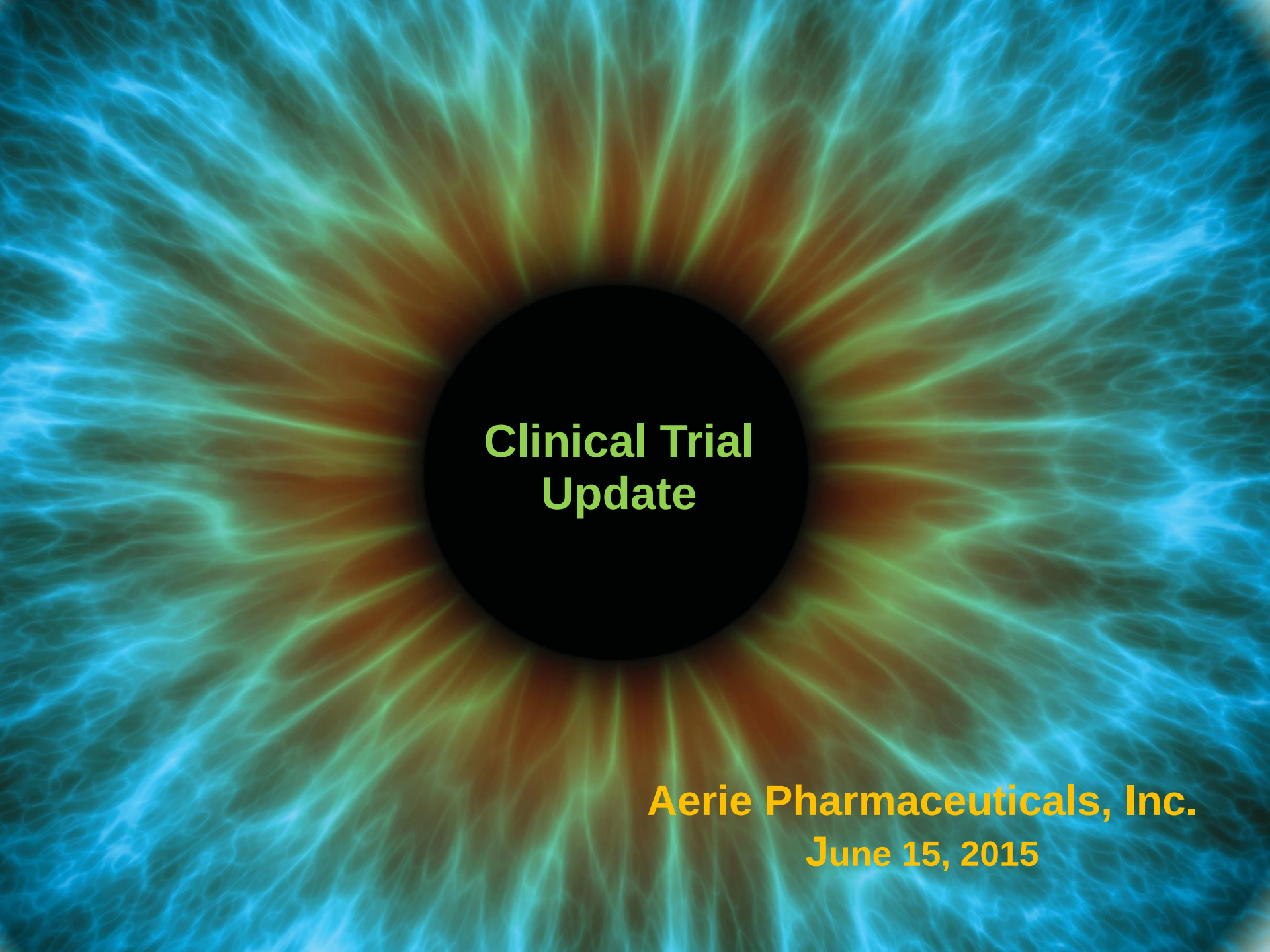

Clinical Trial
Update
Aerie Pharmaceuticals, Inc.
June 15, 2015

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. In addition, any discussion of clinical trial results for Rhopressa™ relate to the results in its first Phase 3 registration trial, Rocket 1, and for Roclatan™ relate to the results in its Phase 2b clinical trial.

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.

