AERIE PHARMACEUTICALS INC
Form 424B5
December 19, 2017
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Filed Pursuant to Rule 424(b)(5)

Registration No. 333-213643

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(1)
Common Stock, par value $0.001 per share	$75,000,000	$9,337.50

(1) Calculated in accordance with Rule 457(o) of the Securities Act of 1933, as amended (the Securities Act), based on the proposed maximum aggregate offering price, and Rules 456(b) and 457(r) of the Securities Act and relates to the Registration Statement on Form S-3 (File No. 333-213643) filed by the Registrant on September 15, 2016.

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PROSPECTUS SUPPLEMENT

(To Prospectus dated September 15, 2016)

Up to $75,000,000 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 $75,000,000 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 December 15, 2017, the last reported sale price of our common stock on The Nasdaq Global Market was $59.00 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. Please see The Offering Potential Additional Sales for information regarding potential additional sales of securities.

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 and the accompanying base prospectus before deciding to invest in our common stock. Please see Risk Factors on page S-11 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 December 19, 2017.

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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.

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ABOUT THIS PROSPECTUS SUPPLEMENT

We may offer shares of our common stock having an aggregate offering price of up to $75.0 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.

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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 commercial launch and potential future sales of Rhopressa® (netarsudil ophthalmic solution) 0.02% (Rhopressa®) and our current or any future product candidates;
- our commercialization, marketing, manufacturing and supply management capabilities and strategies;
- third-party payor coverage and reimbursement for Rhopressa® and our current or any future product candidates;
- the glaucoma patient market size and the rate and degree of market adoption of Rhopressa® and our current or any future product candidates by eye-care professionals and patients;
- the timing, cost or other aspects of the commercial launch of Rhopressa® and our current or any future product candidates;
- the success, timing and cost of our ongoing and anticipated preclinical studies and clinical trials for Rhopressa®, with respect to foreign approval or additional indications, and our current or any 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 current or any future product candidates and results of our clinical trials and any potential preclinical 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, as applicable, Rhopressa® and our current or any future product candidates in the U.S., Canada, Europe, Japan and elsewhere, including the expected timing of, and regulatory and/or other review of, filings for, as applicable, Rhopressa® and our current or any future product candidates;

our expectations related to the use of proceeds from our financing activities;

our estimates regarding anticipated operating expenses and capital requirements and our needs for additional financing;

our plans to pursue development of additional product candidates and technologies in ophthalmology, including development of Rhopressa® and Roclatan™ (netarsudil/latanoprost ophthalmic solution) 0.02%/0.005% (Roclatan™) for additional indications and other therapeutic opportunities;

the potential advantages of Rhopressa® and our current or any future 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, product candidates or technologies; and

our stated objective of building a major ophthalmic pharmaceutical company.

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By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics, industry change and other factors beyond our control, and depend on regulatory approvals and economic and other environmental circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. We discuss many of these risks in greater detail under the heading Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2016 and our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2017, each incorporated by reference herein, and in other documents we have filed or furnished with the SEC.

In particular, FDA approval of Rhopressa® does not constitute FDA approval of Roclatan™, and there can be no assurance that we will receive FDA approval for Roclatan™ or any future product candidates. In addition, the preclinical research discussed in this prospectus supplement and the documents incorporated by reference herein is preliminary and the outcome of such preclinical studies may not be predictive of the outcome of later clinical trials. Any future clinical trial results may not demonstrate safety and efficacy sufficient to obtain regulatory approval related to the preclinical research findings discussed in this prospectus supplement or the documents incorporated by reference herein.

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 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 speak only 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.

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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 an ophthalmic pharmaceutical company focused on the discovery, development and commercialization of first-in-class therapies for the treatment of patients with glaucoma or ocular hypertension and other diseases of the eye. Our strategy is to commercialize our FDA-approved product, Rhopressa®, ourselves in North American markets and advance our product candidate, Roclatan™, to regulatory approval. We plan to build a commercial team that will include approximately 100 sales representatives to target approximately 12,000 high prescribing eye-care professionals throughout the United States. See Recent Developments. Our strategy also includes developing our business outside of North America, including obtaining regulatory approval in Europe and Japan on our own for Rhopressa® and Roclatan™. We are also enhancing our longer-term commercial potential by identifying and advancing additional potential product candidates and drug delivery technologies, including through our internal discovery efforts and potential research collaborations, in-licensing or acquisitions of additional ophthalmic products or technologies or product candidates that would complement our current product portfolio, such as our recent collaboration with DSM, whereby we have access to their bio-erodible polymer technology, and our acquisition of certain assets from Envisia Therapeutics Inc. (Envisia), each of which are designed to advance our progress in developing potential future product candidates to treat retinal diseases, as discussed below.

