien under the Code); or

- we are or have been a U.S. real property holding corporation for U.S. federal income tax purposes at any time during the shorter of the five-year period ending on the date of disposition or the period that the non-U.S. holder held our common stock.

Generally, a corporation is a U.S. real property holding corporation if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests (including U.S. real property interests) plus its other assets used or held for use in a trade or business. The tax relating to stock in a U.S. real property holding corporation generally will not apply to a non-U.S. holder whose holdings, direct, indirect and constructive, at all times during the applicable period, constituted 5% or less of our common stock, provided that our common stock was regularly traded on an established securities market. We believe that we are not currently, and we do not anticipate becoming in the future, a U.S. real property holding corporation. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above. Non-U.S. holders should consult their own tax advisors regarding the possible adverse U.S. federal income tax consequences to them if we are, or were to become, a U.S. real property holding corporation.

The foregoing is subject to the discussions below under U.S. Information Reporting and Backup Withholding and FATCA Withholding.

Federal Estate Tax

Our common stock that is owned or treated as owned by an individual who is not a U.S. citizen or resident of the United States (as specially defined for U.S. federal estate tax purposes) at the time of death will be included in the individual s gross estate for U.S. federal estate tax purposes, unless an applicable estate tax or other treaty provides otherwise and, therefore, may be subject to U.S. federal estate tax.

U.S. Information Reporting and Backup Withholding

The applicable withholding agent with respect to a non-U.S. holder generally will be required to report to the IRS and to such non-U.S. holder payments of dividends on our common stock and the amount of U.S. federal income tax, if any, withheld with respect to those payments. Copies of the information returns reporting such dividends and any withholding may also be made available to the tax authorities in the country in which the non-U.S. holder resides under the provisions of a treaty or agreement. A non-U.S. holder will be exempt from backup withholding on dividends paid on our common stock if the non-U.S. holder provides to the applicable withholding agent a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable form) certifying

Table of Contents

under penalties of perjury that the non-U.S. holder is not a United States person, or otherwise meets documentary evidence requirements for establishing that it is not a United States person or otherwise qualifies for an exemption.

The gross proceeds from the disposition of our common stock may be subject to U.S. information reporting and backup withholding. If a non-U.S. holder sells our common stock outside the United States through a non-U.S. office of a non-U.S. broker and the sales proceeds are paid to the non-U.S. holder outside the United States, then the U.S. backup withholding and information reporting requirements generally will not apply to that payment. However, U.S. information reporting, but not U.S. backup withholding, will apply to a payment of sales proceeds, even if that payment is made outside the United States, if a non-U.S. holder sells our common stock through a non-U.S. office of a broker that is a United States person or has certain enumerated connections with the United States, unless the broker has documentary evidence in its files that the non-U.S. holder is not a United States person and certain other conditions are met or the non-U.S. holder otherwise qualifies for an exemption.

If a non-U.S. holder receives payments of the proceeds of a sale of our common stock to or through a U.S. office of a broker, the payment is subject to both U.S. backup withholding and information reporting unless the non-U.S. holder provides to the broker a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable form) certifying under penalties of perjury that the non-U.S. holder is not a United States person or the non-U.S. holder otherwise qualifies for an exemption.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund to a non-U.S. holder, or a credit against a non-U.S. holder s U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

FATCA Withholding

The Foreign Account Tax Compliance Act and related Treasury guidance (commonly referred to as FATCA) impose U.S. federal withholding tax at a rate of 30% on payments to certain foreign entities of (i) U.S.-source dividends (including dividends paid on our common stock) and (ii) the gross proceeds from the sale or other disposition after December 31, 2018 of property that produces U.S.-source dividends (including sales or other dispositions of our common stock). This withholding tax applies to a foreign entity, whether acting as a beneficial owner or an intermediary, unless such foreign entity complies with (i) certain information reporting requirements regarding its U.S. account holders and its U.S. owners and (ii) certain withholding obligations regarding certain payments to its account holders and certain other persons. Accordingly, the entity through which a non-U.S. holder holds its common stock will affect the determination of whether such withholding is required. Non-U.S. holders are encouraged to consult their tax advisors regarding FATCA.

Table of Contents

PLAN OF DISTRIBUTION

We have entered into a sales agreement with the Agent under which we may issue and sell shares of our common stock from time to time through the Agent, acting as our agent. We may issue and sell shares through this prospectus supplement having an aggregate gross sales price of up to $50.0 million. The following summary of the material provisions of the sales agreement does not purport to be a complete statement of its terms and conditions. The sales agreement has been filed as an exhibit to our Current Report on Form 8-K, filed on September 15, 2016.

Upon delivery of a placement notice and subject to the terms and conditions of the sales agreement, the Agent may sell our common stock by any method permitted by law deemed to be an at-the-market offering as defined in Rule 415 promulgated under the Securities Act. We may instruct the Agent not to sell common stock if the sales cannot be effected at or above the price designated by us from time to time. We or the Agent may suspend the offering of common stock upon notice and subject to other conditions.

Except as otherwise described in the sales agreement, we will pay the Agent commissions, in cash, for its services in acting as our agent in the sale of our common stock. The Agent will be entitled to compensation at a commission rate of up to 3.0% of the gross sales price per share sold by the Agent. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse the Agent for certain specified expenses, including the fees and disbursements of its legal counsel in an amount not to exceed $50,000. We estimate that the total expenses for the offering, excluding compensation and reimbursements payable to the Agent under the terms of the sales agreement, will be approximately $250,000.

Settlement for sales of common stock will occur on the third business day following the date on which any sales are made, or on some other date that is agreed upon by us and the Agent in connection with a particular transaction, in return for payment of the net proceeds to us. Sales of our common stock as contemplated in this prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and the Agent may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

The Agent will use its commercially reasonable efforts, consistent with its sales and trading practices, to solicit offers to purchase the common stock shares under the terms and subject to the conditions set forth in the sales agreement. In connection with the sale of the common stock on our behalf, the Agent may be deemed to be an underwriter within the meaning of the Securities Act and the compensation of the Agent may be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to the Agent against certain civil liabilities, including liabilities under the Securities Act.

