October 10th, 2019

OPHTHAMOLOGY INNOVATION SUMMIT @ AAO

Innovating Transformative Therapies

Nasdaq: ALDX

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Developing Next-Generation Medicines to Improve the Lives of Patients with Immune-Mediated Diseases

Deep and Innovative Pipeline focused on immune-mediated diseases

Near-Term Development Catalysts support path to commercialization

Solid Track Record of development success

Large Market Potential of late-stage pipeline

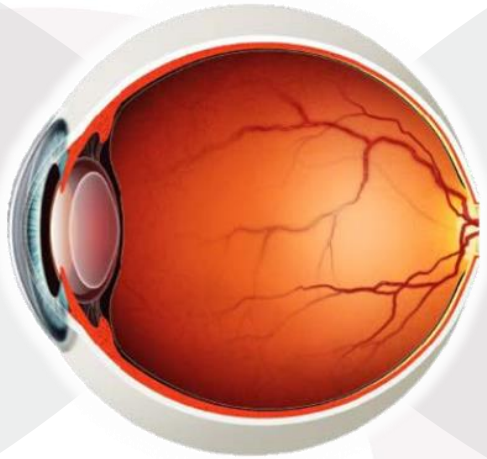
Solid Cash Position
Cash, cash equivalents and marketable securities were $69.5 million as of June 30, 2019

Novel Ocular Phase 3 Programs Targeting Unmet Medical Needs

Anterior Innovation

Reproxalap 0.25%

- Dry Eye Disease
- Allergic Conjunctivitis



Posterior Innovation

ADX-2191

- Proliferative Vitreoretinopathy

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Reproxalap 0.25% Dry Eye Disease

