February 17, 2016

Aerie Pharmaceuticals Reports Positive RhopressaTM QD (netarsudil ophthalmic solution) 0.02% 12 Month Interim Safety Results for Rocket 2

Rhopressa™ QD Maintained Consistent IOP-Lowering Efficacy through 12 Months

Conference Call and Webcast with Accompanying Slides Today, February 17, at 5:00 p.m. ET

IRVINE, Calif.--(BUSINESS WIRE)-- Aerie Pharmaceuticals, Inc. (NASDAQ:AERI), a clinical-stage pharmaceutical company focused on the discovery, development and commercialization of first-in-class glaucoma therapies, today reported the successful 12-month interim safety results of Rocket 2, Aerie's second Phase 3 registration trial for Rhopressa™ (netarsudil ophthalmic solution) 0.02%, a novel once-daily eye drop being tested for its ability to lower intraocular pressure (IOP) in patients with glaucoma or ocular hypertension. The Company previously reported that Rocket 2 had achieved its primary 90-day efficacy endpoint of demonstrating non-inferiority of IOP lowering for Rhopressa™ QD compared to timolol BID. The Rocket 2 trial is a pivotal trial expected to be part of Aerie's NDA filing for Rhopressa™, which we expect to submit to the FDA in the third quarter of 2016. Management will host a conference call and provide accompanying slides to discuss these results at 5:00 p.m. ET today.

Rhopressa™ QD Safety and Efficacy Highlights for Rocket 2

- The first 118 patients on Rhopressa™ QD for the 12-month period demonstrated safety results consistent with those observed for the 90 day efficacy period. There were no new adverse events that developed over the 12-month period, and there were no drug-related serious adverse events.
- As expected, the most common adverse event was conjunctival hyperemia, or eye redness. Increased hyperemia over baseline was observed by biomicroscopy at a rate of 30 percent, of which 76 percent was considered mild. Hyperemia was sporadic; 70 percent of patients with prior conjunctival hyperemia had no hyperemia at month 12.
- The other adverse events observed during the twelve-month trial are consistent with those observed during the initial 90-day efficacy period. They included conjunctival hemorrhages, corneal deposits, and blurry vision, ranging from 5 percent to 23 percent of the 118 patients.
- Rocket 2 included IOP measurements at 8 am only at months six, nine and 12, in addition to the diurnal measurements taken during the initial 90-day efficacy period. For the first 118 patients who reached the 12-month mark, Rhopressa™ QD demonstrated a consistent level of IOP lowering at 8 am from day 90 through month 12, with a nominal variance of only 0.1 mmHg between day 90 and month 12.

"We are very pleased to see that Rhopressa™ QD continues to demonstrate a positive safety profile and, very importantly, consistent IOP lowering throughout the 12-month period. Our NDA filing remains on track for the third quarter of 2016," said Vicente Anido, Jr., Ph.D., Chief Executive Officer and Chairman at Aerie.

Dr. Anido continued, "In addition to proceeding with our Rhopressa™ NDA filing, we also look forward to our first Phase 3 90-day efficacy readout for Roclatan™, also expected in the third quarter of 2016. On a separate note, we are reporting that our preliminary cash burn for full-year 2015 is consistent with our earlier guidance of approximately $60 million, and our year-end 2015 cash, marketable securities and investments amounted to approximately $150 million. We remain well-financed for 2016."

Richard A. Lewis, M.D., Aerie's Chief Medical Officer, and glaucoma specialist, stated, "We expect that clinicians will be

highly satisfied with the long-term safety and efficacy results demonstrated in our clinical trials. They have waited for a generation for a product with the novel qualities of Rhopressa™."

Rhopressa™

Rhopressa™ (netarsudil ophthalmic solution) 0.02% is a novel eye drop that we believe, if approved, would become the only once-daily product available that specifically targets the trabecular meshwork, the eye's primary fluid drain and the diseased tissue responsible for elevated IOP in glaucoma. Preclinical results have demonstrated that Rhopressa™ also lowers episcleral venous pressure, which contributes approximately half of IOP in healthy subjects. Further, Rhopressa™ provides an additional mechanism that reduces fluid production in the eye and therefore lowers IOP. Biochemically, Rhopressa™ is known to inhibit both Rho Kinase (ROCK) and norepinephrine transporter (NET). Recent preclinical studies have shown that Rhopressa™ may have disease-modifying properties, including an anti-fibrotic effect on the trabecular meshwork and the potential to increase perfusion of the trabecular meshwork. Preclinical research is also currently underway to evaluate the potential neuroprotective benefits of Rhopressa™. The representations above regarding the Rhopressa™ mechanisms of action are the result of Aerie's preclinical studies and clinical trials.

