Roclatan™
Mercury 1 Phase 3 Topline Results

Important Information

Any discussion of the potential use or expected success of our product candidates is subject to our product candidates being approved by regulatory authorities.

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Roclatan™ Achieves Primary Clinical Endpoint

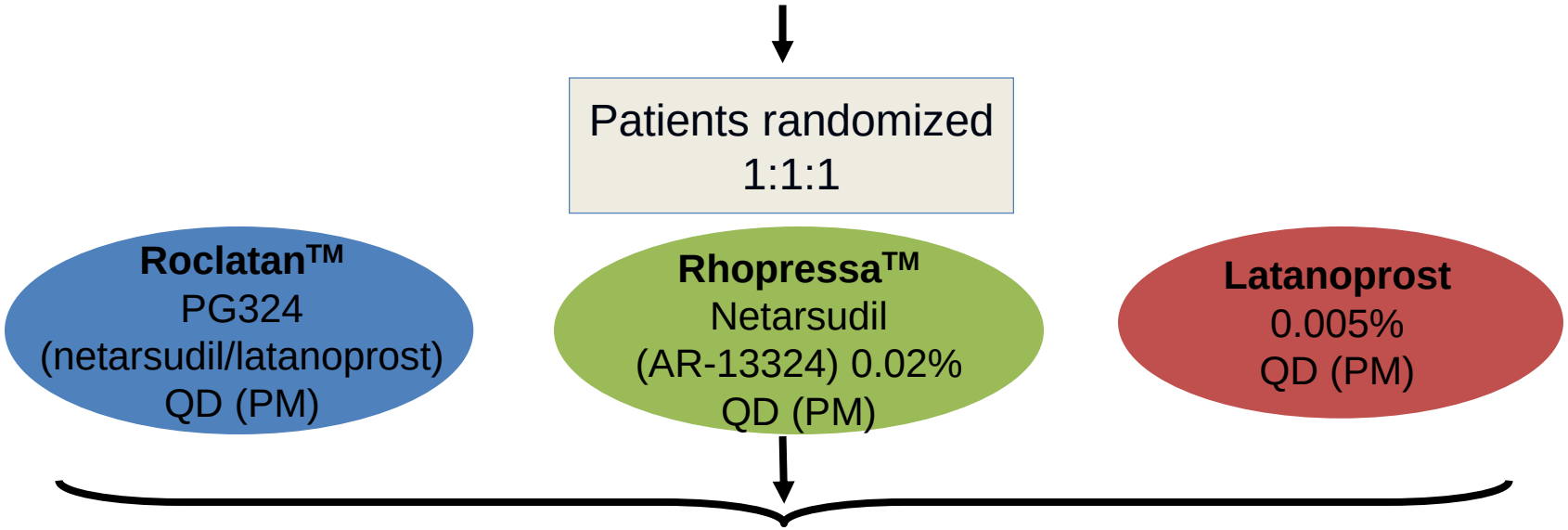
- Roclatan™ met the criteria for demonstrating superiority over both latanoprost and Rhopressa™ for the primary efficacy analysis
  - statistical superiority of Roclatan™ was demonstrated at all 9 time points versus latanoprost and versus Rhopressa™ ($p<0.0001$)
- IOP-lowering effect of Roclatan™ was greater (1-3 mmHg) than monotherapy with either latanoprost or Rhopressa™ throughout the duration of the study (i.e., Week 2, Week 6, Month 3)
- Roclatan™ reduced mean diurnal IOPs to 16 mmHg or lower in 61 percent of patients, a significantly higher percentage than observed in the comparator arms
- The main adverse event for Roclatan™ was conjunctival hyperemia, which was reported in ~50% of patients and was scored as mild for ~80% of these patients
- There were no drug-related serious adverse events and no evidence of treatment-related systemic effects

Mercury 1 Trial Design

Patients with open angle glaucoma (OAG) or ocular hypertension (OHT)

with IOP >20 mmHg and < 36 mmHg

N=718 subjects randomized at 58 US sites



Primary endpoints:

- Efficacy: Mean IOP at nine time points (08:00, 10:00, and 16:00 at Week 2, Week 6, and Month 3)
- Safety: Ocular and systemic safety during a 12-month treatment period

