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		