This document contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are made only as the date thereof, and we undertake no obligation to update or revise the forward-looking statement whether as a result of new information, future events or otherwise. Our actual results may differ materially and adversely from those expressed in any forward-looking statements as a result of various factors and uncertainties, including our ability to raise sufficient funds to perform and conclude clinical trials, the financial resources available to us, the ability to negotiate and conclude a strategic partnership, the future success of our scientific studies, our ability to successfully develop products, rapid technological change in our markets, changes in demand for our future products, legislative, regulatory and competitive developments, and general economic conditions. Shareholders and prospective investors are cautioned that no assurance of the efficacy of pharmaceutical products can be claimed or assured until final testing; and no assurance or warranty can be made that the FDA will approve final testing or marketing of any pharmaceutical product. Our most recent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q discuss some of the important risk factors that may affect our business, results of operations and financial condition.
Ohr Pharmaceutical Overview

- **NASDAQ listed ophthalmology company with compelling early and late stage assets**
  - Utilize innovative drug development strategies to meet patient needs in ocular disease

- **Lead asset – Squalamine lactate ophthalmic solution**
  - Ongoing large, double masked, controlled, clinical trial in wet AMD (the MAKO study)
  - Marked visual acuity benefit of combination therapy using topical Squalamine and anti-VEGF injections in phase 2 study in wet AMD

- **Additional indications for Squalamine**
  - Retinal vascular occlusive disease and diabetic retinopathy
  - Risk reduction for AMD and Diabetic Retinopathy

- **Data readout from MAKO study in wet-AMD in early 2018**
- **Fully funded through data readout**
Unmet Need in Wet AMD:
Topical Therapy That Improves & Maintains VA Gains

Increase Initial Visual Acuity Gains

Maintain Long Term Visual Acuity Gains

Mean Change in ETDRS Visual Acuity (Letters)

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</table>

CATT  HORIZON  SEVEN-UP
Squalamine Combination Therapy Would Address These Needs

• Combination therapy with Squalamine offers potential for visual acuity benefits over anti-VEGF monotherapy

• Self administered, topical product that could be used in combination with any anti-VEGF agent/treatment regimen
  • May be easily paired with future sustained release platforms and new anti-angiogenic agents (eg. RTH258, Abicipar, Ang2 inhibitors)

• No change to current standard treatment schedules for patients or physicians using a topical treatment approach
Current Treatment Approach – Extracellular VEGF Binding

Extracellular

VEGF
PDGF
VEGF-R1
VEGF-R2
PDGF-R
bFGF-R

Intracellular

Squalamine
Bound Calmodulin

Squalamine enters cell through caveolae

Squalamine binds to calmodulin and the complex is transported to perinuclear membrane compartment

Prevents downstream signalling of angiogenic factors
Squalamine has an Intracellular Mechanism of Action

Squalamine enters cell through caveolae

Squalamine binds to calmodulin and the complex is transported to perinuclear membrane compartment

Prevents downstream signalling of angiogenic factors

Squalamine-Bound Calmodulin
Phase 2 Study in Wet AMD

Treatment-naïve patients with exudative AMD
- All lesion compositions (classic, mixed and occult only)
- Up to 12 disc areas in size
- VA 20/40 to 20/320

Mandated Lucentis retreatment
SD-OCT evidence of:
- Any Retinal Cystic Changes
- Any Retinal Fluid
- Any Subretinal Fluid
- Meaningful RPE Elevation

Lucentis® is a registered trademark of Genentech Inc.
Phase 2 Study Results – Prespecified Endpoints

- Overall population\(^*\) (n=128)
  - +2.5 additional letters for Squalamine combination therapy vs Lucentis monotherapy at month 9 (week 36)
- Lesions with Classic CNV\(^*\) (n=65)

\(^*\)patients completing study
Occult Only Lesions Represent Nearly Half of All AMD Cases
Classic CNV Analysis Ignores This Population

Distribution of Lesion Types in Wet AMD

<table>
<thead>
<tr>
<th>Lesion Type</th>
<th>Incidence</th>
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<tbody>
<tr>
<td>Classic CNV Only</td>
<td>12%</td>
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<tr>
<td>Mixed Classic/Occult CNV</td>
<td>39%</td>
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<tr>
<td>Occult CNV Only</td>
<td>49%</td>
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</table>
Positive Visual Outcomes with Squalamine Driven by Occult CNV Size
Analysis of All Patients Completing Phase 2 Study