ClinicalTrials.gov Identifier: NCT02558400

Disposition

	Roclatan™ N = 238	Rhopressa™ N = 244	Latanoprost N = 236
Completed Month 3	**201 (84.5%)**	**201 (82.4%)**	**223 (94.5%)**
Discontinued Prior to Month 3	**37 (15.5%)**	**43 (17.6%)**	**13 (5.5%)**
Reasons for Discontinuation			
Adverse Event	25 (10.5%)	23 (9.4%)	0
Withdrawal of Consent	4 (1.7%)	4 (1.6%)	4 (1.7%)
Non-Compliant	0	1 (0.4%)	1 (0.4%)
Lost to Follow-up	1 (0.4%)	3 (1.2%)	1 (0.4%)
Lack of Efficacy	0	5 (2.0%)	1 (0.4%)
Disallowed Concurrent Medication	1 (0.4%)	4 (1.6%)	1 (0.4%)
Investigator Decision	2 (0.8%)	0	0
Protocol Violation	4 (1.7%)	1 (0.4%)	5 (2.1%)
Other	0	2 (0.8%)	0

Study Design And Analysis

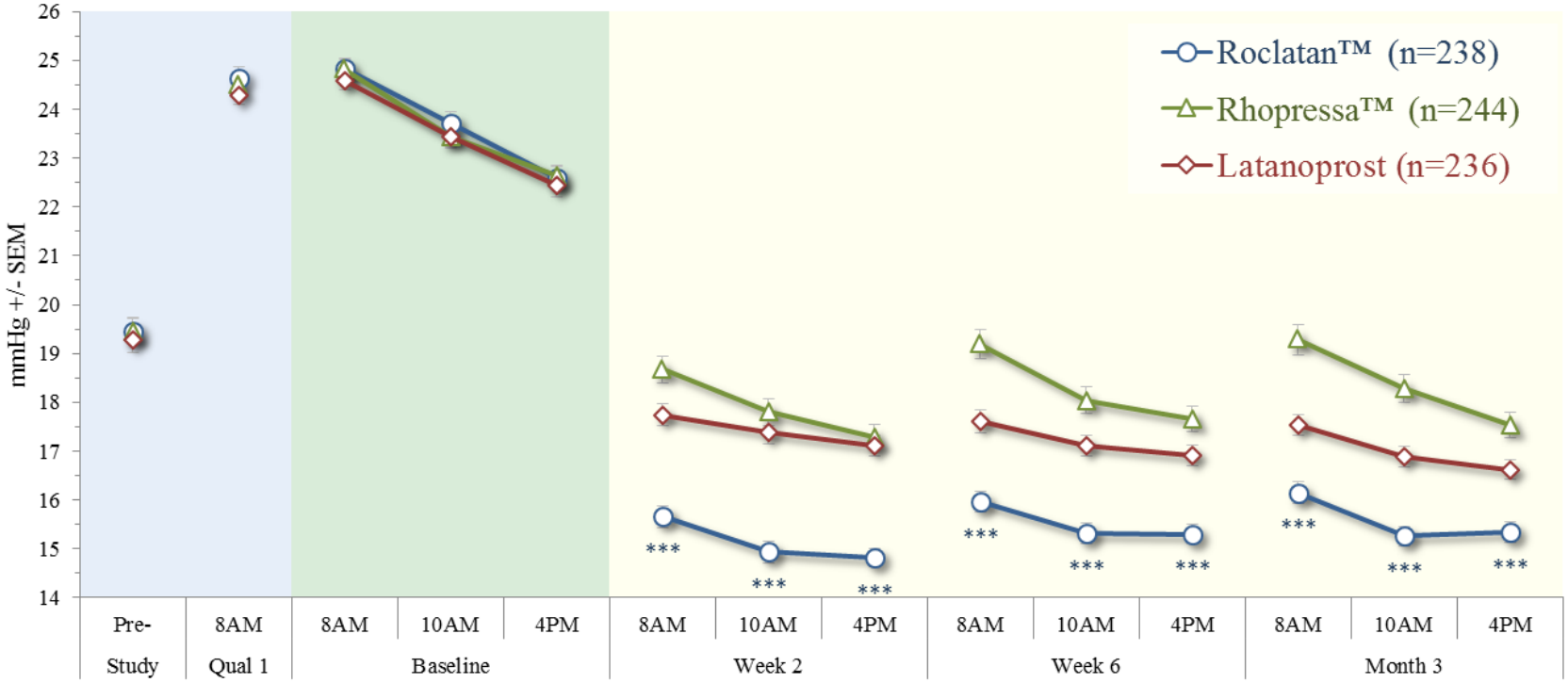
- Trial design follows FDA requirement for fixed dose combination
  - Superiority of combination over each individual component
  - Statistically significant difference at each measured time point
  - Higher combo efficacy vs. components at ~1-3 mmHg, as previously accepted by FDA for product approval (i.e., Simbrinza®)