We completed our initial public offering (IPO) in October 2013, which raised net proceeds of approximately $68.3 million. Since our IPO, we have raised additional net proceeds of approximately $122.9 million through the sale and issuance of our senior secured convertible notes (the 2014 Convertible Notes) in September 2014 and approximately $339.6 million through the issuance and sale of common stock under our shelf registration statements on Form S-3 and previous at-the-market sales agreements. Our senior leadership team has extensive experience in the ophthalmology market and has overseen the development and commercialization of several successful ophthalmic products at major pharmaceutical companies.

Our FDA-approved product, Rhopressa®, and our product candidate, Roclatan™, are designed to lower intraocular pressure (IOP) in patients with open-angle glaucoma or ocular hypertension. Rhopressa® is approved for, and Roclatan™ is under development for, once-daily use in the evening, and both have shown efficacy in preclinical and clinical trials in lowering elevated IOP, with novel mechanisms of action (MOAs) and a favorable safety profile. Glaucoma is one of the largest segments in the global ophthalmic market. In 2016, branded and generic glaucoma product sales exceeded $5.0 billion in the United States, Europe and Japan in aggregate, according to IMS. Prescription volume for glaucoma products in the United States alone was 36 million in 2016 and is expected to grow, driven in large part by the aging population.

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

Our FDA-approved product, Rhopressa®, is a novel once-daily eye drop intended to reduce elevated IOP in patients with open-angle glaucoma or ocular hypertension. We developed Rhopressa® as the first of a new class

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of compounds that is designed to lower elevated IOP in patients through novel MOAs. We believe that Rhopressa® represents the first new chemical entity that reduces elevated IOP in patients with open-angle glaucoma or ocular hypertension in over 20 years. Based on preclinical studies and clinical data, we expect that Rhopressa® will have the potential to compete with non-prostaglandin analogue products as a preferred adjunctive therapy to prostaglandin analogues (PGAs), due to its targeting of the diseased tissue known as the trabecular meshwork (TM), its demonstrated IOP-lowering ability at consistent levels across tested baselines with once-daily dosing, its potential synergistic effect with PGA products, and its favorable safety profile. Adjunctive therapies currently represent approximately one-half of the entire glaucoma therapy market in the United States, according to IMS. In addition, we believe that Rhopressa® may also potentially become a preferred therapy where PGAs are contraindicated, for patients who do not respond to PGAs and for patients who choose to avoid the cosmetic issues associated with PGA products.

The FDA approved Rhopressa® for the reduction of elevated IOP in patients with open-angle glaucoma or ocular hypertension on December 18, 2017. See Recent Developments. We submitted our new drug application (NDA) with the FDA for Rhopressa® on February 28, 2017. The NDA submission included our second Phase 3 registration trial for Rhopressa®, named Rocket 2, as the pivotal clinical trial and our initial Phase 3 registration trial, named Rocket 1, as supportive in nature. Our Rocket 2 trial achieved its primary efficacy endpoint of demonstrating non-inferiority of Rhopressa® compared to timolol in patients with baseline IOPs of above 20 mmHg (millimeters of mercury) to below 25 mmHg. In addition, the 12-month safety data from this registration trial also confirmed a favorable safety profile for the drug and demonstrated a consistent IOP-lowering effect throughout the 12-month period at the specified measurement time points. Our fourth Phase 3 registration trial for Rhopressa®, named Rocket 4, in the U.S., achieved its primary efficacy endpoint of demonstrating non-inferiority of Rhopressa® compared to timolol in patients with baseline IOPs of above 20 mmHg to below 25 mmHg and was also reviewed by the FDA as part of the NDA review process. The Rhopressa® Phase 3 registration trial results have shown minimal drug-related serious adverse events or drug-related systemic adverse events, with the most common adverse event reported being conjunctival hyperemia, or eye redness, with incidence rates of approximately 50% across all Phase 3 registration trials for Rhopressa®, the majority of which was reported as mild.

Rocket 4 was designed to generate adequate six-month safety data for European regulatory approval, for which we expect to file a marketing authorization application with the European Medicines Agency in the second half of 2018. We have also initiated a Phase 2 clinical trial in the U.S. in the fourth quarter of 2017, which is designed in accordance with the requirements of Japan s Pharmaceuticals and Medical Devices Agency (PMDA) for potential regulatory submission of Rhopressa® in Japan. This Phase 2 clinical trial enrolled Japanese and Japanese-American subjects as a precursor to Phase 3 registration trials that are expected to be subsequently conducted in Japan. The primary objectives of this Phase 2 clinical trial are to evaluate for non-inferiority the ocular hypotensive activity of two different dose concentrations of Rhopressa® relative to placebo over a 28-day period and the ocular and systemic safety of Rhopressa® relative to placebo over that same period. Baseline IOP ranges in the trial are greater than or equal to 15 mmHg to less than 35 mmHg for subjects with glaucoma, and greater than 22 mmHg to less than 35 mmHg for subjects with ocular hypertension.