The offering of our common stock pursuant to the sales agreement will terminate upon the earlier of (i) the sale of all shares of our common stock subject to the sales agreement or (ii) termination of the sales agreement as permitted therein. We and the Agent may each terminate the sales agreement at any time upon ten days prior notice.

The Agent and its affiliates may in the future provide various investment banking, commercial banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees. To the extent required by Regulation M, the Agent will not engage in any market making activities involving our common stock while the offering is ongoing under this prospectus supplement.

This prospectus supplement in electronic format may be made available on a website maintained by the Agent, and the Agent may distribute this prospectus supplement and the accompanying base prospectus electronically.

Table of Contents

LEGAL MATTERS

The legal validity of the common stock offered by this prospectus supplement will be passed upon for us by Fried, Frank, Harris, Shriver & Jacobson LLP, New York, New York. The Agent is being represented in connection with this offering by Latham & Watkins LLP, San Diego, California.

Table of Contents

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2015 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

Table of Contents

INFORMATION INCORPORATED BY REFERENCE

The SEC s rules allow us to incorporate by reference information into this prospectus supplement, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus supplement, and information that we file with the SEC will automatically update and supersede the previously filed information. In the case of a conflict or inconsistency between information in this prospectus supplement and/or information incorporated by reference into this prospectus supplement, you should rely on the information contained in the document that was filed later.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, other than any portions of the respective filings that were furnished, pursuant to Item 2.02 or Item 7.01 of Current Reports on Form 8-K (including exhibits related thereto) or other applicable SEC rules, rather than filed, prior to the termination of the offering under this prospectus supplement:

- our Annual Report on Form 10-K for the year ended December 31, 2015, which was filed with the SEC on March 2, 2016;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2015 from our Definitive Proxy Statement on Schedule 14A, which was filed with the SEC on April 29, 2016;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016 and June 30, 2016, which were filed with the SEC on May 3, 2016 and August 4, 2016, respectively;
- our Current Reports on Form 8-K, which were filed with the SEC on June 9, 2016, June 22, 2016 and September 15, 2016; and
- the description of our common stock contained in our Registration Statement on Form 8-A, which was filed with the SEC on October 25, 2013, including any amendments or reports filed for the purpose of updating the description.

You may obtain copies of any of these filings by contacting us at the address and telephone number indicated below or by contacting the SEC as described below under the section entitled Where You Can Find More Information. Documents incorporated by reference are available from us without charge, excluding all exhibits unless an exhibit has been specifically incorporated by reference into this prospectus supplement, by requesting them in writing or by telephone or at our website at:

Aerie Pharmaceuticals, Inc.

Attention: Investor Relations

2030 Main Street, Suite 1500

Irvine, California 92614

(949) 526-8700

www.aeriepharma.com

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the common stock offered hereby. As permitted by SEC rules, this prospectus supplement does not contain all of the information we have included in the registration statement and the accompanying exhibits. You may refer to the registration statement and the exhibits for more information about us and our securities. The registration statement and the exhibits are available at the SEC s Public Reference Room or through its website as described below.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read and copy any materials we file with the SEC at its Public Reference Room at 100 F Street N.E., Washington DC, 20549. You can obtain information about the operations of the SEC Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains information we file electronically with the SEC, which you can access over the Internet at http://www.sec.gov. General information about us, including our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports, is available free of charge through our website at http://www.aeriepharma.com as soon as reasonably practicable after we electronically file them with, or furnish them to, the SEC. Information on our website is not incorporated into this prospectus supplement or our other securities filings and is not a part of these filings.

Table of Contents

PROSPECTUS

$150,000,000

Common Stock

8,747,013 Shares of Common Stock Offered by the Selling Stockholders

We may offer and sell from time to time, in one or more offerings, shares of our common stock.

In addition, up to 8,747,013 shares of our common stock, including 708,295 shares of our common stock issuable upon the exercise of warrants, may be offered and sold, from time to time, by the selling stockholders described in this prospectus under the heading Selling Stockholders. We will pay all registration expenses (other than underwriting discounts and commissions) and the reasonable fees and expenses of a single special counsel for the selling stockholders in connection with the registration of the selling stockholders common stock. We will not receive any proceeds from the sale of our common stock by the selling stockholders.

The common stock may be offered or sold by us or any selling stockholder at fixed prices, at prevailing market prices at the time of sale or at prices negotiated with purchasers, to or through underwriters, broker-dealers, agents, or through any other means described in this prospectus under Plan of Distribution and in supplements to this prospectus in connection with a particular offering of common stock.

This prospectus describes the general manner in which common stock may be offered and sold by either us or any selling stockholder. When either we or the selling stockholders sell common stock under this prospectus, we will, if necessary and required by law, provide a prospectus supplement that will contain specific information about the terms of that offering. Any prospectus supplement may also add to, update, modify or replace information contained in this prospectus. We urge you to read carefully this prospectus, any accompanying prospectus supplement and any documents we incorporate by reference into this prospectus and any accompanying prospectus supplement before you make your investment decision.

Our common stock is listed on the NASDAQ Global Market under the symbol AERI. As of October 28, 2014, the closing price of our common stock was $23.79 per share.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, and are subject to reduced public company reporting requirements.

Investing in our common stock involves risks. You should carefully consider all of the information set forth in this prospectus, including the risk factors on page 6 of this prospectus and set forth under Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2013 filed with the Securities and Exchange Commission on March 26, 2014 (which document is incorporated by reference herein), as well as the risk factors, and other information contained in any accompanying prospectus supplement and any related free writing prospectus and any documents we incorporate by reference into this prospectus and any accompanying prospectus supplement, before deciding to invest in our common stock. See Incorporation of Certain Information By Reference.

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

The date of this prospectus is November 3, 2014.

Table of Contents

TABLE OF CONTENTS

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the SEC) using the SEC s shelf registration rules. Pursuant to this prospectus, we and/or the selling stockholders may, from time to time, sell shares of our common stock in one or more offerings.