- The primary statistical modeling of the primary efficacy analysis was agreed with the FDA using the intent to treat (ITT) population with imputation for any missing data*

*FDA End of Phase 2 meeting minutes

Roclatan™ Achieved Statistical Superiority Over Individual Components at All Time Points

Mean IOP at Each Time Point (ITT)



***p<0.0001 vs Latanoprost and Rhopressa™

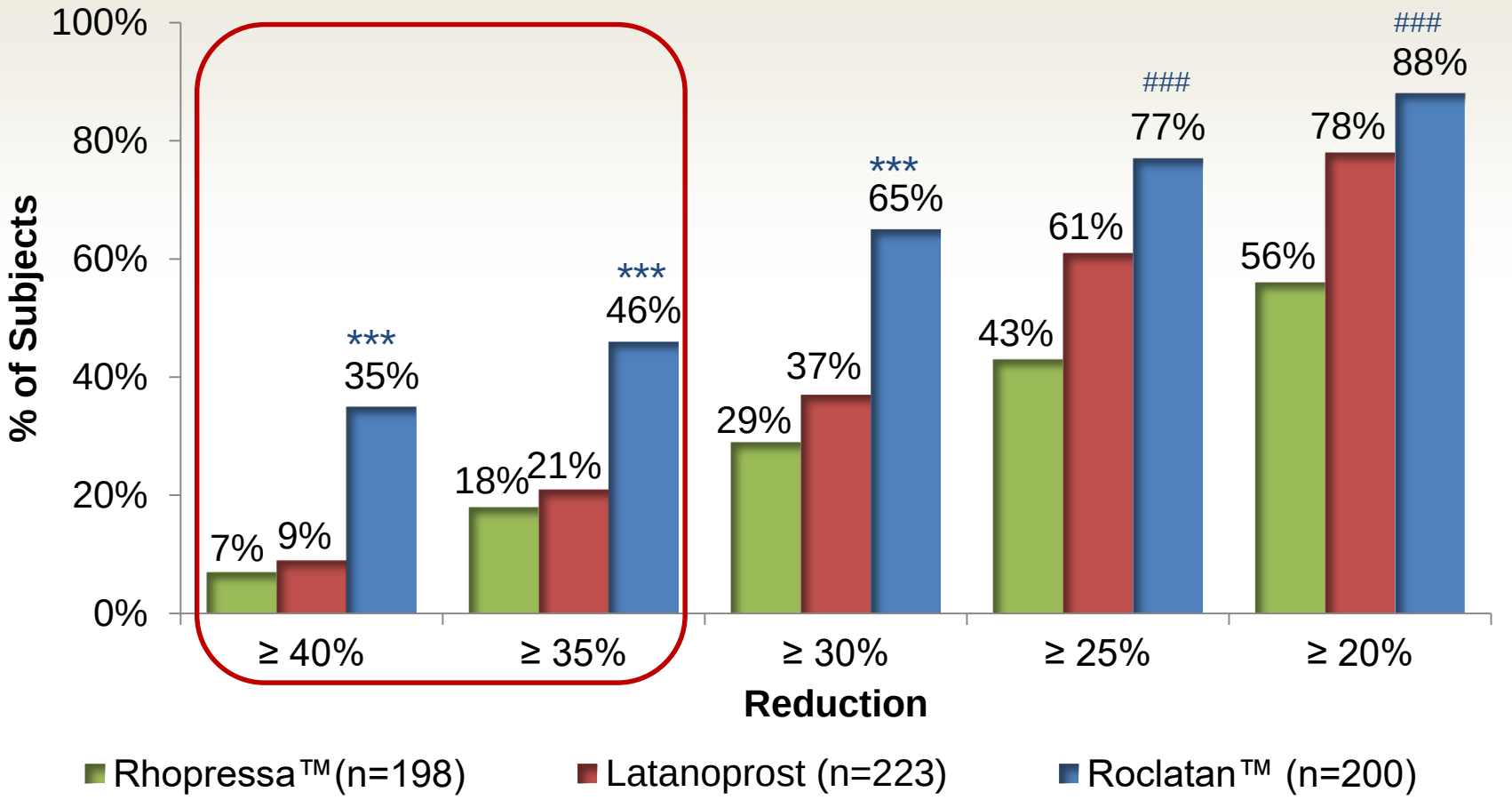
Roclatan™ Phase 3, ITT

	Mean IOP mmHg			Difference from Roclatan™ (95% CI)	
	Roclatan™ N=238	Rhopressa™ N=244	Latanoprost N=236	Rhopressa™	Latanoprost
Baseline					
8:00 AM	24.8	24.8	24.6		
10:00 AM	23.7	23.5	23.4		
4:00 PM	22.6	22.6	22.4		
Mean Diurnal	**23.7**	**23.6**	**23.5**		
Day 15					
8:00 AM	15.6	18.6	17.8	-3.0 (-3.6, -2.5)	-2.2 (-2.8, -1.7)
10:00 AM	14.9	17.8	17.4	-2.9 (-3.5, -2.3)	-2.5 (-3.1, -1.9)