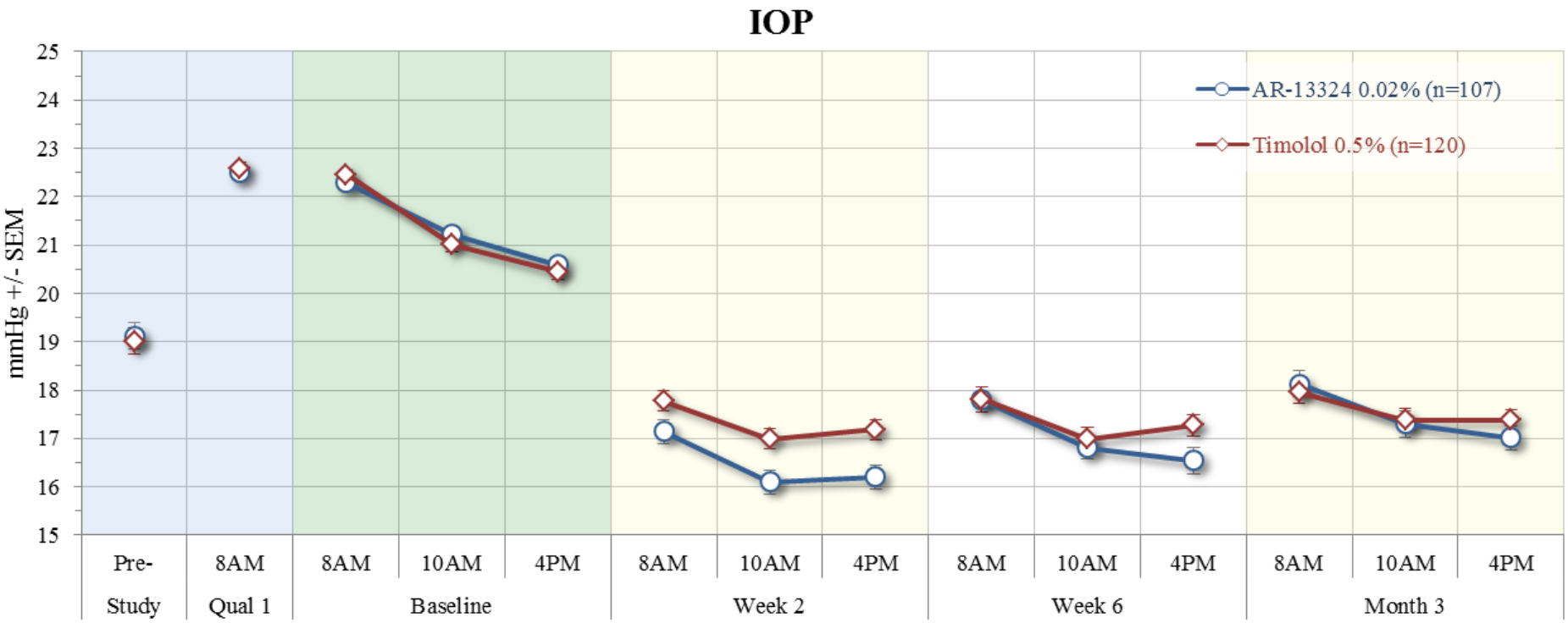
Certain statements in this presentation are “forward-looking statements” within the meaning of the federal securities laws. Words such as “may,” “will,” “should,” “would,” “could,” “believe,” “expects,” “anticipates,” “plans,” “intends,” “estimates,” “targets,” “projects,” “potential” or similar expressions 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. 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.

Rhopressa™ Update: Rocket 2

- Rocket 2 primary endpoint range being changed with FDA agreement
  - New primary endpoint range is above 20 mmHg to below 25 mmHg
  - Statistical change allowed; Rocket 2 adequately powered at below 25 mmHg
  - No additional patient enrollment necessary

- Rocket 2 data base not yet locked; patients still being treated
- Efficacy read-out expected end of Q3 2015
- If Rocket 2 is successful, NDA filing expected 2H 2016

