June 25, 2014

Aerie Pharmaceuticals Reports RoclatanTM Phase 2b Results Achieve All Clinical Endpoints

Once-Daily Product Shows Potential to Be Highest Efficacy IOP-Lowering Therapy

Quadruple-Action Product for Glaucoma Patients

Conference Call and Webcast Today, June 25, at 8:00 a.m. ET

BEDMINSTER, N.J. & RESEARCH TRIANGLE PARK, N.C. & NEWPORT BEACH, 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 results of its Phase 2b trial for once-daily, quadruple-action Roclatan™, a combination of Aerie's triple-action Rhopressa™ with latanoprost, a prostaglandin analogue (PGA). Management will host a conference call to discuss these results at 8:00 a.m. ET today.

Quadruple-Action Roclatan™ Phase 2b Highlights

- Roclatan™ achieved its primary efficacy endpoint of statistically significant superiority over each of its components on day 29. The Phase 2b 28-day clinical trial included 297 patients. The baseline intraocular pressures (IOPs) tested in the study ranged from 22 to 36 millimeters of mercury (mmHg). Roclatan™ lowered mean diurnal IOP on day 29 from 25.1 mmHg at baseline to 16.5 mmHg, a 34 percent decrease in IOP. Roclatan™ mean diurnal IOP reduction on day 29 was approximately 2 mmHg greater than latanoprost.
- Roclatan™ efficacy exceeded that of latanoprost, the most widely prescribed glaucoma drug, by 1.6 to 3.2 mmHg across each time point evaluated during the study (8am, 10am, 4pm on days 8, 15 and 29). These results were statistically significant at all time points with p-values less than 0.05.
- The most common Roclatan™ adverse event was hyperemia, or eye redness, which was reported in 40 percent of patients and was scored as mild for the large majority of the Roclatan™ patients.
- In addition to the significant Roclatan™ findings, other performance highlights of the Phase 2b trial include:
  - On day 29, 50 percent of Roclatan™ patients compared to 28 percent of latanoprost patients experienced a 35 percent or greater decrease in mean diurnal IOP from baseline.
  - On day 29, 46 percent of Roclatan™ patients compared to 18 percent of latanoprost patients had a mean diurnal IOP of 16 mmHg or less.
- The Rhopressa™ arm of the Roclatan™ study performed similarly to the results observed in the Rhopressa™ Phase 2b study, lowering mean diurnal IOP on day 29 by 6.3 mmHg from baseline.

"We are very impressed by the Roclatan™ Phase 2b results. This product has demonstrated great promise to potentially become the most effective IOP-lowering product on the market, creating new hope for glaucoma sufferers. With this success we believe we have an approvable product, and Phase 3 preparatory activities for Roclatan™ are commencing immediately. The entire Aerie team remains focused on moving forward towards Phase 3 registration trials for Roclatan™, and initiating the Phase 3 registration trials for our other innovative product, triple-action Rhopressa™," said Vicente Anido, Jr., Ph.D., Chairman and Chief Executive Officer at Aerie.

With regard to commercialization potential, Dr. Anido added, "With these strong data, we are even more confident that our products have blockbuster potential. We continue to expect to market our products through our own sales force in North America, and plan to commence licensing discussions for commercialization outside of North America."

Richard L. Lewis, MD, a glaucoma specialist in Sacramento, California, President of the American Society of Cataract and Refractive Surgeons (ASCRS), and Chairman of Aerie's Scientific Advisory Board added, "These powerful data suggest that we are on the verge of a true breakthrough in IOP-lowering agents for the treatment of glaucoma. Practitioners will welcome the quadruple-action MOAs, including the targeting of the trabecular meshwork, the diseased tissue in glaucoma, and the reduction of episcleral venous pressure."

Aerie Product Summary

Aerie's first-in-class product candidates are all single drop, once-daily medications that are well tolerated and have shown no systemic drug-related adverse events. Aerie fully owns its product candidates, has no licenses, and has patent protection for both use and composition of matter through 2030.

Quadruple-Action Roclatan™

Roclatan™ is a once-daily eye drop that combines our triple-action Rhopressa™ (discussed below) with latanoprost, a prostaglandin analogue that is the most widely prescribed glaucoma drug. If approved, we believe that Roclatan™ would be th first glaucoma product to lower IOP through all known actions: (i) increasing fluid outflow through the trabecular meshwork (TM) or primary drain, (ii) increasing fluid outflow through the uveoscleral pathway or secondary drain, (iii) reducing fluid production in the eye and (iv) reducing episcleral venous pressure (EVP).