4:00 PM	14.8	17.2	17.2	-2.4 (-2.9, -1.9)	-2.3 (-2.9, -1.8)
Mean Diurnal	**15.1**	**17.9**	**17.5**	**-2.8 (-3.3, -2.3)**	**-2.4 (-2.9, -1.9)**
Day 43					
8:00 AM	16.0	19.0	17.7	-3.0 (-3.6, -2.4)	-1.7 (-2.3, -1.1)
10:00 AM	15.3	18.0	17.1	-2.7 (-3.3, -2.2)	-1.9 (-2.5, -1.3)
4:00 PM	15.3	17.5	17.0	-2.2 (-2.7, -1.6)	-1.7 (-2.2, -1.1)
Mean Diurnal	**15.5**	**18.2**	**17.3**	**-2.7 (-3.1, -2.2)**	**-1.8 (-2.3, -1.3)**
Day 90					
8:00 AM	16.2	18.9	17.6	-2.7 (-3.4, -2.1)	-1.5 (-2.1, -0.9)
10:00 AM	15.3	18.2	16.9	-2.9 (-3.5, -2.3)	-1.6 (-2.2, -1.0)
4:00 PM	15.4	17.2	16.7	-1.8 (-2.4, -1.2)	-1.3 (-2.0, -0.7)
Mean Diurnal	**15.6**	**18.1**	**17.1**	**-2.5 (-3.0, -2.0)**	**-1.5 (-2.0, -1.0)**

- Roclatan™ superior to latanoprost by 1.3 - 2.5 mmHg ($p<0.0001$)
- Roclatan™ superior to Rhopressa™ by 1.8 - 3.0 mmHg ($p<0.0001$)