Our advanced-stage product candidate, once-daily Roclatan™, is a fixed-dose combination of Rhopressa® and latanoprost, the most widely prescribed PGA. We believe, based on our two completed Phase 3 registration trials, that Roclatan™, if approved, has the potential to provide a greater IOP-lowering effect than any currently marketed glaucoma product. Therefore, we believe that Roclatan™, if approved, could compete with both PGA and non-PGA therapies for patients requiring maximal IOP lowering, including those with higher IOPs and those who present with significant disease progression despite currently available therapies.

We recently completed two Phase 3 registration trials for Roclatan™. The first Phase 3 registration trial for Roclatan™, named Mercury 1, was a 12-month safety trial with a 90-day efficacy readout. Mercury 1 achieved

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its primary efficacy endpoint of demonstrating statistical superiority of Roclatan™ to each of its components, including Rhopressa® and latanoprost, in patients with maximum baseline IOPs of above 20 mmHg to below 36 mmHg. The safety and tolerability results for Roclatan™ from the 90-day efficacy period of Mercury 1 showed no drug-related serious adverse events or drug-related systemic adverse events. On July 19, 2017, we announced the results of the Mercury 1 12-month safety study, noting the safety results for Roclatan™ for the 12-month period were consistent with those observed for the 90-day efficacy period. The most common Roclatan adverse event was conjunctival hyperemia, which was observed in approximately 60% of patients, of which approximately 70% was determined to be mild. Other ocular adverse events reported in approximately 5% to 18% of patients in the Roclatan group included cornea verticillata, conjunctival hemorrhage, or petechiae, eye pruritus, increased lacrimation, reduced visual acuity, blepharitis and punctate keratitis. In addition, levels of IOP lowering were consistent with those observed in the Mercury 1 and Mercury 2 90-day efficacy results for all arms of the study. Roclatan also demonstrated consistent levels of IOP lowering across the 12-month study period.

The second Phase 3 registration trial for Roclatan™ is named Mercury 2. The Mercury 2 trial design was identical to that of Mercury 1, except that Mercury 2 was a 90-day trial without the additional nine-month safety extension included in Mercury 1. Similar to Mercury 1, Mercury 2 achieved its 90-day primary efficacy endpoint of demonstrating statistical superiority over each of its components at all measured time points and showed no drug-related serious adverse events and minimal drug-related systemic adverse events. The study evaluated patients with maximum baseline IOPs ranging from above 20 to below 36 mmHg at nine measured time points over the trial. The IOP-lowering effect of Roclatan exceeded that of monotherapy with latanoprost in a range of 1.5 to 2.4 mmHg and Rhopressa® in a range of 2.2 to 3.3 mmHg, with efficacy levels remaining consistent for all arms of the study throughout the trial. Throughout the duration of the study, the mean diurnal IOP-lowering effect of Roclatan exceeded that of latanoprost by an average of 1.8 mmHg and exceeded Rhopressa® by an average of 2.7 mmHg. Roclatan reduced mean diurnal IOPs to 16 mmHg or lower in 56% of patients, a significantly higher percentage than observed in the comparator arms of the study. The most common Roclatan adverse event observed in the study was conjunctival hyperemia, which was reported in nearly 55% of patients, and was scored as mild for approximately 70% of affected patients. Other ocular adverse events reported in approximately 5% to 13% of patients in the Roclatan group included cornea verticillata, conjunctival hemorrhage and corneal disorder (asymptomatic change in appearance of corneal endothelial cells).

We expect to submit an NDA for Roclatan™ in the second quarter of 2018. Mercury 1 and Mercury 2 will also be used for European approval of Roclatan™, and we initiated a third Phase 3 registration trial for Roclatan™, named Mercury 3, in Europe during the third quarter of 2017. Mercury 3 is designed to compare Roclatan to Ganfort®, a fixed-dose combination product of bimatoprost and timolol marketed in Europe, which if successful, is expected to improve our commercialization prospects in that region. We estimate a total enrollment of approximately 500 patients in Mercury 3, a two-arm, six-month safety trial that also provides a 90-day interim efficacy readout. Each comparator arm will be dosed once daily in the evening. Patients will be evaluated with maximum baseline IOPs ranging from above 20 mmHg to below 36 mmHg. The trial will be conducted primarily in the United Kingdom, France, Germany, Italy, Spain, Belgium and Austria, and we currently expect to read out topline 90-day efficacy data for the trial by early 2019 and to submit a regulatory submission for European approval for Roclatan™ in the second half of 2019.

In addition to our continued use of our final drug product for clinical trials sourced from our current contract manufacturer based in the U.S., in January 2017, we announced that we are building out a new manufacturing plant in Athlone, Ireland. This will be our first manufacturing plant, which is expected to produce commercial supplies of Rhopressa® and, if approved, Roclatan™. In anticipation of obtaining FDA approval of Rhopressa®, our current contract manufacturer has started producing commercial supply of Rhopressa®, and commercial supply of Rhopressa® from our own manufacturing plant is expected to be available by 2020. We are also in the process of adding a second contract manufacturer, which we expect may produce commercial supply of Rhopressa® by the end of 2018.