We believe that Roclatan™, if approved, would be the only glaucoma product that covers the full spectrum of known IOP-lowering mechanisms, giving it the potential to provide a greater IOP-lowering effect than any currently approved glaucoma product. Therefore, we believe Roclatan™, if approved, could compete in both the PGA and non-PGA markets and become the product of choice for patients requiring maximal IOP lowering, including those with IOPs in excess of 26 mmHg and those who present with significant disease progression despite currently available therapies.

A successful 28-day Phase 2b clinical trial for Roclatan™ was recently completed, and preparatory steps for Phase 3 registration trials are expected to commence immediately.

Triple-Action Rhopressa™

Rhopressa™ is a novel triple-action eye drop that we believe, if approved, would become the only once-daily product available that specifically targets the TM, the eye's primary fluid drain and the diseased tissue responsible for elevated intraocular pressure (IOP) in glaucoma. Recent preclinical results have demonstrated that Rhopressa™ also lowers EVP, which contributes approximately half of IOP in healthy subjects. Further, we believe Rhopressa™ provides an additional mechanism which reduces fluid production in the eye and therefore lowers IOP. Biochemically, Rhopressa™ is known to inhibit both Rho Kinase (ROCK) and norepinephrine transporter (NET).

If successful, we expect Rhopressa™ to compete against PGA products as an initial therapy for patients with IOPs of 26 mmHg or below at the time of diagnosis, which represents the majority of patients with glaucoma and ocular hypertension. Additionally, we believe Rhopressa™ may be used as the add-on product of choice for patients on PGA therapy requiring further IOP lowering, due to its high efficacy, once daily dosing and ability to target the TM. PGAs target the secondary uveoscleral outflow mechanism, which is not the diseased tissue in glaucoma. We also believe Rhopressa™ may become the product of choice where PGAs may be contraindicated and for patients who are not responsive to PGAs or choose to avoid the cosmetic issues associated with PGAs.

In our Phase 2b clinical trial, which was successfully completed in June 2013, Rhopressa™ demonstrated a strong IOP-lowering effect, with mean IOP reductions of 5.7 and 6.2 mmHg on days 28 and 14, respectively. In addition, Rhopressa™ demonstrate a consistent mean IOP-lowering effect irrespective of the baseline IOPs of the patients entered into the trial. This differentiates Rhopressa™ from currently marketed IOP-lowering agents such as market-leading PGAs and beta blockers, which have their highest effect at higher baseline IOPs, while losing efficacy as the baseline diminishes, as shown in published studies. This is significant given that the majority of glaucoma patients have low to moderately elevated IOPs of 26 mmHg or below at the time of diagnosis. In the Roclatan™ Phase 2b trial recently completed in June 2014, Rhopressa™ performed with similar results as had in its Phase 2b trial completed in June 2013.

Rhopressa™ is expected to begin three Phase 3 registration trials in July 2014, with total expected enrollment of approximately 1,300 patients. The trials will measure efficacy over three months and safety over 12 months. The primary efficacy endpoint of the trials will be to demonstrate non-inferiority of IOP lowering for Rhopressa™ (dosed once daily and twice daily) compared t timolol (dosed twice daily). There will be two trials conducted in the U.S., and one safety-only study in Canada. Timolol is the

most widely used comparator in registration trials for glaucoma, and is also the most widely prescribed add-on therapy to PGAs.

Assuming the trials commence as expected in July 2014, three-month efficacy results are expected to be released in mid-2015, and if the trials are successful, we expect to submit our NDA filing in mid-2016.

Conference Call / Web Cast Information

Aerie management will host a live conference call and webcast at 8:00 a.m. Eastern Time today to discuss the Roclatan™ Phase 2b results.

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 Roclatan™ Phase 2b study will be discussed on the conference call and are posted to the website. Please connect to the Company'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 (888) 734-0328 (U.S.) or (678) 894-3054 (international) to listen to the live conference call. The conference ID number for the live call is 66255242. 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 (855)-859-2056 (U.S.) or (404) 537-3406 (international). The conference ID number for the replay is 66255242. The telephone replay will be available until July 9, 2014.

About Aerie Pharmaceuticals, Inc.

Aerie is a clinical-stage pharmaceutical company focused on the discovery, development and commercialization of first-in-class glaucoma therapies. The Company is preparing for two Phase 3 registration trials in the U.S. where the primary efficacy endpoint will be to demonstrate non-inferiority of IOP lowering for Rhopressa™ (dosed once daily and twice daily) compared t timolol (dosed twice daily), along with a third Phase 3 registration safety-only trial in Canada. The Company also recently completed a Phase 2b clinical trial where Roclatan™ met the primary efficacy endpoint, demonstrating the statistical superiority of Roclatan™ to each of its components.

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" 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 related to the use of proceeds from our initial public offering; our estimates regarding anticipated capital requirements and our needs for additional financing; the potential advantages of our product candidates; and our ability to protect our proprietary technology and enforce our intellectual property rights. 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). 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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