Roclatan™ Phase 3 Responder Analysis

Day 90: % of Patients with IOP Reductions of ≥ 20%

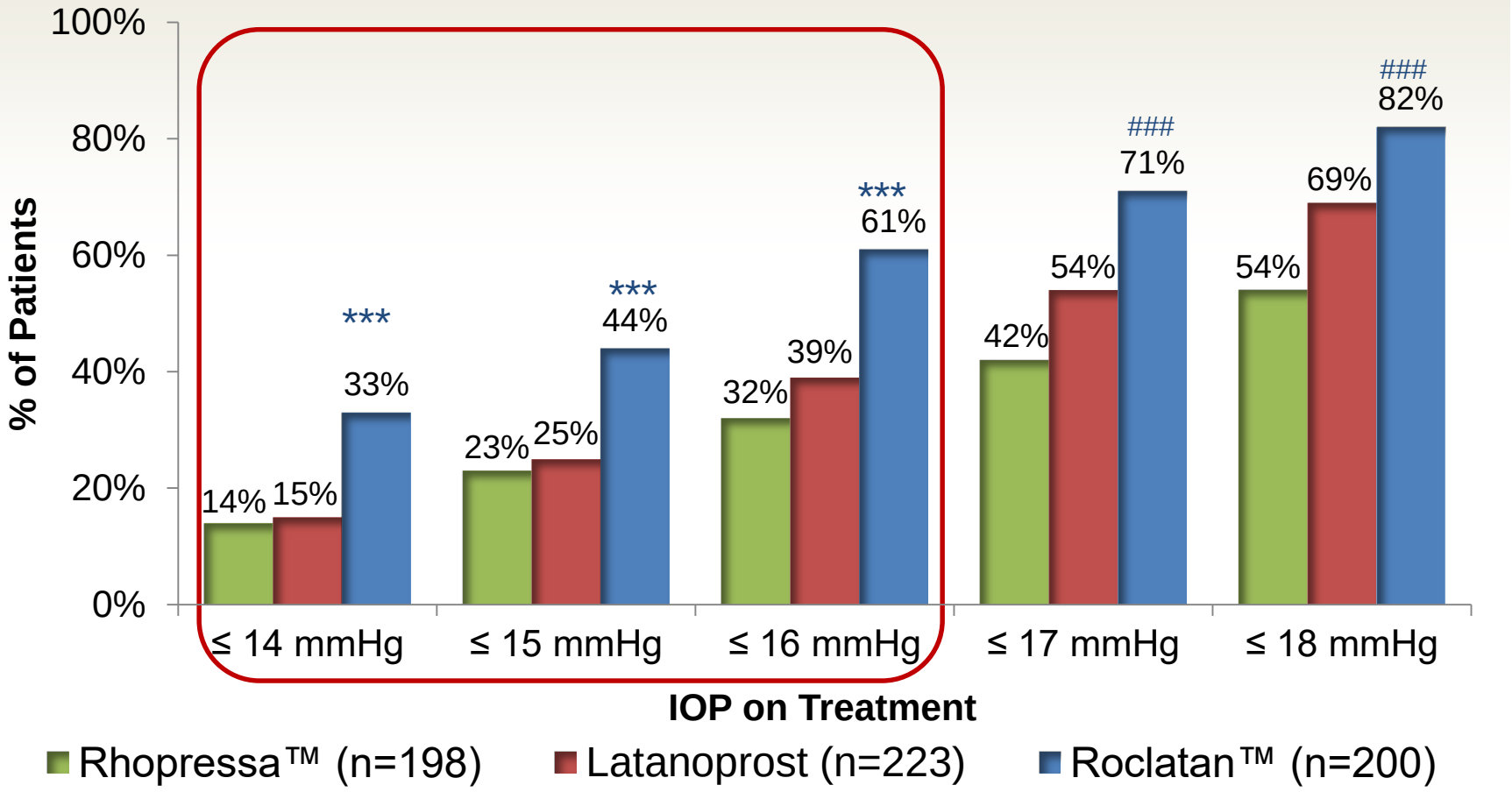


***p<0.0001 vs Latanoprost and Rhopressa™

###p<0.0001 vs Rhopressa™, p<0.05 vs Latanoprost

Roclatan™ Phase 3 Responder Analysis

Day 90: % of Patients with IOP Reduced to 18 mmHg or Lower



***p<0.0001 vs Latanoprost and Rhopressa™

###p<0.0001 vs Rhopressa™, p<0.05 vs Latanoprost

Safety/Tolerability Overview of Roclatan™

- There were no drug-related serious adverse events (SAEs)
- There were no evidence of treatment-related systemic effects
- The most common adverse event was conjunctival hyperemia with ~50% incidence*, ~80% mild on biomicroscopy
- Other ocular AEs
  - AEs occurring in ~5-11% of subjects receiving Roclatan™ included: conjunctival hemorrhage, eye pruritus, lacrimation increased and cornea verticillata.