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Our stated objective is to build a major ophthalmic pharmaceutical company. In addition to Rhopressa® and Roclatan™, we plan to continue exploring the benefits of Rhopressa® on 24-hour IOP lowering, normal tension glaucoma, neuroprotection, as well antifibrotic effects on the diseased TM. We are also evaluating possible uses of our existing proprietary portfolio of Rho kinase inhibitors beyond glaucoma. Our owned preclinical small molecule, AR-13154, has demonstrated the potential for the treatment of wet age-related macular degeneration (AMD) by inhibiting Rho kinase and Protein kinase C and has shown lesion size decreases in an *in vivo* preclinical model of wet AMD at levels similar to the current market-leading wet AMD anti-VEGF product, and even greater lesion size reduction in combination with the current market-leading wet AMD anti-VEGF product. Further, in our preclinical studies, we have seen a promising potential of this molecule to reduce neovascularization in a model of proliferative diabetic retinopathy. Pending additional studies, the active metabolite of AR-13154 and related molecules may have the potential to provide an entirely new mechanism and pathway to treat wet AMD and other diseases of the retina, such as diabetic macular edema (DME). This molecule has not yet been tested in humans in a clinical trial setting.

We have and may continue to enter into research collaboration arrangements, license, acquire or develop additional potential 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. We are currently focused on the evaluation of technologies for the delivery of our owned molecules to the back of the eye over sustained periods.

On July 31, 2017, we announced that we entered into a collaborative research, development and licensing agreement with DSM, a global science-based company headquartered in the Netherlands. The research collaboration agreement includes an option to license DSM s bio-erodible polymer implant technology for evaluating its application to the delivery of certain of our compounds, initially focused on retinal diseases. This technology uses polyesteramide polymers that may, when combined with AR-13154, provide for sustained delivery of the small molecule over a period of several months. To date, preclinical experiments have demonstrated early success in conjunction with AR-13154, including demonstration of linear, sustained elution rates over several months and achievement of target retinal drug concentrations.

On October 4, 2017, we acquired from Envisia the rights to use PRINT® technology in ophthalmology and certain other assets. The PRINT® technology is a proprietary system capable of creating precisely engineered sustained release implant products utilizing fully-scalable manufacturing processes. Our initial focus will be in using PRINT® to manufacture injectable implants containing AR-13154, potentially in conjunction with the polymer technology from DSM. In addition, we acquired Envisia s intellectual property rights relating to its preclinical dexamethasone steroid for the treatment of DME, which also utilizes PRINT® technology, which we refer to as AR-1105.

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 or ocular hypertension and other diseases of the eye. We believe Rhopressa® and Roclatan™ have the potential to address many of the unmet medical needs in the glaucoma market. Key elements of our strategy are to:

Successfully launch and commercialize Rhopressa® in North America. We own worldwide rights to all indications for Rhopressa® and we plan to retain commercialization rights in North American markets. We expect to launch Rhopressa® in the United States by mid-second quarter of 2018. In December 2016, we hired a Chief Commercial Officer and have since hired several members of the commercialization leadership team. In connection with obtaining FDA approval of Rhopressa®, starting in the first quarter of 2018, we plan to further build out the commercial team in the United States by hiring approximately 100 sales representatives, and also plan to contract for formulary coverage

for Rhopressa® with U.S. payers for both commercial and Medicare Part D prescription drug plans. We expect our sales organization to target approximately 12,000 high prescribing eye-care professionals throughout the United States.

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Advance the development of Roclatan™ to approval. Roclatan™ achieved its primary efficacy endpoint of demonstrating statistical superiority of Roclatan™ to each of its components in the Mercury 1 readout in September 2016 and in the Mercury 2 readout in May 2017. The safety and tolerability results for Roclatan™ from Mercury 1 and Mercury 2 showed no drug-related serious adverse events or drug-related systemic adverse events. We expect to submit an NDA for Roclatan™ in the second quarter of 2018.

Advance the development of Rhopressa® and Roclatan™ outside the United States to approval and commercialize on our own in Europe while potentially securing a commercialization partner in Japan. Our strategy includes developing our business outside of North America, including obtaining regulatory approval on our own for Rhopressa® and Roclatan™ in Europe and Japan. We commenced Mercury 3 in Europe during the third quarter of 2017, which is designed to compare Roclatan™ to Ganfort®, a fixed-dose combination product of bimatoprost and timolol marketed in Europe, which if successful, is expected to improve our commercialization prospects in that region. We currently expect to read out topline 90-day efficacy data for the trial by early 2019 and to submit a regulatory submission for European approval of Roclatan™ in the second half of 2019. We completed Rocket 4 for Rhopressa®, which was designed to generate adequate six-month safety data for European regulatory approval, which we expect to file for in the second half of 2018. We have also initiated a Phase 2 clinical trial in the United States, which is designed in accordance with the requirements of Japan s PMDA, as a precursor to Phase 3 registration trials that are expected to be subsequently conducted in Japan for potential regulatory submission of Rhopressa® in Japan. If we obtain regulatory approval, we currently expect to commercialize our current or any future products in Europe on our own, and potentially partner for commercialization in Japan.