There are two Phase 3 registration trials (Rocket 2 and Rocket 1) for Rhopressa™ required for NDA filing. Rocket 2 will be the pivotal trial and Rocket 1 will be supportive for the NDA filing that we expect to submit to the FDA in the third quarter of 2016. Rocket 2, the interim safety results of which are reported in this press release, is a 12-month trial which previously achieved its 90-day primary efficacy endpoint. For Rocket 2, the 90-day efficacy period included IOP measurements at week two, week six and day 90 at 8 am, 10 am and 4 pm. Thereafter, safety observations and IOP measurements were conducted at 8 am only at the end of months six, nine and twelve. Rocket 1, the results of which were initially reported in April 2015, was a 90-day efficacy trial that did not achieve its primary endpoint, but did achieve its pre-specified secondary endpoint. Rocket 3 is a 12-month safety-only study in Canada which is currently in progress but not needed for NDA filing. A fourth Phase 3 trial, Rocket 4, commenced in late September 2015, and is designed to provide adequate six-month safety data to meet regulatory filing requirements in Europe, and is also not required for the NDA filing in the U.S.

Conference Call / Web Cast Information

Aerie management will host a live conference call and webcast at 5:00 p.m. Eastern Time today to discuss the Rhopressa™ Phase 3 twelve-month safety results from Rocket 2.

The live webcast and a replay may be accessed by visiting Aerie's website at http://investors.aeriepharma.com. In addition, key data slides from the Rocket 2 safety study will be discussed on the conference call and are posted to Aerie's website. Please connect to Aerie's website at least 15 minutes prior to the live webcast to ensure adequate time for any software download that may be needed to access the webcast. Alternatively, please call 1-888-734-0328 (U.S.) or 1-678-894-3054 (international) to listen to the live conference call. The conference ID number for the live call is 54571139. Please dial in approximately 10 minutes prior to the call. Telephone replay will be available approximately two hours after the call. To access the replay, please call 1-855-859-2056 (U.S.) or 1-404-537-3406 (international). The conference ID number for the replay is 54571139. The telephone replay will be available until February 24, 2016.

About Aerie Pharmaceuticals, Inc.

Aerie is 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. Aerie's two lead product candidates are once-daily IOP-lowering therapies with novel mechanisms of action to treat patients with glaucoma and ocular hypertension. It is expected that the NDA filing for Rhopressa™ (netarsudil ophthalmic solution) 0.02% will take place in the third quarter of 2016. The second product candidate, Roclatan™ (netarsudil/latanoprost ophthalmic solution) 0.02%/0.005%, which is a fixed dose combination of Rhopressa™ and widely prescribed PGA latanoprost, currently has one Phase 3 registration trial underway, named Mercury 1, with a second trial expected to commence in March 2016. If these trials are successful, a Roclatan™ NDA filing is expected to take place in the second half of 2017. Aerie also announced in 2015 its research collaborations with GrayBug, Inc. and Ramot at Tel Aviv University as it further builds its pipeline for future growth.

Forward-Looking Statements

This press release contains forward-looking statements for purposes of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. We may, in some cases, use terms such as "predicts," "believes," "potential," "proposed,"

"continue," "estimates," "anticipates," "expects," "plans," "intends," "may," "could," "might," "will," "should," "exploring," "pursuing" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: the success, timing and cost of our ongoing and anticipated preclinical studies and clinical trials for our current product candidates, including statements regarding the timing of initiation and completion of the studies and trials; our expectations regarding the clinical effectiveness of our product candidates and results of our clinical trials; the timing of and our ability to obtain and maintain U.S. Food and Drug Administration or other regulatory authority approval of, or other action with respect to, our product candidates; our expectations regarding the commercialization of our product candidates; our expectations related to the use of proceeds from our initial public offering and the issuance and sale of our senior secured convertible notes and the issuance and sale of shares of our common stock in connection with our "at the market" sales agreements; our estimates regarding anticipated capital requirements and our needs for additional financing; the potential advantages of our product candidates; our plans to pursue development of our product candidates for additional indications and other therapeutic opportunities; our plans to explore possible uses of our existing proprietary compounds beyond glaucoma; and our ability to protect our proprietary technology and enforce our intellectual property rights; and our expectations regarding strategic operations, including our ability to in-license or acquire additional ophthalmic products or product candidates. 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 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 the quarterly and annual reports that we file with the Securities and Exchange Commission (SEC). In particular, the preclinical research discussed in this press release 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 press release. In addition, the financial information presented above is preliminary, based solely on information available to us as of the date of this press release, and may differ materially from final 2015 financial results. Forward-looking statements are not guarantees of future performance and 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 press release. Any forward-looking statements that we make in this press release speak only as of the date of this press release. We assume no obligation to update our forward-looking statements whether as a result of new information, future events or otherwise, after the date of this press release.

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