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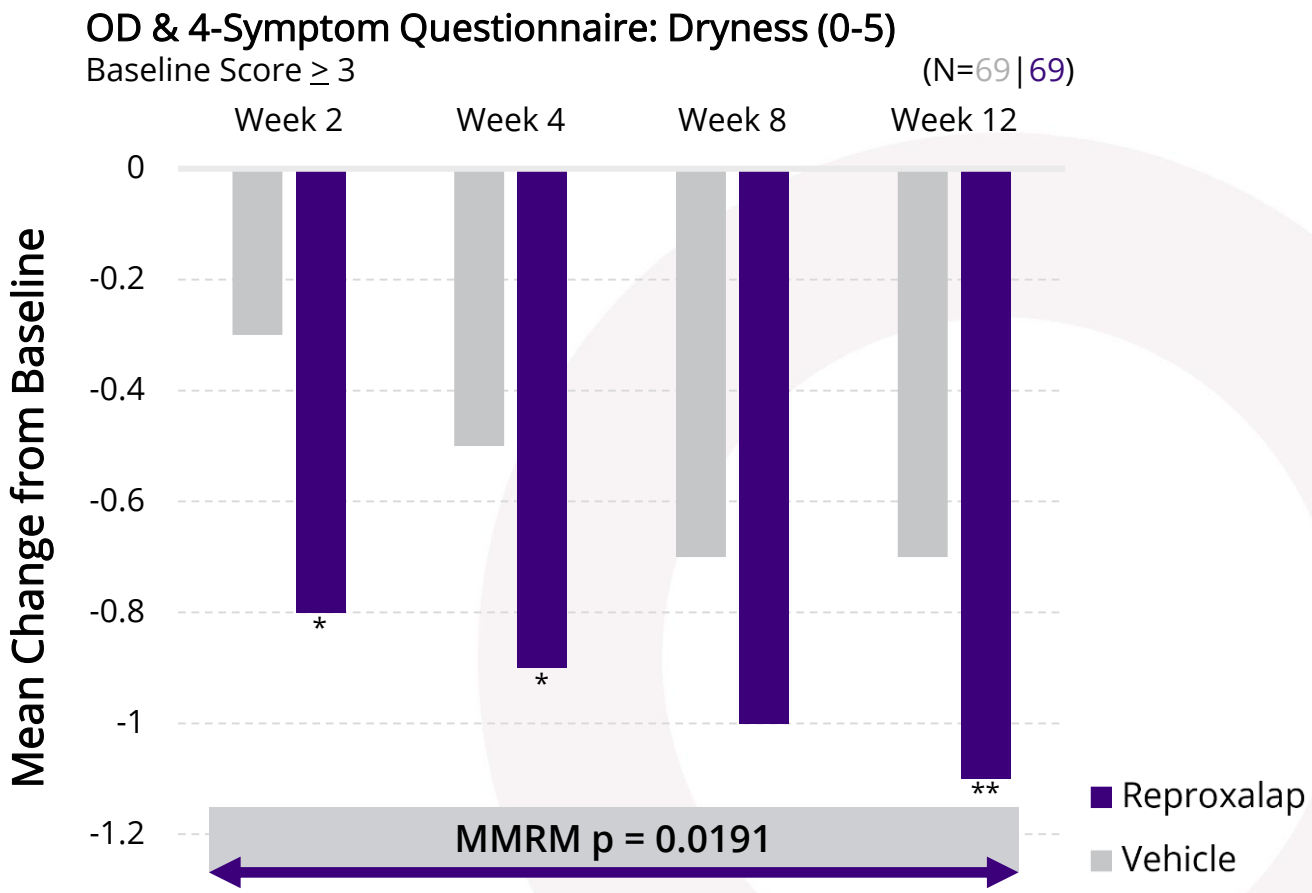
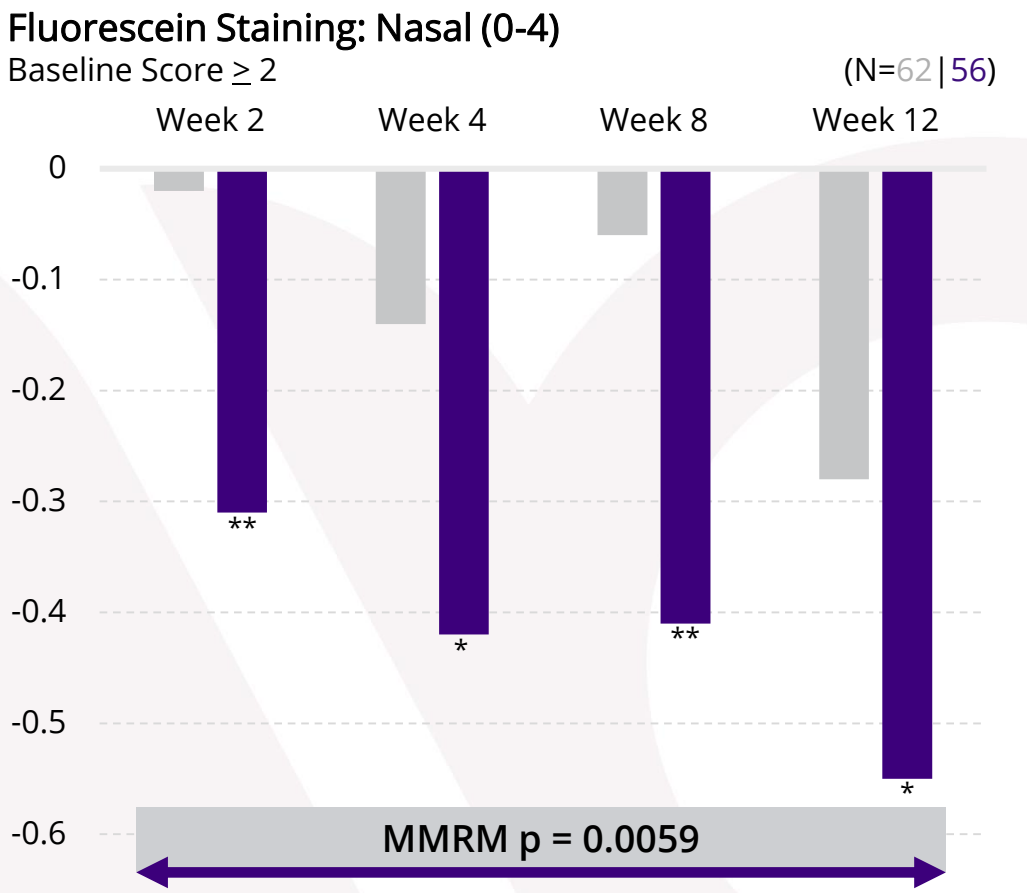
Phase 3 Dry Eye Disease Symptom and Sign Endpoints Achieved in Phase 2b Clinical Trial