When either we or the selling stockholders sell common stock under this prospectus, we will, if necessary and required by law, provide a prospectus supplement that will contain specific information about the terms of that offering. That prospectus supplement may include a discussion of any risk factors or other special considerations that apply to that offering. Any prospectus supplement may also add to, update, modify or replace information contained in this prospectus. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in that prospectus supplement. You should carefully read both this prospectus and any prospectus supplement together with the additional information described under the heading Incorporation of Certain Information by Reference.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is hereby made to the actual documents for complete information. All of the summaries are qualified in their entirety by reference to the actual documents. Copies of some of the documents referred to herein have been filed or will be filed or incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below in the section entitled Where You Can Find More Information.

You should rely only on the information provided in this prospectus, including information incorporated by reference as described above, or any prospectus supplement or free writing prospectus that we have specifically referred you to. We and the selling stockholders have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We will not make an offer to sell securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information in this prospectus, any accompanying prospectus supplement or any documents we incorporate by reference into this prospectus and any prospectus supplement is accurate as of any date other than the date on the front of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

References in this prospectus to the Company, Aerie, we, us and our and similar terms refer to Aerie Pharmaceu Inc.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain 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, focused, estimates, anticipates, expects, plans, intends, may, woul should, exploring, pursuing or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements.

Forward-looking statements appear in a number of places throughout this prospectus and the documents incorporated by reference herein, 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 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;
- our expectations related to the use of proceeds from our initial public offering (IPO) in October 2013 and the issuance and sale of our senior secured convertible notes in September 2014;
- our estimates regarding anticipated 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 and manufacturing capabilities and strategy;
- third-party payor 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 ability to protect our proprietary technology and enforce our intellectual property rights; and

our expectations regarding licensing, acquisitions and strategic activities.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics and industry change, 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 our Annual Report on Form 10-K for the year ended December 31, 2013, as filed with the SEC on March 26, 2014. 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 prospectus and the documents incorporated by reference herein, we caution you that forward-looking statements

Table of Contents

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 prospectus and the documents incorporated by reference herein. In addition, even if our results of operations, financial condition and liquidity, and events in the industry in which we operate are consistent with the forward-looking statements contained in this prospectus and the documents incorporated by reference herein, they may not be predictive of results or developments in future periods. Any forward-looking statements that we make in this prospectus are as of the date of this prospectus. 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 prospectus.

Table of Contents

THE COMPANY

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 strategy is to advance our product candidates, including triple-action Rhopressa and quadruple-action Roclatan , to regulatory approval, and commercialize these products ourselves in North American markets. We plan to build a commercial team of approximately 100 sales representatives to target approximately 10,000 high prescribing eye-care professionals throughout North America and possibly Europe. We recently commenced exploring partnership opportunities for commercialization of our products in other key territories, including Japan and possibly Europe. We plan to further maximize our commercial potential by identifying and advancing additional product candidates, both through our internal discovery efforts and through possible in-licensing or acquisitions of ophthalmic products or product candidates that would complement our current product portfolio. We completed our initial public offering in October 2013 and raised net proceeds of approximately $68 million. In September 2014, we raised additional net proceeds of approximately $124 million through the sale and issuance of privately placed senior secured convertible notes. Our senior leadership team has extensive experience in the ophthalmology market and has overseen the development and commercialization at major pharmaceutical companies of several successful ophthalmic products, including *Acular*, *Alphagan P*, *Bepreve*, *Besivance*, *Bromday*, *Istalol*, *Ocuflox*, *Retisert*, *Vitrase*, *Xibrom* and *Zylet*. If our products are approved and we are commercially successful, we believe Aerie could become a market-leading ophthalmic pharmaceutical company.

Our lead product candidate, once-daily, triple-action Rhopressa , successfully completed a Phase 2b clinical trial in patients with open-angle glaucoma and ocular hypertension in May 2013. Phase 3 clinical trials commenced in July 2014, and efficacy data is expected mid-2015. We are developing Rhopressa as the first of a new class of compounds that is designed to lower intraocular pressure, or IOP, in patients through novel mechanisms of action, or 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 clinical data to date, we expect that if Rhopressa is approved, it will compete within the prostaglandin analogue, or PGA, market segment due to its equivalent or potentially better efficacy for patients with IOP of 26 millimeters of mercury, or mmHg, or below at the time of diagnosis, which we refer to as low to moderately elevated IOP, while also targeting the diseased tissue responsible for elevated IOP. Approximately 80% of glaucoma patients have low to moderately elevated IOP at the time of diagnosis. Furthermore, if approved, we expect Rhopressa to compete against non-PGA products as a preferred add-on therapy to PGAs, due to its strong and consistent IOP-lowering effect with once-daily dosing relative to currently marketed non-PGA products. These add-on therapies currently represent approximately one-half of the entire glaucoma therapy market. In addition, if approved, we expect Rhopressa to become a preferred therapy where PGAs are contraindicated, for patients who do not respond to PGAs, for patients who have IOPs below 21 mmHg but nevertheless present with glaucomatous damage to the optic nerve, which is commonly referred to as low-tension glaucoma, as well as for patients who choose to avoid the cosmetic issues associated with PGAs.

Our second product candidate, once-daily, quadruple-action Roclatan , which is a single drop fixed-dose combination of Rhopressa and latanoprost, the most commonly prescribed drug for the treatment of patients with glaucoma, successfully completed a Phase 2b clinical trial in patients with open-angle glaucoma and ocular hypertension in June 2014. Roclatan achieved its primary efficacy endpoint on day 29 and statistical superiority over individual components at all timepoints. We believe Roclatan has 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. We expect Phase 3 registration trials to commence in mid-2015. Preparatory steps for such trials have already commenced.

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

Table of Contents

Our principal executive offices are located at 135 US Highway 206, Suite 15, Bedminster, New Jersey 07921, and our telephone number is (908) 470-4320. We also have offices in Newport Beach, California and Research Triangle Park, North Carolina. We were incorporated in Delaware in June 2005. Our internet address is http://www.aeriepharma.com. The information found on our website is not incorporated by reference into this prospectus.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012. We will remain an emerging growth company until the earlier of December 31, 2018 or such time when we have more than $1 billion in annual revenue, we issue more than $1 billion of non-convertible debt over a three-year period, or we have more than $700 million in market value of our stock held by non-affiliates as of the end of the second quarter of that fiscal year.