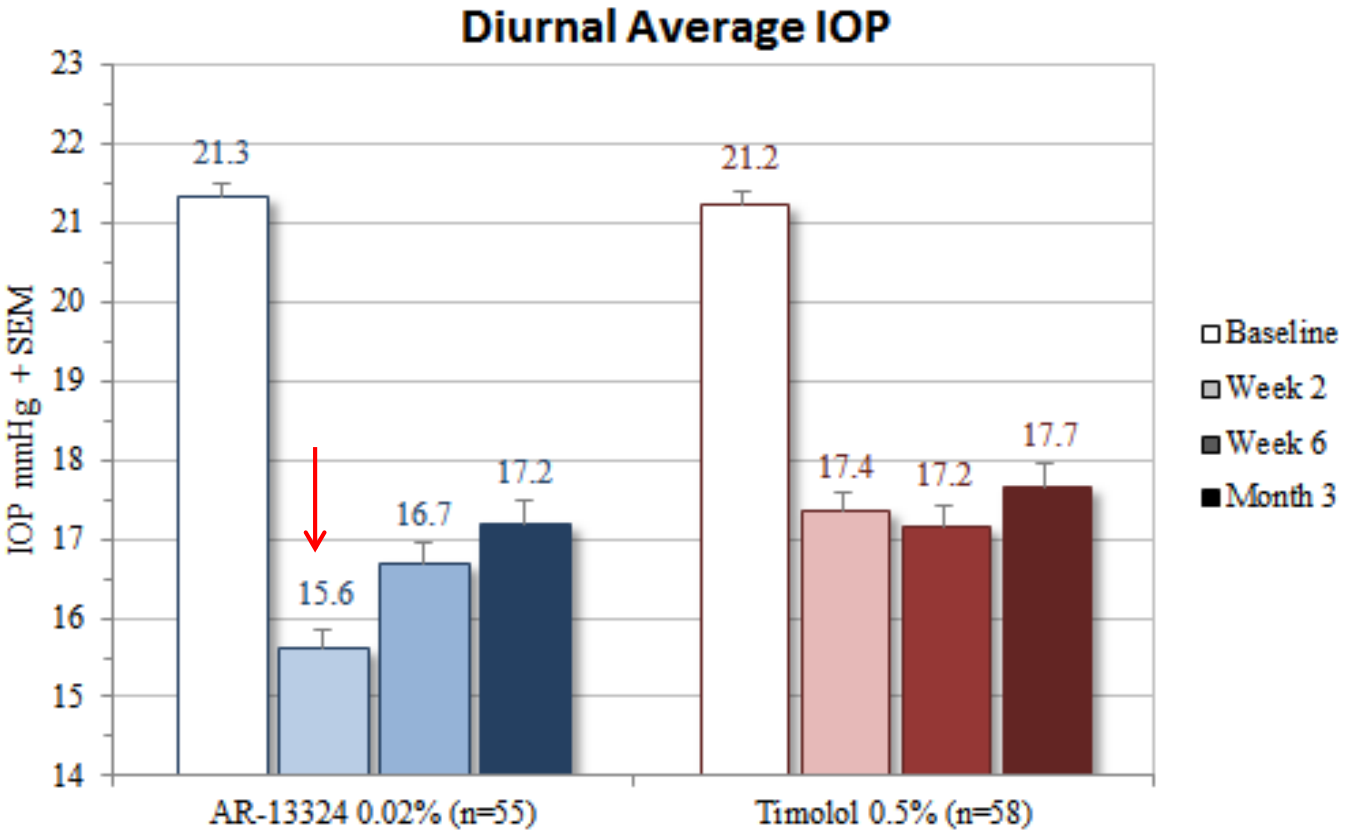
Rocket 1: Baseline IOP < 25 mmHg At All Time Points