Primary Symptom Endpoint for Phase 3



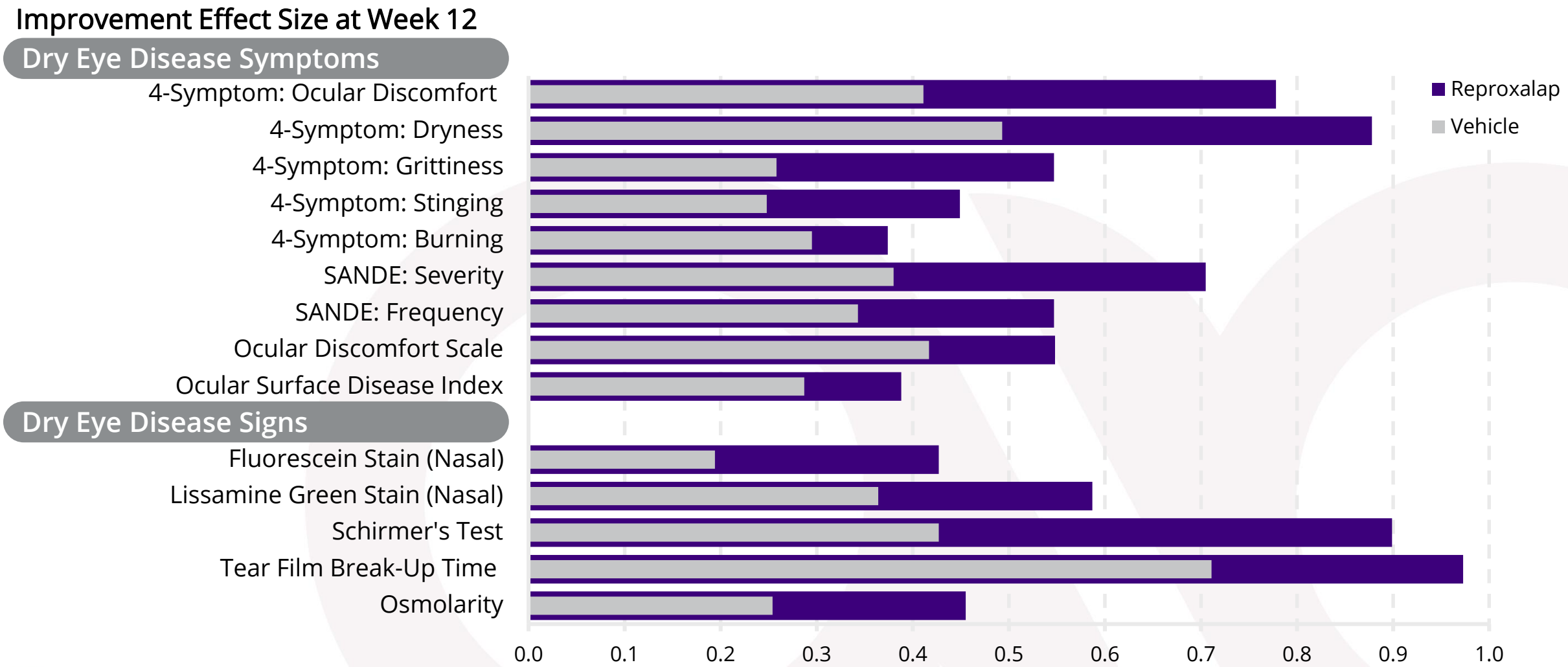
Primary Sign Endpoint for Phase 3



Topical ocular reproxalap has been studied in over 800 patients thus far with no observed safety concerns reported; mild instillation site irritation is the most commonly reported adverse event in clinical trials.
Source: Reproxalap 0.25% DED Phase 2b clinical trial results; p values shown represent reproxalap effect vs vehicle.

*p<0.05 **p<0.01
OD = Ocular Discomfort
MMRM = Mixed Effect Model Repeated Measures (across 12 weeks)

Broad Drug Activity Across All Measured Dry Eye Disease Symptoms and Signs in Phase 2b Clinical Trial



Average improvement effect size across both eyes for Schirmer's Test, Tear Film Break-Up Time, and Osmolarity
Topical ocular reproxalap has been studied in over 800 patients thus far with no observed safety concerns reported; mild instillation site irritation is the most commonly reported adverse event in clinical trials.