Table of Contents

RISK FACTORS

You should consider carefully the risks described below and set forth under Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2013, filed with the SEC on March 26, 2014 (which document is incorporated by reference herein), as well as other risk factors described under the caption Risk Factors in any accompanying prospectus supplement and any documents we incorporate by reference into this prospectus, including all future filings we make with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, before deciding to invest in our common stock. See Incorporation By Reference. See also the information contained under the heading Special Note Regarding Forward-Looking Statements above.

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 September 30, 2014 our total indebtedness consisted of our $125.0 million aggregate principal amount of senior secured convertible notes issued in September 2014 (the Convertible Notes). 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 Convertible Notes;
- limiting our ability to obtain additional financing on satisfactory terms to fund our working capital requirements, capital expenditures, 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 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 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 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 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 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;

Table of Contents

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.

A breach of any of these provisions could result in a default under the agreement governing the Convertible Notes that would allow noteholders to declare the outstanding debt immediately due and payable. In addition, the 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 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 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 Convertible Notes.

Table of Contents

USE OF PROCEEDS

Unless otherwise indicated in an accompanying prospectus supplement, the net proceeds from the sale of our common stock offered pursuant to this prospectus will be used for general corporate purposes and working capital requirements. We may also use a portion of the net proceeds for the licensing or acquisition of, or the development of, additional product candidates and/or to fund possible investments in and the acquisition of complementary businesses or partnerships. However, we have no present plans, agreements or commitments with respect to any potential acquisition, investment or license.

The expected use of the net proceeds from the sale of our common stock offered pursuant to this prospectus represents our intentions based upon our current plans and business conditions. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our clinical trials and development efforts, as well as any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering. Pending our use of the net proceeds from the sale of our common stock offered pursuant to this prospectus, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

We will not receive proceeds of any sale of our common stock by the selling stockholders.

Table of Contents

DILUTION

We will set forth in a prospectus supplement the following information regarding any material dilution of the equity interests of investors purchasing securities in an offering under this prospectus:

the net tangible book value per share of our equity securities before and after the offering;

the amount of the increase in such net tangible book value per share attributable to the cash payments made by purchasers in the offering; and

the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

Table of Contents

SELLING STOCKHOLDERS

The registration statement of which this prospectus forms a part has been filed in part to permit the selling stockholders to resell to the public shares of our common stock, including shares of common stock issuable upon the exercise of warrants held by the selling stockholders, as well as any common stock that we may issue or may be issuable by reason of any stock split, stock dividend or similar transaction involving these shares. Under the terms of the Investor Rights Agreement (as described below) between us and the selling stockholders named herein, we will pay all registration expenses (other than underwriting discounts and commissions) and the reasonable fees and expenses of a single special counsel for the selling stockholders in connection with the registration of the selling stockholders common stock.

The table below sets forth certain information known to us with respect to the beneficial ownership of the shares of our common stock held by the selling stockholders as of October 28, 2014. Because the selling stockholders may sell, transfer or otherwise dispose of all, some or none of the shares of our common stock covered by this prospectus, we cannot determine the number of such shares that will be sold, transferred or otherwise disposed of by the selling stockholders, or the amount or percentage of shares of our common stock that will be held by the selling stockholders upon termination of any particular offering. See Plan of Distribution. For the purposes of the table below, we assume that each selling stockholder will sell all of its shares of our common stock covered by this prospectus. When we refer to the selling stockholders in this prospectus, we mean the entities listed in the table below, as well as their pledgees, donees, assignees, transferees and successors in interest.

Based on information provided to us, none of the selling stockholders that are affiliates of broker-dealers, if any, purchased shares of our common stock outside the ordinary course of business or, at the time of their acquisition of shares of our common stock, had any agreements, understandings or arrangements with any other persons, directly or indirectly, to dispose of the shares.

We have based our calculation of beneficial ownership on 23,984,485 shares of common stock outstanding as of October 28, 2014.

Beneficial ownership is determined in accordance with SEC rules. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities and include shares of common stock issuable upon the exercise of stock options or warrants that are immediately exercisable or exercisable within 60 days after October 28, 2014. Common stock subject to options or warrants that are currently exercisable or exercisable within 60 days of October 28, 2014 are deemed to be outstanding and beneficially owned by the person holding the options or warrants. These shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person.

Except as otherwise indicated, all of the shares reflected in the table are shares of common stock and all persons listed below have sole voting and investment power with respect to the shares beneficially owned by them. The information is not necessarily indicative of beneficial ownership for any other purpose.

	Shares Beneficially Owned Prior to the Offering		Number of Shares	Shares Beneficially Owned After the Offering	
Name of Beneficial Owner	**Number**	**Percent**	**Offered**	**Number**	**Percent**

Entities affiliated with ACP IV, L.P. (1)	1,002,027	4.11%	879,583	122,444	*
Entities affiliated with Clarus Lifesciences II, L.P. (2)	3,653,307	15.12%	3,332,307	321,000	1.34%
Entities affiliated with Sofinnova Venture Partners VII, L.P. (3)	1,716,657	7.11%	1,431,657	285,000	1.19%
TPG Funds, L.P. (4)	3,387,466	14.12%	3,103,466	284,000	1.18%

* Represents beneficial ownership of less than 1% of our outstanding common stock.

Table of Contents

(1) Consists of (a) 616,100 shares of common stock, (b) 12,444 shares of common stock issuable upon exercise of options exercisable within 60 days as of October 28, 2014 and (c) 373,483 shares of common stock issuable upon the exercise of warrants exercisable within 60 days as of October 28, 2014. Alta Partners III, Inc. provides investment advisory services to several venture capital funds including ACP IV, L.P. Daniel Janney and Guy Nohra are directors of ACMP IV, LLC (which is the general partner of ACP IV, L.P). As directors of ACMP IV, LLC they may be deemed to share voting and investment powers over the shares held by the fund. The directors of ACMP IV, LLC disclaim beneficial ownership of all such shares held by ACP IV, L.P. except to the extent of their pecuniary interest therein. Alta Partners III, Inc. is a venture capital firm located at One Embarcadero Center, Suite 3700, San Francisco, CA 94111.