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

Expand our product portfolio through internal discovery efforts, research collaboration arrangements and in-licensing or acquisitions of additional ophthalmic product candidates, products or technologies. We continue to seek to discover and develop new compounds in our research laboratories and employ a scientific staff with expertise in medicinal chemistry, analytical chemistry, biochemistry, cell biology, pharmacology and pharmaceutical science, and are currently focused on evaluating our portfolio of owned Rho kinase inhibitors for indications beyond ophthalmology. In addition, we may enter into research collaboration arrangements, license or acquire additional product candidates and technologies to broaden our presence in ophthalmology, and we continually explore and discuss potential additional opportunities for new ophthalmic products, delivery alternatives and new therapeutic areas. We are currently focused on the evaluation of technologies for the delivery of our owned molecules to the back of the eye over sustained periods, and plan to pursue further development of our preclinical molecules and technologies focused on retinal diseases.

Recent Developments

On December 18, 2017, the FDA approved Rhopressa® for the reduction of elevated IOP in patients with open-angle glaucoma or ocular hypertension. The FDA approval decision was made two months ahead of the scheduled Prescription Drug User Fee Act (PDUFA) goal date of February 28, 2018.

FDA approval means that we can begin marketing Rhopressa® for the approved indication in the United States and we are implementing our plans to do so. We expect to launch Rhopressa® in the United States by mid-second quarter of 2018. We hired a Chief Commercial Officer in December 2016 to oversee the commercialization process and have

since hired several members of the commercialization leadership team, and,

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starting in the first quarter of 2018, we plan to further build out the commercial team in the United States by hiring approximately 100 sales representatives who will target approximately 12,000 high prescribing eye-care professionals throughout the United States. We also plan to contract for formulary coverage for Rhopressa® with U.S. payers for both commercial and Medicare Part D prescription drug plans, and have started that process. To date, we have relied on, and for the foreseeable future, we anticipate that we will continue to rely on third-party manufacturers for the commercial production of Rhopressa®, and our current contract manufacturer has started producing commercial supply of Rhopressa®.

See Risk Factors Additional Risks Relating to this Offering Our prospects are highly dependent on the successful commercialization of Rhopressa®, which received approval from the FDA in December 2017 for the reduction of elevated IOP in patients with open-angle glaucoma or ocular hypertension. To the extent that Rhopressa® is not commercially successful, our business, financial condition and results of operations will be materially adversely affected and the price of our common stock will materially decline elsewhere in this prospectus supplement.

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, Durham, North Carolina and Dublin, Ireland. 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. However, since the market value of our common stock held by non-affiliates exceeded $700 million as of June 30, 2017, as of the year ending December 31, 2017, we will cease to be an emerging growth company. As a result, beginning with our Annual Report on Form 10-K for the year ending December 31, 2017, we will be subject to Section 404(b) of the Sarbanes-Oxley Act, which requires that our independent registered public accounting firm provide an attestation report on the effectiveness of our internal control over financial reporting.

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THE OFFERING

Common stock to be offered by us	Shares of our common stock having an aggregate offering price of up to $75.0 million.
Manner of offering	At-the-market offering that may be made from time to time through the Agent. See Plan of Distribution.
Potential additional sales	In addition, at any time, including during the pendency of this offering, we may sell additional equity or convertible debt securities, other than pursuant to this offering, in amounts that may be material to us, which may be in amounts that are equal to or greater than the size of this offering, 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, which sales may occur during or immediately after sales pursuant to this offering are commenced, result in dilution to our stockholders and impose restrictions on our business and Dilution.
Use of proceeds	We currently intend to use the net proceeds from this offering, if any, for general corporate purposes, including to fund expansion of our commercialization programs in North America for both Rhopressa® and Roclatan™, our clinical and commercialization efforts beyond North America, further development of other potential pipeline opportunities, including activities to support the ongoing development of our retina programs and evaluating possible uses of our existing proprietary portfolio of molecules beyond ophthalmology, our external business development efforts, and our manufacturing activities, including the construction of our own manufacturing plant in Ireland. See Use of Proceeds.
Nasdaq Global Market symbol	AERI.
Risk factors	Investing in our common stock involves risks. Please see Risk Factors on page S-11 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.

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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, 2016 and our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2017, each of which is incorporated by reference in this prospectus supplement, 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 commercialization of Rhopressa® and the development of our current or any future 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, which sales may occur during or immediately after sales pursuant to this offering are commenced, result in dilution to our stockholders and impose restrictions on our business.

