Aerie Overview

OIS @ AAO

October 2018
Important Information

The information in this presentation does not contain all of the information that a potential investor should review before investing in Aerie shares. The descriptions of Aerie Pharmaceuticals, Inc. (the “Company” or “Aerie”) in this presentation are qualified in their entirety by reference to reports filed with the SEC. Certain information in this presentation has been obtained from outside sources or anecdotal in nature. While such information is believed to be reliable for the purposes used herein, no representations are made as to the accuracy or completeness thereof and we take no responsibility for such information.

Any discussion of the potential use or expected success of Rhopressa® (netarsudil ophthalmic solution) 0.02%, with respect to foreign approval or additional indications, and our current or any future product candidates is subject to regulatory approval. In addition, any discussion of U.S. Food and Drug Administration (“FDA”) approval of Rhopressa® does not guarantee successful commercialization of Rhopressa® or FDA approval of Rocklutan™. For more information on Rhopressa®, refer to the full Rhopressa® product label at Rhopressa.com.

The information in this presentation is current only as of its date and may have changed or may change in the future. We undertake no obligation to update this information in light of new information, future events or otherwise. We are not making any representation or warranty that the information in this presentation is accurate or complete.

Certain statements in this presentation, including any guidance or timelines presented herein, are “forward-looking statements” within the meaning of the federal securities laws. Words such as “may,” “will,” “should,” “would,” “could,” “believe,” “expects,” “anticipates,” “plans,” “intends,” “estimates,” “targets,” “projects,” “potential” or similar expressions are intended to identify these forward-looking statements. These statements are based on the Company’s current plans and expectations. Known and unknown risks, uncertainties and other factors could cause actual results to differ materially from those contemplated by the statements. In evaluating these statements, you should specifically consider various factors that may cause our actual results to differ materially from any forward-looking statements. In particular, FDA approval of Rhopressa® does not constitute approval of Rocklutan™, and there can be no assurance that we will receive FDA approval for Rocklutan™ or any future product candidates. Any top line data presented herein is preliminary and based solely on information available to us as of the date of this presentation and additional information about the results may be disclosed at any time. In addition, the preclinical research discussed in this presentation is preliminary and the outcome of such preclinical studies may not be predictive of the outcome of later 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 presentation. These risks and uncertainties are described more fully in the quarterly and annual reports that we file with the SEC, particularly in the sections titled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” Such forward-looking statements only speak as of the date they are made. We undertake no obligation to publicly update or revise any forward-looking statements, whether because of new information, future events or otherwise, except as otherwise required by law.
Aerie Pharmaceuticals Overview

Aerie IOP—Reducing Products (IP 2030+)

- **Rhopressa®** (netarsudil ophthalmic solution) 0.02%
  - *Launched in U.S. April 30, 2018*
- **Rocklatan™** (netarsudil / latanoprost ophthalmic solution) 0.02% / 0.005%
  - *U.S. PDUFA set for March 14, 2019*

Globalization Plan Under Way

- Europe and Japan

Pipeline Activities: Retina Program

- AR-13503 and AR-1105 Pre-clinical Product Candidates
- Sustained Release Bio-erodible Implant Technology
- PRINT® Manufacturing Platform
Weekly Total Rx’s (TRx’s) and Bottles Show Excellent Growth

Units sold into pharmacy = 6,600 (Week ending 10/7/18)

Sales Force Launch TRx = 209

Week 26: 10/5/18

Bottles**

TRx’s

*Holiday Weeks; **Actual bottles dispensed exceed TRx’s due to extended supply plans (e.g., 90 days’ supply); ***Data from IQVIA
Rhopressa® Results Compare Favorably to the Most Recent Glaucoma Product Launches

Monthly TRx from Launch

<table>
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<tr>
<th>TRxs</th>
<th>Months Post-Launch</th>
<th>(Aug for Rhopressa)</th>
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<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>12,336</td>
</tr>
<tr>
<td>2,000</td>
<td>2</td>
<td>8,092</td>
</tr>
<tr>
<td>3,909</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4,000</td>
<td>4</td>
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<tr>
<td>5,000</td>
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OIS @ AAO 2018. Refer to the full Rhopressa® (netarsudil ophthalmic solution) 0.02% product label at www.rhopressa.com. Rocklata, AR-13503 and AR-1105 have not been FDA approved.
Rhopressa® Formulary Coverage Continues to Increase

As of 10/01/18:
~85% of Commercial Lives Covered
~40% Medicare Part D Lives Covered

---Commercial---

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<tr>
<th>Date</th>
<th>Preferred Tier</th>
<th>Non-preferred Tier</th>
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<td>9/01/18</td>
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<td>55%</td>
</tr>
<tr>
<td>10/01/18</td>
<td>40%</td>
<td>45%</td>
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---Medicare Part D---

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<td>12%</td>
<td>88%</td>
</tr>
<tr>
<td>10/01/18</td>
<td>40%</td>
<td>60%</td>
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Rocklatan™ Combination Product Candidate

Rocklatan™ (netarsudil / latanoprost ophthalmic solution) 0.02% / 0.005%

Positioning as First Line Therapy:

- Benefits of Rhopressa® and latanoprost
  - Targets the Trabecular Meshwork and Uveal Scleral pathways