(2) Consists of (a) 3,468,495 shares of common stock and (b) 184,812 shares of common stock issuable upon the exercise of warrants exercisable within 60 days as of October 28, 2014. The voting and dispositive decisions with respect to the shares held by Clarus Lifesciences II, L.P. are made by the following managing members of the general partner, Clarus Ventures II, LLC, of the general partner of Clarus Lifesciences II, L.P.: Dennis Henner, Nicholas Galaktos, Robert Liptak, Nicholas Simon and Kurt Wheeler, each of whom disclaims beneficial ownership of such shares, except to the extent of his actual pecuniary interest therein. Dr. Henner is a member of our Board. The address for the funds affiliated with Clarus Lifesciences II, L.P., Clarus Ventures II, LLC and its managing members is c/o Clarus Lifesciences II, L.P., 101 Main Street, Suite 1210, Cambridge, MA 02142.

(3) Consists of (a) 1,566,657 shares of common stock and (b) 150,000 shares of common stock issuable upon the exercise of warrants exercisable within 60 days as of October 28, 2014. The voting and dispositive decisions with respect to the shares held by Sofinnova Venture Partners VII, L.P. are made by the following managing members of its general partner, Sofinnova Management VII, L.L.C.: James Healy, Michael Powell and Eric Buatois, each of whom disclaims beneficial ownership of such shares, except to the extent of his actual pecuniary interest therein. The address for the funds affiliated with Sofinnova Venture Partners VII, L.P., Sofinnova Management VII, L.L.C. and its managing members is c/o Sofinnova Ventures, Inc., 3000 Sand Hill Road, Bldg 4, Suite 250, Menlo Park, CA 94025.

(4) Consists of 3,387,466 shares of common stock all of which are held by TPG Biotechnology Partners, L.P., or TPG Biotechnology, TPG Biotech Reinvest AIV, L.P., or TPG Biotech Reinvest and, together with TPG Biotechnology, the TPG Funds. The general partner of each of the TPG Funds is TPG Biotechnology GenPar, L.P., whose general partner is TPG Biotechnology GenPar Advisors, LLC, whose sole member is TPG Holdings I, L.P., whose general partner is TPG Holdings I-A, LLC, whose sole member is TPG Group Holdings (SBS), L.P., whose general partner is TPG Group Holdings (SBS) Advisors, Inc., or Group Advisors. David Bonderman and James G. Coulter are officers and sole shareholders of Group Advisors and therefore may be deemed to be the beneficial owners of the securities held by the TPG Funds, or the TPG Shares. Messrs. Bonderman and Coulter disclaim beneficial ownership of the TPG Shares except to the extent of their pecuniary interest therein. The address of each of TPG Biotech Reinvest, TPG Biotechnology, Group Advisors and Messrs. Bonderman and Coulter is c/o TPG Global, LLC, 301 Commerce Street, Suite 3300, Fort Worth, Texas 76102.

Table of Contents

Transactions with the Selling Stockholders

The following describes certain transactions between us and the selling stockholders that have occurred since January 1, 2011.

Participation in the IPO

At our request, the underwriters allocated an aggregate of 1,000,000 shares of our common stock in the IPO to the selling stockholders and their affiliated entities. These shares were offered and sold on the same terms as the other shares that were being offered and sold in the IPO. The following table summarizes the participation in our IPO by the selling stockholders and their affiliated entities:

Participants	Common Stock Purchased in the IPO (#)	Aggregate Purchase Price ($)
Entities affiliated with ACP IV, L.P.	110,000	1,100,000
Entities affiliated with Clarus Lifesciences II, L.P.	321,000	3,210,000
Entities affiliated with Sofinnova Venture Partners VII, L.P.	285,000	2,850,000
Entities affiliated with TPG Funds, L.P.	284,000	2,840,000

Convertible Note and Warrant Issuances

In December 2012, we entered into a note and warrant purchase agreement with the selling stockholders providing for the issuance from time to time of convertible notes (the 2012 Notes) up to a maximum of $15.0 million of aggregate principal amount. In August 2013, we amended the note and warrant purchase agreement allowing for the issuance of an additional $3.0 million of aggregate principal amount. The 2012 Notes accrued interest at a rate of 8% per annum. On October 30, 2013, upon closing of our IPO, the aggregate principal amount of the 2012 Notes together with accrued interest was converted into shares of our common stock at a conversion price equal to the IPO price of $10.00 per share.

In connection with the issuances of 2012 Notes, we also issued warrants to purchase shares of our Series B convertible preferred stock (the Series B warrants). The Series B warrants are exercisable at a price of $0.05 per share at any time during their seven year term, subject to adjustment. In connection with our IPO, 408,614 Series B warrants were net exercised and were subsequently automatically converted into shares of common stock. The remaining 408,295 Series B warrants automatically became exercisable for shares of our common stock on a one-for-one basis at an exercise price of $0.05 per share.

The following table summarizes the participation in the issuance of the 2012 Notes:

Name	Aggregate Principal Amount of 2012 Notes	Amount of Accrued Interest as of October 30, 2013	Aggregate Shares of Common Stock Received Upon Conversion of Principal and	Outstanding Series B Warrants Exercisable For Common

			Accrued Interest in Connection with Our IPO	Stock
ACP IV, L.P.	$ 4,916,642	$ 164,879	508,152	223,483
TPG Biotech Reinvest AIV, L.P.	4,916,642	164,879	508,152	
Clarus Lifesciences II, L.P.	4,065,869	136,349	420,222	184,812
Sofinnova Venture Partners VII, L.P.	3,423,202	114,797	353,800	
Total	$ 17,322,355	$ 580,904	1,790,326	408,295

Table of Contents

Preferred Stock Issuances

In February 2011, we issued and sold an aggregate 20,454,546 shares of our Series B convertible preferred stock to certain of the selling stockholders in exchange for cash at a price of $1.10 per share. Simultaneously, we issued 10,979,476 shares and 4,662,765 shares of Series A-3 and A-4 convertible preferred stock, respectively, to certain of the selling stockholders in connection with the conversion of the 2009 notes and the 2010 notes, as described above, for no additional consideration. The following table summarizes the selling stockholders participation in this February 2011 transaction:

Participants	Shares of Series A-3 Convertible Preferred Stock [1]	Shares of Series A-4 Convertible Preferred Stock [1]	Shares of Series B Convertible Preferred Stock [1]	Aggregate Purchase Price of Series B Convertible Preferred Stock
ACP IV, L.P.	5,489,738			
TPG Biotech Reinvest AIV, L.P.	5,489,738			
Clarus Lifesciences II, L.P.			13,636,364	$ 15,000,000
Sofinnova Venture Partners VII, L.P.		4,662,765	6,818,182	7,500,000
Total	10,979,476	4,662,765	20,454,546	$ 22,500,000

(1) Upon completion of our IPO in October 2013, shares of each of our Series A-3 convertible preferred stock, Series A-4 convertible preferred stock and Series B convertible preferred stock automatically converted into shares of our common stock on a one-for-five basis.