In order to raise additional funds to support our operations, or if we decide based on ongoing forecast updates, new strategic initiatives, market conditions or for other reasons that additional financings are desirable or needed, 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. See Dilution. In particular, at any time, including during the pendency of this offering, we may sell additional equity or convertible debt securities, other than pursuant to this offering, in amounts that may be material to us, which may be in amounts that are equal to or greater than the size of this offering, 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. For example, in May 2017, we sold 906,858 shares of our common stock under an at-the-market sales agreement entered into with Cantor Fitzgerald & Co. before market open on May 25, 2017 and 1,395,349 shares of our common stock in a block trade under an underwriting agreement entered into with Cantor Fitzgerald & Co. after market close on May 25, 2017.

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.

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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.

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 for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

Our prospects are highly dependent on the successful commercialization of Rhopressa®, which received approval from the FDA in December 2017 for the reduction of elevated IOP in patients with open-angle glaucoma or ocular hypertension. To the extent that Rhopressa® is not commercially successful, our business, financial condition and results of operations will be materially adversely affected and the price of our common stock will materially decline.

Rhopressa® is our only product that has been approved for sale by the FDA. We have not yet begun to commercialize Rhopressa® and the commercial launch of Rhopressa® is not expected until mid-second quarter of 2018. We have invested a significant portion of our activities and resources toward the development of Rhopressa®, and we believe our prospects are highly dependent on, and a significant portion of the value of our company relates to, our ability to successfully commercialize Rhopressa® in the United States.

Successful commercialization of Rhopressa® is subject to many risks. We have never, as an organization, launched or commercialized a product, and there is no guarantee that we will be able to do so successfully with Rhopressa® for its approved indication, the reduction of elevated IOP in patients with open-angle glaucoma or ocular hypertension. There are numerous examples of other companies that have experienced unsuccessful product launches and failed to meet high expectations of market potential, including pharmaceutical companies with significantly more experience and resources than us.

The future success of Rhopressa®, including the expected timing of the commercial launch, and the rate and degree of market acceptance, of Rhopressa® in the United States, will depend on a number of factors, including:

- the efficacy and safety of Rhopressa in a larger number of patients and in broader populations than those demonstrated in our clinical trials;
- our ability to manufacture sufficient commercial supplies of Rhopressa® in compliance with regulatory requirements;

the effectiveness of our sales and marketing efforts;

the timing of market introduction of Rhopressa®;

the ability of Rhopressa® to successfully compete against other products;

acceptance by eye-care professionals, the medical community and patients of Rhopressa® as a safe and effective product;

the potential and perceived advantages of Rhopressa® over alternative products;

the ability to distinguish safety and efficacy from existing alternatives;

the willingness of eye-care professionals to prescribe and patients to use Rhopressa® and continue to use Rhopressa® instead of alternative products;

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the prevalence and severity of adverse side effects;

the convenience of prescribing, administrating and initiating patients on Rhopressa®;

the potential and perceived value and relative cost of Rhopressa® over alternative products, including generic products or treatments;

the availability of coverage and adequate reimbursement and pricing by third-party payors and government authorities;

the successful completion of any clinical trials, regulatory approval and commercialization of Rhopressa® for one or more label expansion indications; and

our ability to enforce our intellectual property rights with respect to Rhopressa®.

While our current contract manufacturer has started commercial production of Rhopressa® and we have established our commercial team, we will need to incur significant additional expenses and commit significant additional management time to further develop our manufacturing and commercialization capabilities and to hire, develop and train a sales force in order to be prepared to successfully coordinate the launch and commercialization of Rhopressa® in the United States. We may not be able to successfully establish these capabilities on our expected timing or at all. Even if we are successful in developing effective manufacturing capabilities and building out our commercial team and sales force, there are many factors that could cause the launch and commercialization of Rhopressa® to be unsuccessful and/or delayed, including a number of factors that are outside our control.

The commercial success of Rhopressa® depends on the extent to which eye-care professionals and patients accept and adopt Rhopressa® as a product for the reduction of elevated IOP in patients with open-angle glaucoma or ocular hypertension, and we do not know whether our or others revenue estimates in this regard will be accurate. For example, if the patient population suffering from open-angle glaucoma or ocular hypertension is smaller than we estimate or if eye-care professionals are unwilling to prescribe or patients are unwilling to try and then continue to use Rhopressa®, the commercial potential of Rhopressa® will be limited. We also do not know how eye-care professionals, patients and third-party payors will respond to the pricing of Rhopressa®. In particular, our insight into pricing sensitivity may be delayed because as part of our initial launch strategy we intend to provide some free product as samples during a trial period, and do not know whether eye-care professionals and patients that initially use Rhopressa® will continue to do so after using the free product samples. Eye-care professionals may not prescribe Rhopressa® and patients may be unwilling to use Rhopressa® if coverage is not provided or reimbursement is inadequate to cover a significant portion of the cost, and we may find it necessary or desirable to provide rebates on Rhopressa® to customers or third-party payors or to implement patient assistance programs, including co-pay assistance programs, which could materially adversely affect our profitability.