- Occult CNV size at baseline directly correlates with week 36 visual acuity outcomes in Squalamine combination therapy (p=<0.0001, n=128)
- This was independent of the presence/absence of classic CNV
- This relationship was not observed with Lucentis monotherapy treatment.
- Consistent positive visual acuity benefit with Squalamine combination therapy in occult CNV < 10mm$^2$ (~ 4 Disc Areas)

Occult CNV < 10mm$^2$

Occult CNV ≥ 10mm$^2$
Positive Visual Outcomes in Occult CNV < 10mm²

**Mean Change in Visual Acuity (Letters)**

- Mean Change in ETDRS Visual Acuity (Letters)
- Exploratory p-value

- Mean Change in Visual Acuity: +5.3 letters
- P = .033
Positive Visual Outcomes in Occult CNV < 10mm²

Proportion with ≥3 line VA Gain

- **54% Additional Benefit**

![Bar chart showing proportion of subjects with ≥3 line VA gain at different weeks.

- Week 12: 15% (Placebo + Lucentis PRN, n=46) vs. 25% (Squalamine Lactate + Lucentis PRN, n=48)
- Week 24: 20% (Placebo + Lucentis PRN, n=46) vs. 35% (Squalamine Lactate + Lucentis PRN, n=48)
- Week 36: 25% (Placebo + Lucentis PRN, n=46) vs. 40% (Squalamine Lactate + Lucentis PRN, n=48)
Improved Functional Vision Outcome in Occult CNV < 10mm²
Better Final VA with Squalamine Combination Therapy

*One additional subject did not have a VA assessment at week 36
Ongoing Clinical Study (MAKO)

Squalamine lactate BID

Placebo BID

200+ patients enrolled
Population: Occult CNV area <10mm² (classic containing & occult only)
Primary endpoint: Visual gain at month 9

Topline Data by Early 2018
Squalamine Well Positioned to Succeed

• Squalamine is a unique, differentiated therapeutic agent
  – Intracellular mechanism of action
  – Targets multiple angiogenic growth factors
  – Topical route of delivery
  – Sustained suppressive therapy from daily administration
Squalamine Well Positioned to Succeed

• Exploratory approach used in phase 2 trial de-risks future clinical development
  – Identified patient population with optimal treatment response
  – Population consistent with mechanism of squalamine combination therapy and vascular biology of choroidal neovascularization
Squalamine Well Positioned to Succeed

- Control arm in phase 2 study similar to VA outcomes in comparable PRN arm of the CATT study at month 9
  - Provides support that the improvements with Squalamine combination therapy in phase 2 were real and replicable
Squalamine Lactate Ophthalmic Solution
Value Proposition

• Improvement in vision over standard of care in wet AMD
  – Improvement in vision gain and/or increase in 3 line gainers
• Better functional visual outcomes (e.g. 20/40 Snellen visual acuity)
• Non disruptive for treating physicians
  – Topical delivery adaptable for use with any anti-VEGF treatment regimen/frequency
  – No capital investment or drug handling costs
  – Not included in physician cost profiling analysis
• Combination effect with current and future therapeutic agents
  – Longer duration anti-VEGFs, biosimilars
  – Ang2/Tie2 inhibitors
• Cost effective therapy
  – Lower cost of manufacture than biologics
  – Topical delivery vs injectable approach
• Novel mechanism of action
• Low side effect profile
• Multiple label expansion indications (retinal vascular occlusive disease, diabetic retinopathy)
• Potential for prevention of disease progression (dry to wet AMD conversion; nonPDR to PDR)
• Sets high bar for future competitors in all indications
# Financial Highlights

<table>
<thead>
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<th>Ticker</th>
<th>OHRP</th>
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<td>Recent Share Price (10-13-17)</td>
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<tr>
<td>Market Capitalization</td>
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<td>Average Daily Volume</td>
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<td>Cash on Hand (6-30-17)</td>
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<td>Common Shares outstanding</td>
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**Analyst Coverage**
- Cowen & Company
- HC Wainwright
- LifeSci Capital
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NASDAQ: OHRP