SANDE = Symptom Assessment in Dry Eye
Improvement Effect size = Change from Baseline / Standard Deviation at Baseline
Source: Reproxalap 0.25% DED Phase 2b clinical trial results

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Reproxalap 0.25% Allergic Conjunctivitis

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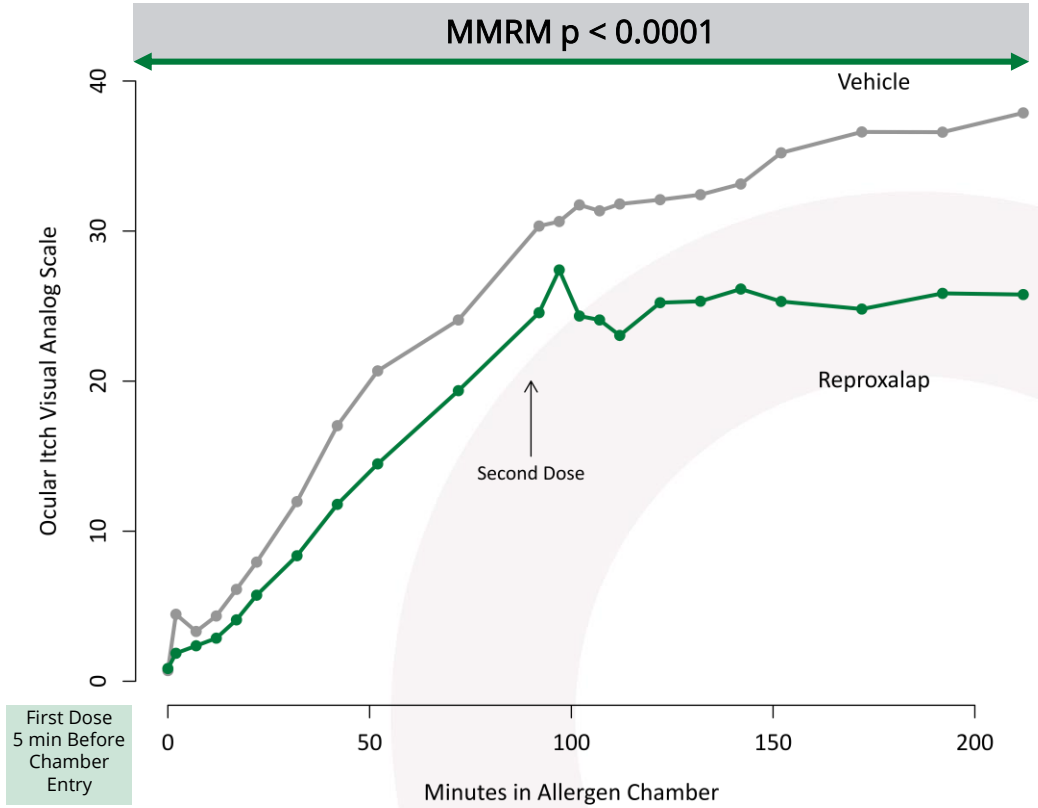
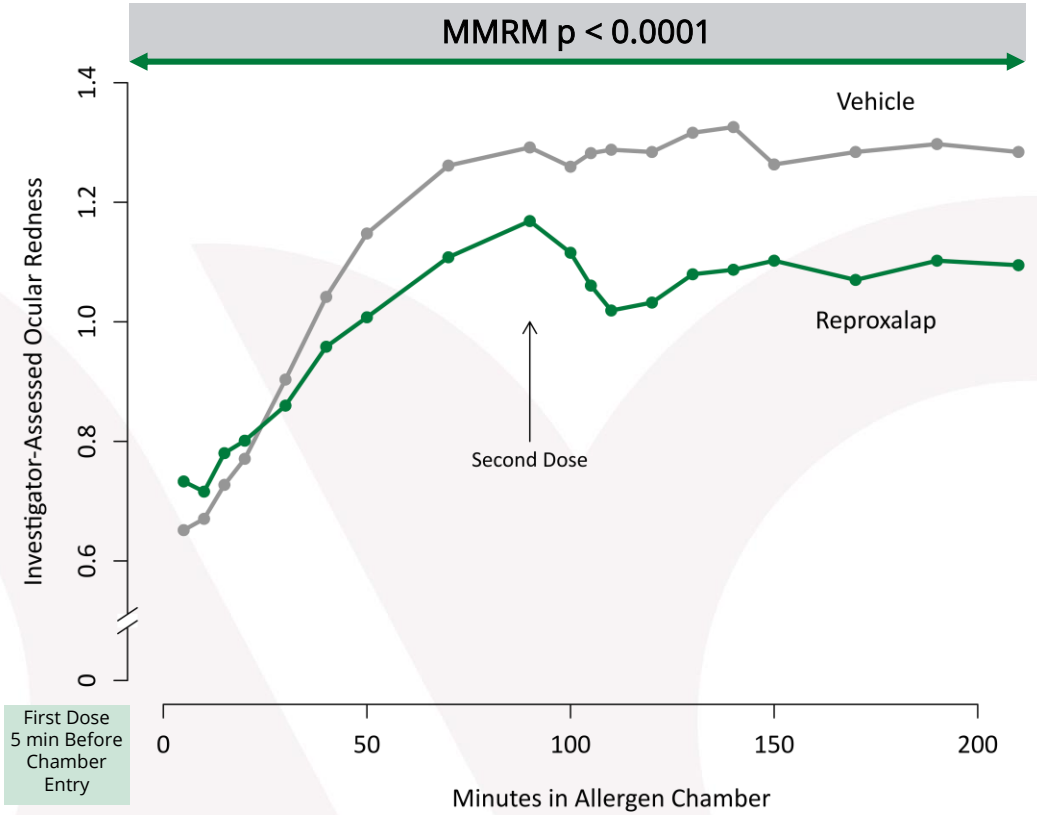
Durable Reduction in Ocular Itch and Redness in Allergen Chamber Clinical Trial