Registration Rights

We are party to an amended and restated investor rights agreement, dated February 2011, as amended in December 2012, or the Investor Rights Agreement, with certain stockholders, including the selling stockholders. Under the Investor Rights Agreement, the selling stockholders have the right to require us to register their shares under the Securities Act under specified circumstances and have incidental registration rights as described below. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act.

Demand Registration Rights

The holders of a majority of the registrable securities may request that we register all or a portion of their common stock for sale under the Securities Act so long as the total amount of registrable securities registered has an anticipated aggregate offering price of no less than $10.0 million. We will effect the registration as requested, unless in the good faith judgment of our board of directors, such registration would be seriously detrimental to the company and its stockholders and should be delayed. We are not obligated to file a registration statement pursuant to these demand provisions on more than two occasions. In addition, holders of a majority of the shares having demand registration rights may make up to two requests within any 12-month period that we register all or a portion of their common stock for sale under the Securities Act on Form S-3, or any successor form.

Piggyback Registration Rights

In addition, if at any time we register any shares of our common stock for a public offering, the holders of all shares having registration rights are entitled to at least 30 days notice of the registration and to include all or a portion of their common stock in the registration. In the event that any registration in which the holders of registrable shares participate pursuant to the Investor Rights Agreement is an underwritten public offering, the number of registrable shares to be included may, in specified circumstances, be limited due to market conditions.

Table of Contents

Other Provisions

We will pay all registration expenses (other than underwriting discounts and selling commissions) and the reasonable fees and expenses of a single special counsel for the selling stockholders, related to any demand or piggyback registration. The Investor Rights Agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them. The demand and piggyback registration rights described above will expire three years after our initial public offering or, with respect to any particular stockholder, when that stockholder can sell all of its shares under Rule 144 of the Securities Act.

Voting Agreement

We entered into an amended and restated voting agreement, dated February 2011 (the Voting Agreement), with the selling stockholders and certain other stockholders. Pursuant to the Voting Agreement, these holders agreed to vote such that: one director be a designee of TPG Biotech Reinvest AIV, L.P. or its affiliates; one director be a designee of ACP IV, L.P. or its affiliates; one director be a designee of Clarus Lifesciences II, L.P. or its affiliates; and one director be a designee of Sofinnova Venture Partners VII, L.P. or its affiliates. The provisions of the Voting Agreement terminated upon the completion of the IPO.

Other Transactions

In October 2012, we formed Novaer, a wholly-owned entity, and contributed certain non-core, non-competitive intellectual property relating to certain ophthalmic implant technology, as well as an exclusive license for all of our intellectual property for non-ophthalmic indications, and $0.1 million in cash for initial funding. Our board of directors declared a dividend and distributed 100% of Novaer s equity interests to our stockholders and warrant holders of record as of September 6, 2012. Following this spin-off, Novaer is an independent company. We have no right to or ability to receive profits from the non-core intellectual property divested to Novaer. We also have no board seats or ongoing involvement with Novaer.

On September 6, 2013, we terminated our agreement to exclusively license to Novaer our intellectual property for non-ophthalmic indications. No consideration, or future obligation thereof, was exchanged in connection with this termination. We currently own all of the worldwide rights to our current product candidates for all indications, both ophthalmic and non-ophthalmic.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

The following describes the capital stock that we may offer under this prospectus, including the material provisions of our amended and restated certificate of incorporation, our amended and restated bylaws and certain provisions of the Delaware General Corporation Law, or DGCL. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation and amended and restated bylaws, copies of which have been filed with the SEC. See Incorporation of Certain Information by Reference and Where You Can Find More Information.

General

Our amended and restated certificate of incorporation authorizes us to issue up to 150,000,000 shares of common stock, par value $0.001 per share, and 15,000,000 shares of preferred stock, par value $0.001 per share. As of September 30, 2014, we had issued and outstanding 23,967,696 shares of common stock and no shares of preferred stock.

In addition, as of September 30, 2014, we had outstanding 138,815 shares of restricted stock, options to purchase 3,792,152 shares of common stock and warrants to purchase 717,801 shares of common stock.

As of September 30, 2014 we had 12 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.

Common Stock

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights. All outstanding shares of our common stock are fully paid and non-assessable. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Under the terms of our amended and restated certificate of incorporation, our board of directors is authorized to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could

discourage a third party from seeking to acquire, a majority of our outstanding voting stock. We have no current intention to issue any shares of preferred stock.

Table of Contents

Stock Options

As of September 30, 2014, options to purchase 3,792,152 shares of our common stock at a weighted average exercise price of $8.09 per share were outstanding, of which options to purchase 1,185,834 shares of our common stock were exercisable, at a weighted average exercise price of $2.06 per share.

Warrants

As of September 30, 2014, the following warrants were outstanding:

Number of Underlying Shares	Exercise Price Per Share	Warrant Expiration Date	Type of Equity Security
2,006	$ 5.00	March 2016	Common Stock
75,000	$ 5.00	February 2019	Common Stock
75,000	$ 5.00	November 2019	Common Stock
157,500	$ 5.00	August 2020	Common Stock
408,295	$ 0.05	December 2019	Common Stock

Anti-Takeover Provisions

Delaware law, our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

Staggered Board; Removal of Directors

Our amended and restated certificate of incorporation and our amended and restated bylaws divide our board of directors into three classes with staggered three-year terms. In addition, a director may be removed only for cause. Any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office. Furthermore, our amended and restated certificate of incorporation provides that the authorized number of directors may be changed only by the resolution of our board of directors. The classification of our board of directors and the limitations on the removal of directors, change to the authorized numbers of directors and filling of vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Stockholder Action by Written Consent; Special Meetings

Our amended and restated certificate of incorporation provides that our stockholders may not act by written consent. Our amended and restated certificate of incorporation and our amended and restated bylaws also provide that, except as otherwise required by law, special meetings of our stockholders can only be called by our chairman of the board, our chief executive officer or our board of directors.