While the FDA granted approval of Rhopressa® based on the data included in the NDA, we do not know whether the results when a larger number of patients in broader populations are exposed to Rhopressa®, including results related to safety and efficacy, will be consistent with the results from our earlier clinical studies of Rhopressa® that served as the basis of FDA approval of Rhopressa®. New data relating to Rhopressa®, including from any adverse event reports or any negative results during clinical development for additional indications of Rhopressa®, may adversely impact the

commercial results and potential of Rhopressa®. Thus, significant uncertainty remains regarding the commercial potential success of Rhopressa®. In addition, such new data or any serious or unexpected side effects caused by Rhopressa® may result in a number of potentially significant negative consequences, including:

- the FDA could withdraw its approval of Rhopressa®, impose restrictions on its distribution or require the addition of labeling warnings or restrictions;

- we could be required to change the way Rhopressa® is promoted or administered or conduct additional clinical studies;

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we could be sued and held liable for any harm caused to patients; or

our reputation may suffer.

If the launch or commercialization of Rhopressa® is delayed, unsuccessful or perceived as disappointing, our stock price could decline significantly and the long-term success of the product and our company could be materially harmed.

While the FDA granted approval of Rhopressa®, such approval does not guarantee FDA approval for Roclatan™ or any future product candidates. FDA approval of Rhopressa® also does not guarantee that Rhopressa® will be approved by the FDA for additional indications or by regulatory entities in countries outside of the United States.

See Risk Factors Risks Related to Development, Regulatory Approval and Commercialization and Risk Factors Risks Related to Our Reliance on Third Parties in our Annual Report on Form 10-K for the year ended December 31, 2016, which is incorporated by reference in this prospectus supplement, for a more detailed discussion of the risks related to the manufacturing, commercialization and ongoing regulation of drug products.

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USE OF PROCEEDS

We currently intend to use the net proceeds from this offering, if any, for general corporate purposes, including to fund expansion of our commercialization programs in North America for both Rhopressa® and Roclatan™, our clinical and commercialization efforts beyond North America, further development of other potential pipeline opportunities, including activities to support the ongoing development of our retina programs and evaluating possible uses of our existing proprietary portfolio of molecules beyond ophthalmology, our external business development efforts, and our manufacturing activities, including the construction of our own manufacturing plant in Ireland. 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 commercialization 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.

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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 as of September 30, 2017 was approximately $159.3 million, or $4.37 per share, based on 36,426,830 shares of common stock outstanding as of September 30, 2017.

After giving effect to our receipt of approximately $74.0 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 $59.00 per share (the last reported sale price of our common stock on The Nasdaq Global Market on December 15, 2017), our as adjusted net tangible book value as of September 30, 2017 would have been $233.3 million, or $6.19 per share. This amount represents an immediate increase in net tangible book value of $1.82 per share of our common stock to existing stockholders and an immediate dilution in net tangible book value of $52.81 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		$ 59.00
Historical net tangible book value per share	$ 4.37	
Increase per share attributable to new investors	1.82	
As adjusted net tangible book value per share after this offering		6.19
Dilution per share to new investors		$ 52.81

The table above assumes for illustrative purposes that an aggregate of 1,271,186 shares of our common stock are sold at a price of $59.00 per share, the last reported sale price of our common stock on The Nasdaq Global Market on December 15, 2017, for aggregate gross proceeds of approximately $75.0 million. The shares sold in this offering, if any, may be sold from time to time at various prices.

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 36,426,830 shares of common stock outstanding as of September 30, 2017, and excludes as of such date:

- 6,237,959 shares of common stock issuable upon the exercise of stock options outstanding as of September 30, 2017 under our equity compensation and inducement award plans, having a weighted average

exercise price of $20.56 per share;

536,756 shares of common stock reserved as of September 30, 2017 for future issuance under our 2013 Employee Stock Purchase Plan;

1,504,132 shares of common stock reserved as of September 30, 2017 for future issuance under our Amended and Restated Equity Plan;

241,000 shares of common stock reserved as of September 30, 2017 for future issuance under our Inducement Award Plan;

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380,982 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2017, having a weighted average exercise price of $2.10 per share; and

any shares of common stock issuable upon the conversion of the 2014 Convertible Notes.

To the extent that outstanding options, warrants or convertible debt securities outstanding as of September 30, 2017 have been or may be exercised or converted, other shares are or have been issued or other awards are or have been vested or settled, or to the extent that equity awards granted subsequent to September 30, 2017 are exercised, vested or settled, investors purchasing our common stock in this offering may experience further dilution. In addition, at any time, including during the pendency of this offering, we may sell additional equity or convertible debt securities, other than pursuant to this offering, in amounts that may be material to us, which may be in amounts that are equal to or greater than the size of this offering, 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 or convertible debt securities 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, which sales may occur during or immediately after sales pursuant to this offering are commenced, result in dilution to our stockholders and impose restrictions on our business.