- Achieved statistical superiority to market-leading latanoprost
  - At each of nine time points in each of the two Phase 3 trials

- We believe Rocklatan™ may have the potential to become the most efficacious IOP-reducing medication, if approved

PDUFA Date - March 14, 2019
Rocklatan™ Phase 3 Responder Analysis

At Month 12: % of Patients with IOP Reduced to 18 mmHg or Lower

<table>
<thead>
<tr>
<th>IOP on Treatment</th>
<th>% of Patients</th>
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<tr>
<td>≤ 14 mmHg</td>
<td>16%</td>
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<tr>
<td>≤ 15 mmHg</td>
<td>27%</td>
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<tr>
<td>≤ 16 mmHg</td>
<td>43%</td>
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<tr>
<td>≤ 17 mmHg</td>
<td>60%</td>
</tr>
<tr>
<td>≤ 18 mmHg</td>
<td>66%</td>
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- Rhopressa™ (n=148)
- Latanoprost (n=203)
- Rocklatan™ (n=158)

*p<0.05, **p<0.01, ***p<0.0001

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Geographic Expansion

Expanding Aerie Franchise to Europe and Japan

• **Europe** (2016 “Big 5” Glaucoma Market: 90M units per year, 1.5X U.S. units)
  - Rhopressa®: Filed MAA, accepted for review (Oct 2018)
  - Rocklatan™ Mercury 3: 6-month registration trial comparing Rocklatan™ to Ganfort® initiated 3Q 2017
  - Construction of Ireland plant to support WW commercial supply

• **Japan** (2016 Glaucoma Market: 52M units per year)
  - Plan to advance clinical development on our own
  - Phases 1 and 2 under way in the U.S. on Japanese and Japanese-Americans, initiated 4Q 2017
  - Phase 2 & 3 trials to be conducted in Japan
Retinal Eye Diseases – Aerie’s Next Chapter

Market Size: $4.9 Billion in the U.S. & $9 Billion WW

- Aerie: two preclinical candidates
  - AR-1105 (dexamethasone steroid) for RVO / DME
  - AR-13503 (ROCK / PKC Inhibitor) for neovascular AMD / DME

- Collaboration with DSM
  - Intravitreal, sustained-release, proprietary, bio-erodible polymer and implant technology

- Ophthalmic rights to PRINT® technology (Envisia)
  - Fully scalable manufacturing platform to create sustained-release implants

RVO: retinal vein occlusion, DME: diabetic macular edema, AMD: age related macular degeneration
AR-1105: Dexamethasone Implant

Target: Macular Edema due to diabetic retinopathy (DME) & retinal vein occlusion (RVO)

- Unmet needs
  - Anti-VEGF: often not sufficient even with monthly IVT injections
  - Current steroids: limitations due to side effects and / or injection frequency

AR-1105 may have the potential to lower treatment burden and improve outcomes
- Sustained efficacy: injections every 6 months
- Safety: Low drug dose, less drug to non-target tissues
- Improved IVT delivery: small needle (25G), implant fully degrades
AR-13503: A First-in-Class ROCK / PKC Inhibitor for Neovascular AMD and DME

AR-13503: Active metabolite of netarsudil (Rhopressa®)

- Targets multiple disease processes

- **Monotherapy** shows strong efficacy in preclinical models

- Effective as **adjunct** to anti-VEGF therapy in preclinical models

- Expect durable treatment effect with injection frequency of once every 4 – 6 months
Preclinical AR-13503 Provides Efficacy Similar to Eylea® in a Mouse Model of PDR

Oxygen-induced retinopathy (OIR) mouse model - PDR

Neovascular Area (+SEM)

% of Total Area

<table>
<thead>
<tr>
<th>Group</th>
<th>% of Total Area</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle (n=14)</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>1.25 mg/kg AR-13503 (n=16)</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>1 mg/kg Eylea (n=14)</td>
<td>10%</td>
<td></td>
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Administration: Intraperitoneal QD

Data on File
For more information on Eylea® please see the product webpage [https://www.eylea.us/](https://www.eylea.us/)

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AR-13503 Synergistic to Eylea® in Mouse Model of PDR

Oxygen-induced retinopathy (OIR) mouse model - PDR

Neovascular Area (+SEM)

% of Total Area

- Vehicle n=12
- Eylea (sub-optimal dose) n=12
- AR-13503 (sub-optimal dose) n=14
- Combination n=8

Administration: Intraperitoneal QD

Data on File: Sub-optimal dose levels selected in the study to provide less than maximal efficacy
For more information on Eylea® please see the product webpage https://www.eylea.us/

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Aerie Summary

Key Priorities

- Rhopressa®: Successful launch execution
- Rocklatan™: U.S. PDUFA March 14, 2019

Globalization Strategy

- Europe / Japan clinical path and commercialization strategy
- Ireland Manufacturing Facility

Research Initiatives

- Rhopressa® 24-hour IOP reduction, normal tension glaucoma, aqueous humor dynamics, pseudoexfoliative glaucoma, corneal healing
- Retina Program: File IND for AR-1105 in 4Q 2018 and AR-13503 in 1H 2019; clinic in 2019
- Broad sustained release ophthalmic implant and manufacturing platform

Well-Financed

- $286M cash / investments at 6/30/18; $100M undrawn credit facility