Advance Notice Requirements for Stockholder Proposals

Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of persons for election to our board of directors. Stockholders at an annual meeting will only be able to consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder s intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

Table of Contents

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in a business combination with any interested stockholder for a period of three years following the date the person became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested holder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (a) by persons who are directors and also officers and (b) pursuant to employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an interested stockholder as an entity or person who, together with the entity s or person s affiliates and associates, beneficially owns, or is an affiliate of the corporation and within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the

corporation.

Amendments to Our Bylaws

The DGCL provides generally that the affirmative vote of a majority of the shares presents at any meeting and entitled to vote on a matter is required to amend a corporation s bylaws, unless a corporation s bylaws requires a greater percentage. Our amended and restated bylaws may be amended or repealed by a vote of the majority of the directors present at any regular or special meeting of our board of directors at which a quorum is present or by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors.

Corporate Opportunities

To address situations in which officers or directors may have conflicting duties to different corporations, Section 122(17) of the DGCL allows a corporation to renounce, in its certificate of incorporation or by action of its board of directors, any interest or expectancy of the corporation in specified classes or categories of business

Table of Contents

opportunities. Our amended and restated certificate of incorporation renounces any interest or expectancy in, or in being offered an opportunity to participate in, any business opportunity that may be a corporate opportunity for any of ACP IV, L.P., Clarus Lifesciences II, L.P., Sofinnova Venture Partners VII, L.P. or TPG Funds, L.P. or any of their respective affiliates or any of their or their affiliates respective partners, members, directors, stockholders, employees or agents (whether or not any such person is our director), other than someone who is our employee. We do not renounce our interest in any corporate opportunity offered to any such person if such opportunity is offered to such person expressly and solely in his or her capacity as our director. By becoming a stockholder in our company, you will be deemed to have received notice of and consented to these provisions of our amended and restated certificate of incorporation.

Limitation on Liability and Indemnification of Officers and Directors

Our amended and restated certificate of incorporation limits the liability of directors to the fullest extent Delaware law permits. The effect of these provisions is to eliminate the rights of our Company and our stockholders, through stockholders derivative suits on behalf of our Company, to recover monetary damages against a director for breach of fiduciary duty as a director, including breaches resulting from grossly negligent behavior. However, our directors will be personally liable to us and our stockholders for any breach of the director s duty of loyalty, for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, under Section 174 of the DGCL or for any transaction from which the director derived an improper personal benefit. In addition, our amended and restated certificate of incorporation and bylaws provide that we will indemnify our directors and officers to the fullest extent Delaware law permits. We have entered into indemnification agreements with our current directors and officers. We also maintain directors and officers insurance.

Listing on the NASDAQ Global Market

Our common stock is listed on the NASDAQ Global Market under the symbol AERI.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

Table of Contents

PLAN OF DISTRIBUTION

General

We or any selling stockholders may sell the shares of our common stock covered by this prospectus from time to time using one or more of the following methods:

underwriters in a public offering;

at-the-market to or through market makers or into an existing market for the securities;

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

privately negotiated transactions;

short sales (including short sales against the box);

through the writing or settlement of standardized or over-the-counter options or other hedging or derivative transactions, whether through an options exchange or otherwise;

by pledge to secure debts and other obligations;

in other ways not involving market makers or established trading markets, including direct sales to purchasers or sales effected through agents;

a combination of any such methods of sale; and

any other method permitted pursuant to applicable law.

To the extent required by law, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. Any prospectus supplement relating to a particular offering of our common stock by us or

any selling stockholders may include the following information to the extent required by law:

- the terms of the offering;
- the names of any underwriters or agents;
- the purchase price of the securities;
- any delayed delivery arrangements;
- any underwriting discounts and other items constituting underwriters compensation;
- any initial public offering price; and
- any discounts or concessions allowed or reallowed or paid to dealers.

We or any selling stockholders may offer our common stock to the public through underwriting syndicates represented by managing underwriters or through underwriters without an underwriting syndicate. If underwriters are used for the sale of our common stock, the common stock will be acquired by the underwriters for their own account. The underwriters may resell the common stock in one or more transactions, including in negotiated transactions at a fixed public offering price or at varying prices determined at the time of sale. In connection with any such underwritten sale of our common stock, underwriters may receive compensation from us or any selling stockholders for whom they may act as agents, in the form of discounts, concessions or commissions. Underwriters may sell common stock to or through dealers, and the dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agents. Such compensation may be in excess of customary discounts, concessions or commissions. Underwriting compensation will not exceed 8% for any offering under this registration statement.

Table of Contents

If we or any selling stockholders use an underwriter or underwriters to effectuate the sale of common stock, we or any such selling stockholders will execute an underwriting agreement with those underwriters at the time of sale of those shares of common stock. To the extent required by law, the names of the underwriters will be set forth in the prospectus supplement used by the underwriters to sell those shares of common stock. Unless otherwise indicated in the prospectus supplement relating to a particular offering of common stock, the obligations of the underwriters to purchase our common stock will be subject to customary conditions precedent and the underwriters will be obligated to purchase all of the shares of our common stock offered if any of the shares of common stock are purchased.

In effecting sales, brokers or dealers engaged by us or any selling stockholders may arrange for other brokers or dealers to participate. Broker-dealers may receive discounts, concessions or commissions from us or any selling stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. Such compensation may be in excess of customary discounts, concessions or commissions. If dealers are utilized in the sale of securities, the names of the dealers and the terms of the transaction will be set forth in a prospectus supplement, if required.