* Incidence of conjunctival hyperemia ~50% including baseline at ~20%

Roclatan™ Phase 3 Safety Profile

Adverse Events (≥5.0% in any group)	Roclatan™ n=238	Rhopressa™ n=244	Latanoprost n=236
Eye Disorders			
Conjunctival Hyperemia	126 (52.9%)	99 (40.6%)	33 (14.0%)
Conjunctival Hemorrhage	25 (10.5%)	34 (13.9%)	1 (0.4%)
Eye Pruritus	18 (7.6%)	17 (7.0%)	3 (1.3%)
Lacrimation Increased	14 (5.9%)	15 (6.1%)	1 (0.4%)
Cornea Verticillata	12 (5.0%)	9 (3.7%)	0 (0.0%)
Administration Site Conditions			
Instillation site pain	45 (18.9%)	51 (20.9%)	15 (6.4%)

Patients with known contraindications or hypersensitivity to latanoprost were excluded

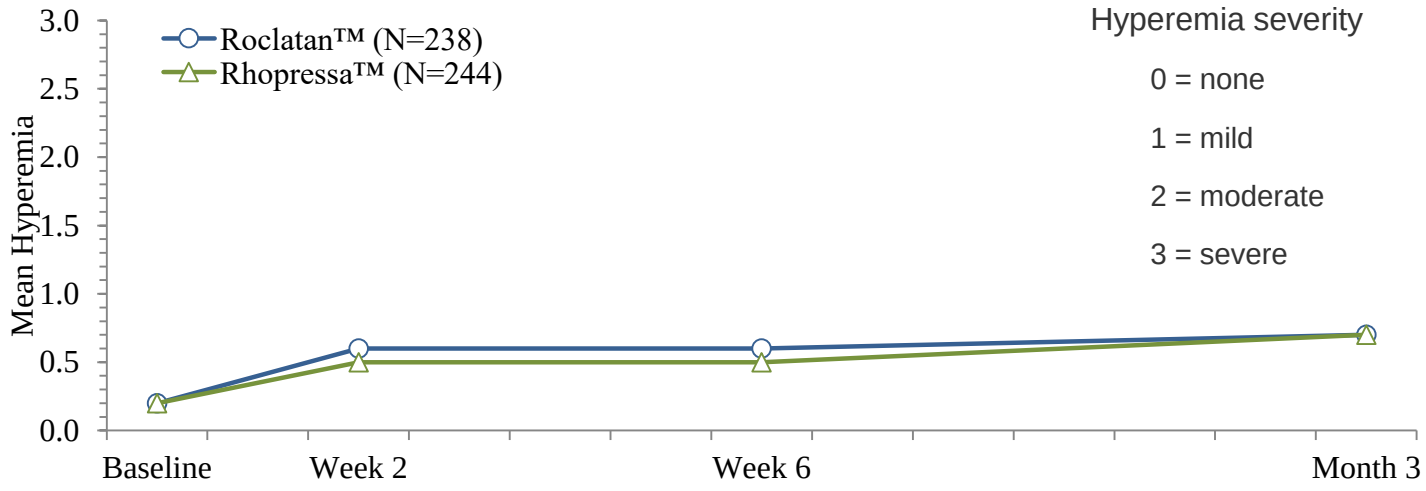
Conjunctival Hyperemia

Adverse Event rates:

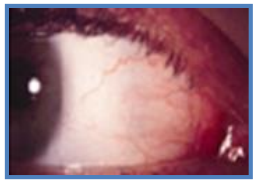
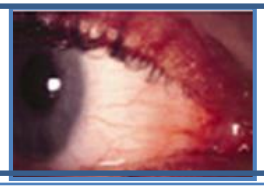
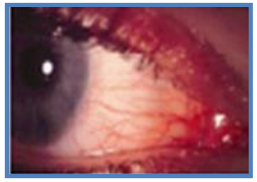
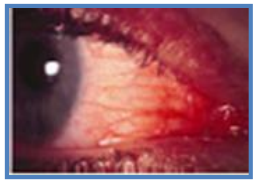
- Roclatan™: ~50%
- Rhopressa™: ~40%
  - ~50% reported in Rocket 1 and Rocket 2
- Latanoprost: ~15 %