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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
2017		
Fourth Quarter (through December 15, 2017)	$ 66.60	$ 48.49
Third Quarter	61.30	47.05
Second Quarter	59.50	38.14
First Quarter	51.85	37.70
2016		
Fourth Quarter	$ 43.40	$ 32.05
Third Quarter	41.72	16.61
Second Quarter	19.99	11.89
First Quarter	24.08	10.82

As of September 30, 2017, we had 36,426,830 shares of common stock outstanding held by approximately 110 stockholders of record. The actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

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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;

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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 Risk Factors, 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.

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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

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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.

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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 $75.0 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 December 19, 2017.

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 $275,000.

Settlement for sales of common stock will occur on the second business day following the date on which any sales are made (or such earlier day as is industry practice for regular-way trading), 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 supplement 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 to the Agent and certain of its controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments the Agent may be required to make in respect thereof.

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.

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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.

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EXPERTS

The financial statements incorporated in this prospectus supplement by reference to the Annual Report on Form 10-K for the year ended December 31, 2016 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.

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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, 2016, which was filed with the SEC on March 9, 2017;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2016 from our Definitive Proxy Statement on Schedule 14A, which was filed with the SEC on April 27, 2017;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017, June 30, 2017 and September 30, 2017, which were filed with the SEC on May 3, 2017, August 3, 2017 and November 9, 2017, respectively;
- our Current Reports on Form 8-K, which were filed with the SEC on May 25, 2017, June 1, 2017, June 9, 2017, July 26, 2017 and December 19, 2017; 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, as supplemented by the Description of Capital Stock section included in the accompanying prospectus, 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

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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.

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PROSPECTUS

Common Stock

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

The common stock may be offered or sold by us 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 us. When we 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 September 14, 2016, the closing price of our common stock was $21.13 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 set forth under Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2015 filed with the Securities and Exchange Commission on March 2, 2016 (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 September 15, 2016.

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

When we 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 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. and its consolidated subsidiaries.

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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, estimates, anticipates, expects, plans, intends, may, would, could, 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 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.

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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 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.

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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 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 market-leading 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. 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, 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 with non-PGA (prostaglandin analog) 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.

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. We commenced an additional Phase 3 trial in the United States for Roclatan , named Mercury 2, in March 2016. 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, including those with higher IOPs and

those who present with significant disease progression.

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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.

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.

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.

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RISK FACTORS

You should consider carefully the risks set forth under Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2015, filed with the SEC on March 2, 2016 (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.

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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.

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DILUTION

To the extent required by the Securities Act and the rules promulgated thereunder, 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.

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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 (the 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 June 30, 2016, we had issued and outstanding 26,649,605 shares of common stock and no shares of preferred stock.

In addition, as of June 30, 2016, we had outstanding 184,633 shares of restricted stock, options to purchase 5,271,279 shares of common stock and warrants to purchase 380,982 shares of common stock.

As of June 30, 2016 we had 8 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.

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Stock Options

As of June 30, 2016, options to purchase 5,271,279 shares of our common stock at a weighted average exercise price of $11.04 per share were outstanding, of which options to purchase 2,760,266 shares of our common stock were exercisable, at a weighted average exercise price of $9.48 per share.

Warrants

As of June 30, 2016, the following warrants were outstanding:

	Warrant			
Number of Underlying Shares	Exercise Price Per Share		Expiration Date	Type of Equity Security
75,000	$	5.00	February 2019	Common Stock
75,000	$	5.00	November 2019	Common Stock
7,500	$	5.00	August 2019	Common Stock
223,482	$	0.05	December 2020	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.

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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 opportunities. Our amended and restated certificate of incorporation renounces any interest or expectancy in, or

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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.

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PLAN OF DISTRIBUTION

General

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

underwritten public offerings;

at-the-market sales 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 may

include the following information to the extent required by law:

- the terms of the offering;
- the names of any underwriters, dealers or agents participating in the offering;
- the purchase price of the securities sold by us to any underwriter or dealer and the net proceeds we expect to receive from the offering;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any delayed delivery arrangements;
- any agency fees or underwriting discounts and other items constituting agents or underwriters compensation;
- any public offering price;
- any discounts or concessions allowed or reallowed or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

We 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

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underwritten sale of our common stock, underwriters may receive compensation from us 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.

If we use an underwriter or underwriters to effectuate the sale of common stock, we 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 may arrange for other brokers or dealers to participate. Broker-dealers may receive discounts, concessions or commissions from us (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 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 may sell shares of our common stock directly to purchasers. In this case, we may not engage underwriters or agents in the offer and sale of such shares.

Indemnification

We 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 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.

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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.

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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.

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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, 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, by requesting them in writing, 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

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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.

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Up to $75,000,000 of Shares of

Common Stock

PROSPECTUS SUPPLEMENT

Cantor Fitzgerald & Co.

December 19, 2017