We or any selling stockholders may also sell our common stock from time to time through agents. The applicable prospectus supplement will name any agent involved in the offer or sale of such common stock and will list commissions payable to these agents if required. These agents will be acting on a best efforts basis to solicit purchases for the period of their appointment, unless otherwise stated in any required prospectus supplement.

We or any selling stockholders may sell shares of our common stock directly to purchasers. In this case, we or any such selling stockholders may not engage underwriters or agents in the offer and sale of such shares.

Selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of any such selling stockholders shares of common stock or interests therein may be underwriters within the meaning of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are underwriters within the meaning of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act. We will make copies of this prospectus available to any selling stockholder for the purpose of satisfying the prospectus delivery requirements of the Securities Act, if applicable. If any entity is deemed an underwriter or any amounts deemed underwriting discounts and commissions, the prospectus supplement will identify the underwriter or agent and describe the compensation received from any selling stockholder.

We are not aware of any plans, arrangements or understandings between any stockholder and any underwriter, broker-dealer or agent regarding the sale of the shares of our common stock by any stockholder. We cannot assure you that any selling stockholder will sell any or all of the shares of our common stock offered by it pursuant to this prospectus. In addition, we cannot assure you that any selling stockholder will not transfer, devise or gift the shares of our common stock by other means not described in this prospectus. Moreover, shares of common stock covered by this prospectus that qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus.

From time to time, any selling stockholder may pledge, hypothecate or grant a security interest in some or all of the shares owned by it. The pledgees, secured parties or persons to whom the shares have been hypothecated will, upon foreclosure, be deemed to be selling stockholders. The number of a selling stockholder s shares offered under this prospectus will decrease as and when it takes such actions. The plan of distribution for that selling stockholder s shares will otherwise remain unchanged. In addition, a selling stockholder may, from time to time, sell the shares short, and, in those instances, this prospectus may be delivered in connection with the short sales and the shares offered under this prospectus may be used to cover short sales.

Any selling stockholder may enter into hedging transactions with broker-dealers and the broker-dealers may engage in short sales of the shares in the course of hedging the positions they assume with such selling stockholder,

Table of Contents

including, without limitation, in connection with distributions of the shares by those broker-dealers. Any selling stockholder may enter into option or other transactions with broker-dealers that involve the delivery of the shares offered hereby to the broker-dealers, who may then resell or otherwise transfer those securities.

Indemnification

We or any selling stockholders may enter agreements under which underwriters, dealers and agents who participate in the distribution of our common stock may be entitled to indemnification by us or any such selling stockholders against various liabilities, including liabilities under the Securities Act, and to contribution with respect to payments which the underwriters, dealers or agents may be required to make.

Price Stabilization and Short Positions

If underwriters or dealers are used in the sale, until the distribution of the securities is completed, rules of the SEC may limit the ability of any underwriters to bid for and purchase the securities. As an exception to these rules, representatives of any underwriters are permitted to engage in transactions that stabilize the price of the securities. These transactions may consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of the securities. If the underwriters create a short position in the securities in connection with the offering (that is, if they sell more securities than are set forth on the cover page of the prospectus supplement) the representatives of the underwriters may reduce that short position by purchasing securities in the open market.

We make no representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, we make no representation that the representatives of any underwriters will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Table of Contents

LEGAL MATTERS

The legal validity of the common stock offered by this prospectus will be passed upon for us by Fried, Frank, Harris, Shriver & Jacobson LLP, New York, New York. Any underwriters will be advised about legal matters by their own counsel, which will be named in a prospectus supplement to the extent required by law.

Table of Contents

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2013 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

Table of Contents

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC s rules allow us to incorporate by reference information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and information that we file with the SEC will automatically update and supersede the previously filed information. In the case of a conflict or inconsistency between information in this prospectus and/or information incorporated by reference into this prospectus, you should rely on the information contained in the document that was filed later.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, other than any portions of the respective filings that were furnished, pursuant to Item 2.02 or Item 7.01 of Current Reports on Form 8-K (including exhibits related thereto) or other applicable SEC rules, rather than filed, prior to the termination of the offering under this prospectus:

- our Annual Report on Form 10-K for the year ended December 31, 2013, which was filed with the SEC on March 26, 2014;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2013 from our Definitive Proxy Statement on Schedule 14A, which was filed with the SEC on April 30, 2014;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2014 and June 30, 2014, which were filed with the SEC on May 13, 2014 and August 7, 2014, respectively;
- our Current Reports on Form 8-K, which were filed with the SEC on March 19, 2014, June 12, 2014, September 12, 2014, September 26, 2014 and October 6, 2014; and
- the description of our common stock contained in our Registration Statement on Form 8-A, which was filed with the SEC on October 25, 2013, including any amendments or reports filed for the purpose of updating the description.

You may obtain copies of any of these filings by contacting us at the address and telephone number indicated below or by contacting the SEC as described below under the section entitled Where You Can Find More Information. Documents incorporated by reference are available from us without charge, excluding all exhibits unless an exhibit has been specifically incorporated by reference into this prospectus, by requesting them in writing, by telephone or at our website at:

Aerie Pharmaceuticals, Inc.

Attention: Investor Relations

135 US Highway 206, Suite 15

Bedminster, New Jersey 07921

(908) 470-4320

www.aeriepharma.com

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the common stock offered hereby. This prospectus is part of a registration statement we have filed with the SEC. As permitted by SEC rules, this prospectus does not contain all of the information we have included in the registration statement and the accompanying exhibits. You may refer to the registration statement and the exhibits for more information about us and our common stock. The registration statement and the exhibits are available at the SEC s Public Reference Room or through its website as described below.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read and copy any materials we file with the SEC at its Public Reference Room at 100 F Street N.E., Washington DC, 20549. You can obtain information about the operations of the SEC Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains information we file electronically with the SEC, which you can access over the Internet at http://www.sec.gov. General information about us, including our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports, is available free of charge through our website at http://www.aeriepharma.com as soon as reasonably practicable after we electronically file them with, or furnish them to, the SEC. Information on our website is not incorporated into this prospectus or our other securities filings and is not a part of these filings.

Table of Contents

Up to $50,000,000 of Shares of

Common Stock

PROSPECTUS SUPPLEMENT

Cantor Fitzgerald & Co.

September 15, 2016