Biomicroscopy:

- ~80% hyperemia graded as mild (Roclatan™ and Rhopressa™)
  - Hyperemia severity did not increase with continued dosing
  - Majority of the hyperemia was sporadic



When Present, ~80% of Roclatan™ Hyperemia Graded as Mild

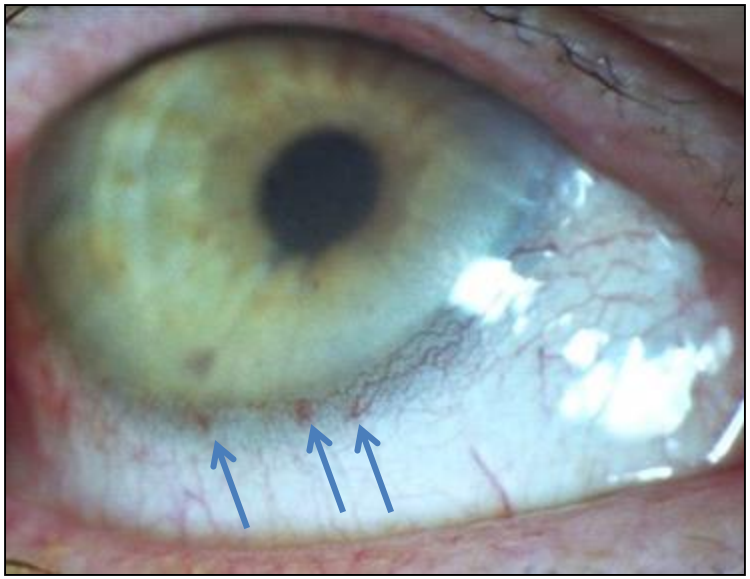
Grade	Image	Description
0		None/Normal
1		Mild
2		Moderate
3		Severe

For illustrative purposes only

Conjunctival Hemorrhage

Subconjunctival petechiae coded as conjunctival hemorrhage:

- Roclatan™: ~10%
- Rhopressa™: ~14%
  - ~14% reported in Rocket 1 and Rocket 2
- Latanoprost: <1%



Cornea Verticillata

Cornea verticillata (lipid micro-deposits in the corneal epithelial layer)

- Roclatan™: ~5%
- Rhopressa™: ~4%
  - ~5-9% reported in Rocket 1 and Rocket 2
- Asymptomatic
- Only visible via biomicroscopy evaluation
- Benign corneal deposits (phospholipidosis) are a familiar outcome with other drugs such as amiodarone

Rhopressa™ Performance Summary

- Demonstrated non-inferiority to latanoprost in patients with baseline IOP < 25 mmHg
- Efficacy relative to latanoprost improves as baseline IOP declines
- Rhopressa™ maintained consistent IOP lowering across all baseline IOPs including > 25 mmHg
- Stable efficacy from week 2 to month 3
- Adverse event profile consistent with previous studies

Roclatan™ Summary

- Demonstrated superiority over both latanoprost and Rhopressa™ for the primary efficacy analysis at all 9 time points ($p<0.0001$)
- IOP-lowering effect was greater (1-3 mmHg) than monotherapy with either latanoprost or Rhopressa™ throughout the duration of the study
- There were no drug-related serious adverse events and no evidence of treatment-related systemic effects
- The main adverse event was conjunctival hyperemia, ~50% of patients and was scored as mild for ~80% of these patients

Next Steps:

- Mercury 2: Topline 3-month expected H1 2017
- Mercury 3 (Europe): Efficacy study, comparing to a leading combo product marketed in Europe, expected to commence in H1 2017
- Roclatan™ NDA filing expected near year-end 2017

Aerie will present additional details at Investor Day in NYC, Oct 5

Rhopressa™ and Roclatan™ Key Milestones