Rocket 1: Baseline IOP < 25 mmHg At All Time Points

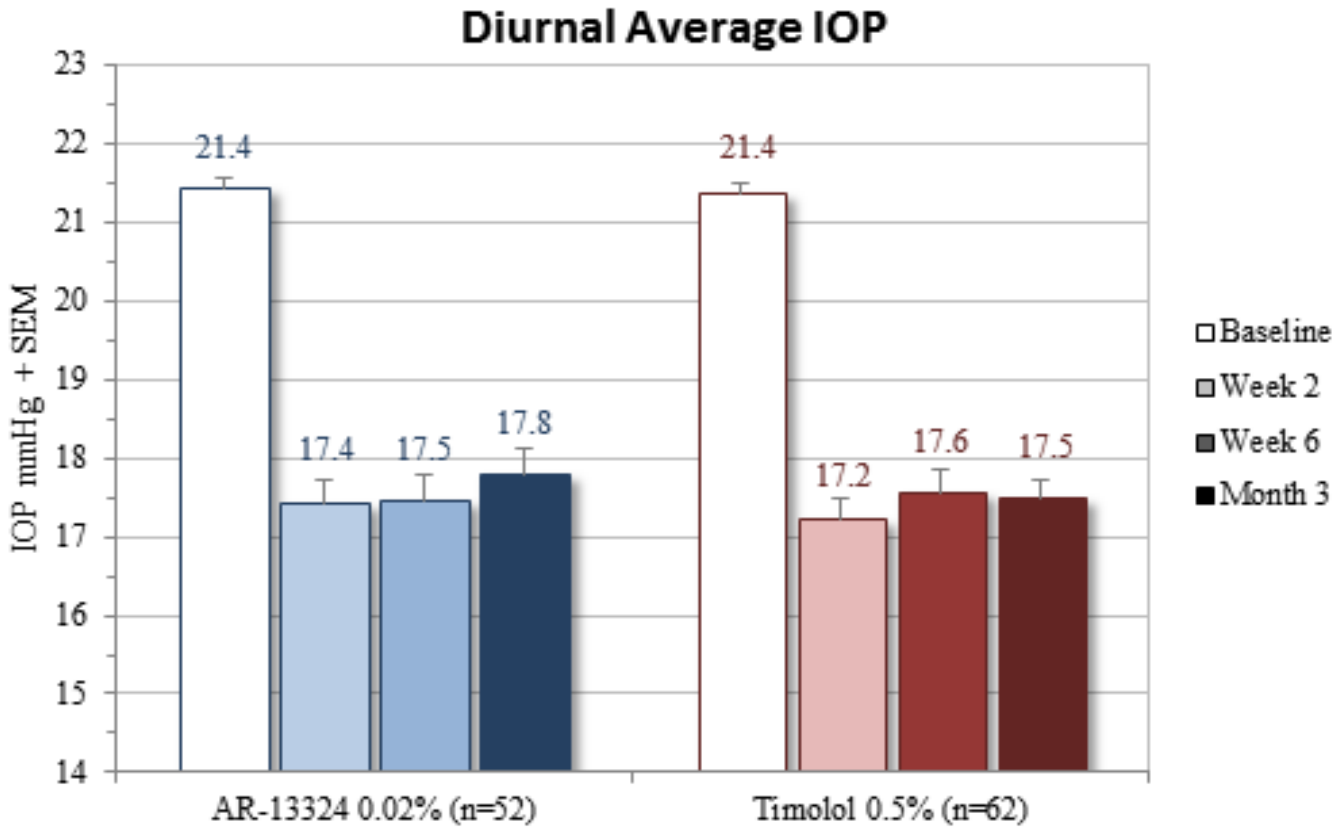
	Mean IOP		Rhopressa™– Timolol (95% CI)	
	Rhopressa™ N=107	Timolol N=120	Mean Difference	95% CI
Baseline				
8:00 AM	22.3	22.5		
10:00 AM	21.2	21.0		
4:00 PM	20.6	20.4		
Mean Diurnal	21.4	21.3		
Day 15				
8:00 AM	17.2	17.8	-0.6	(-1.3, 0.0)
10:00 AM	16.1	17.0	-0.9	(-1.6, -0.2)
4:00 PM	16.2	17.2	-1.0	(-1.7, -0.3)
Mean Diurnal	16.5	17.3	-0.8	(-1.4, -0.3)
Day 43				
8:00 AM	17.8	17.8	0.0	(-0.7, 0.7)
10:00 AM	16.8	17.0	-0.2	(-0.9, 0.5)
4:00 PM	16.5	17.3	-0.7	(-1.4, 0.0)
Mean Diurnal	17.1	17.4	-0.3	(-0.9, 0.3)
Day 90				
8:00 AM	18.1	18.0	0.2	(-0.5, 0.9)
10:00 AM	17.3	17.4	-0.1	(-0.8, 0.7)
4:00 PM	17.0	17.4	-0.4	(-1.1, 0.3)
Mean Diurnal	17.5	17.6	-0.1	(-0.7, 0.5)

Rocket 1: Rhopressa™ Efficacy in Subjects On PGA Prior To Study (Baseline IOP < 25 mmHg)



- Prior PGA use produced enhanced IOP-lowering with Rhopressa™ at weeks 2 and 6
- IOP lowering at month 3 equivalent to IOP lowering in non-PGA subjects
- Prior PGA use had no effect on Timolol efficacy

Rocket 1: Rhopressa™ Efficacy In Subjects Not on PGA Prior To Study (Baseline IOP < 25 mmHg)



- No loss of efficacy seen from week 2 to month 3 for Rhopressa™ or Timolol

Rhopressa™ Next Steps: Rocket 4

- Planning to commence Rocket 4 in Q3 2015, an additional Rhopressa™ trial in the U.S.
- Baseline IOPs:
  - Primary <25 mmHg to mirror revised Rocket 2
  - Pre-specified secondary <27 mmHg
  - Considering stratification
  - May enroll patients up to 30 mmHg
- Efficacy evaluated at 3 months (primary) and 6 months (secondary)
- Final design to be reviewed with FDA
- Read-out expected in approximately one year
- Adds over 200 additional Rhopressa™ patients for 6 month EU safety

Roclatan™ Next Steps

- Commencing “Mercury 1” in Q3 2015 in the U.S.
  - Designed for superiority to individual components, similar to P2b
  - Baseline IOP range tentatively > 20 mmHg to <36 mmHg, with stratified enrollment
  - Multiple secondary endpoints
  - Efficacy trial with one year safety

- “Mercury 2” expected to commence in 2016 in the U.S.
  - Expect same comparators as Mercury 1
  - Three month efficacy study

- “Mercury 3” expected to commence in 2016 in Europe
  - Comparing to a leading combo product marketed in EU
  - Efficacy study, duration TBD