Ocular Itch Score (0-100) During 3.5 Hours of Allergen Exposure



Statistically significant reduction in ocular itch vs. vehicle for more than three hours of exposure to allergen

Ocular Redness Score (0-4) During 3.5 Hours of Allergen Exposure



Statistically significant reduction in ocular redness vs. vehicle for more than three hours of exposure to allergen

Topical ocular reproxalap has been studied in over 800 patients thus far with no observed safety concerns reported; mild instillation site irritation is the most commonly reported adverse event in clinical trials.

Source: Aldeyra Therapeutics methodology development clinical trial (reproxalap 0.25%; ClinicalTrials.gov #NCT03709121); n=66

MMRM = Mixed Effect Model Repeated Measures

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ADX-2191 Proliferative Vitreoretinopathy

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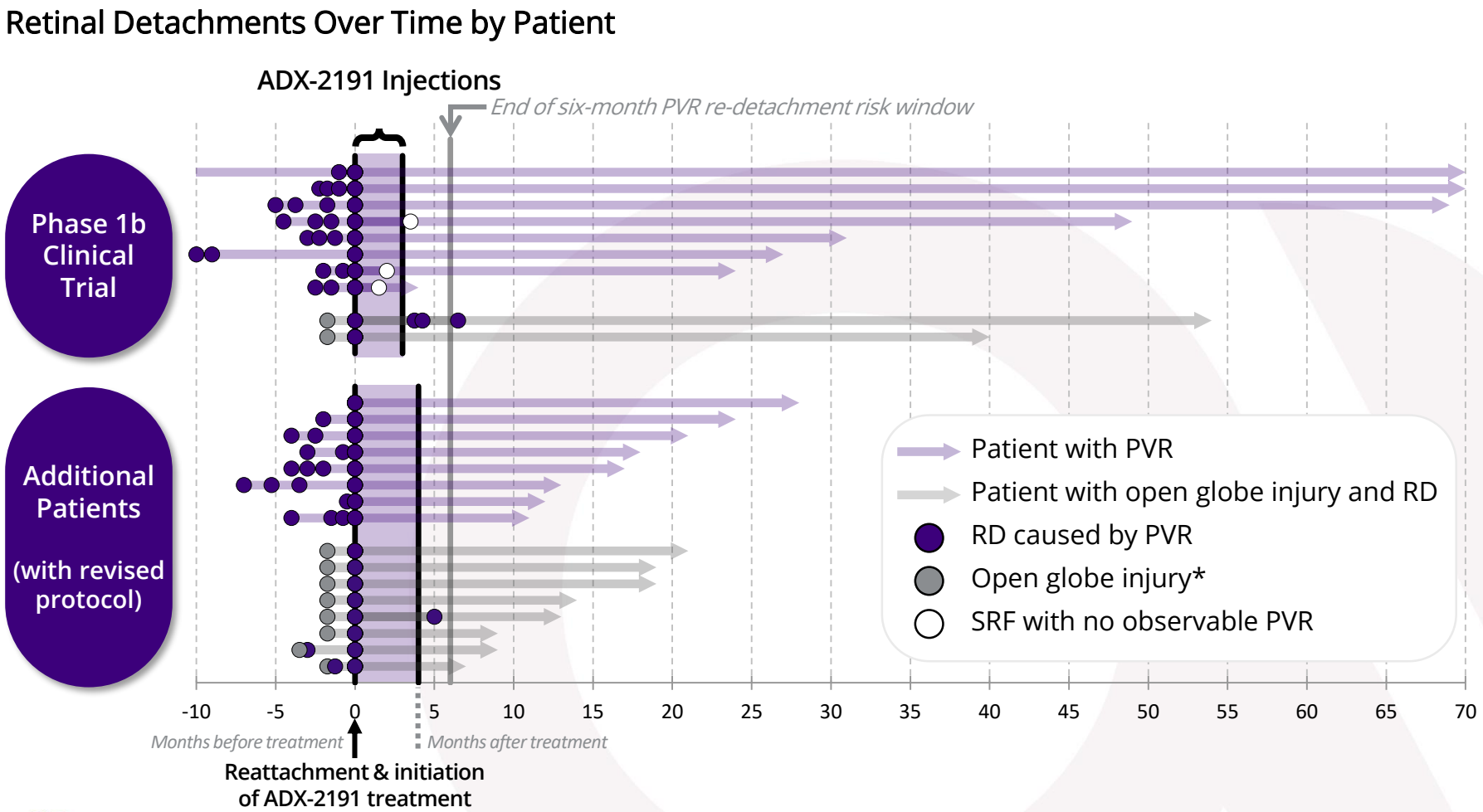
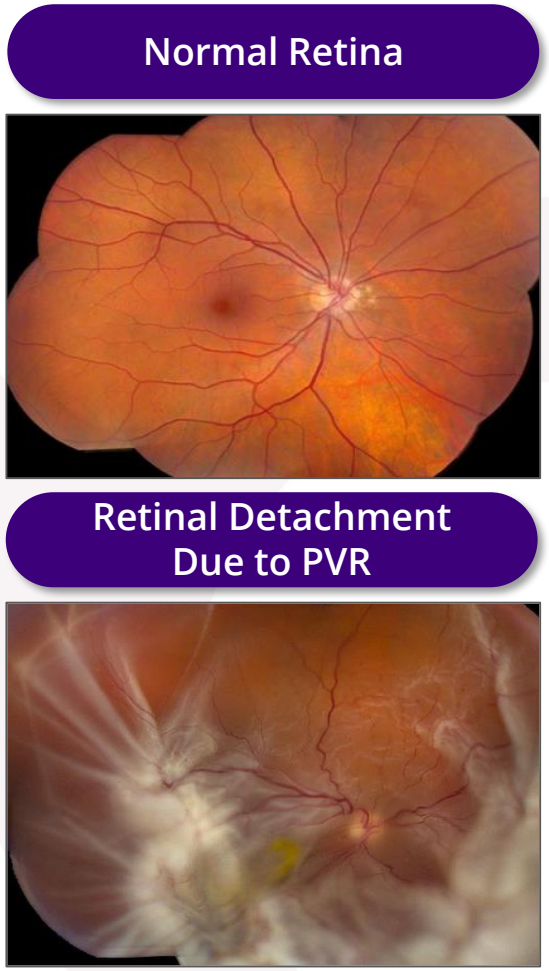
Reduced Recurrent Retinal Detachment in Investigator Sponsored Phase 1b Clinical Trial and in Additional In-Practice Use





*Timing of open globe injury as shown is estimated. Typically 6-8 weeks prior to reattachment & initiation of ADX-2191. There is no assurance that prior results, such as signals of safety, activity or durability of effect, observed from this open label investigator sponsored trial will be replicated in more rigorous trials involving ADX-2191.
Source: ADX-2191 PVR Phase 1b investigator sponsored clinical trial (n=10) results and additional in-practice use (n=16)

RD = Retinal detachment
PVR = Proliferative vitreoretinopathy
SRF = Subretinal fluid

A New Paradigm for the Treatment of Ocular Diseases – Upcoming Phase 3 Clinical Milestones

Dry Eye Disease

Reproxalap 0.25%

- **Early and consistent symptom and sign improvements** in Phase 2b clinical trial
- **Broad symptom and sign improvements** in Phase 2b clinical trial

RENEW Phase 3 – Part 1 Results Q4 2019

Allergic Conjunctivitis

Reproxalap 0.25%

- **Clinically significant and durable symptom response** in allergen chamber trial
- **Active in post-histaminic allergy**, for which no drug is approved

Allergen Chamber Phase 3 Design Confirmation Q4 2019

Proliferative Vitreoretinopathy

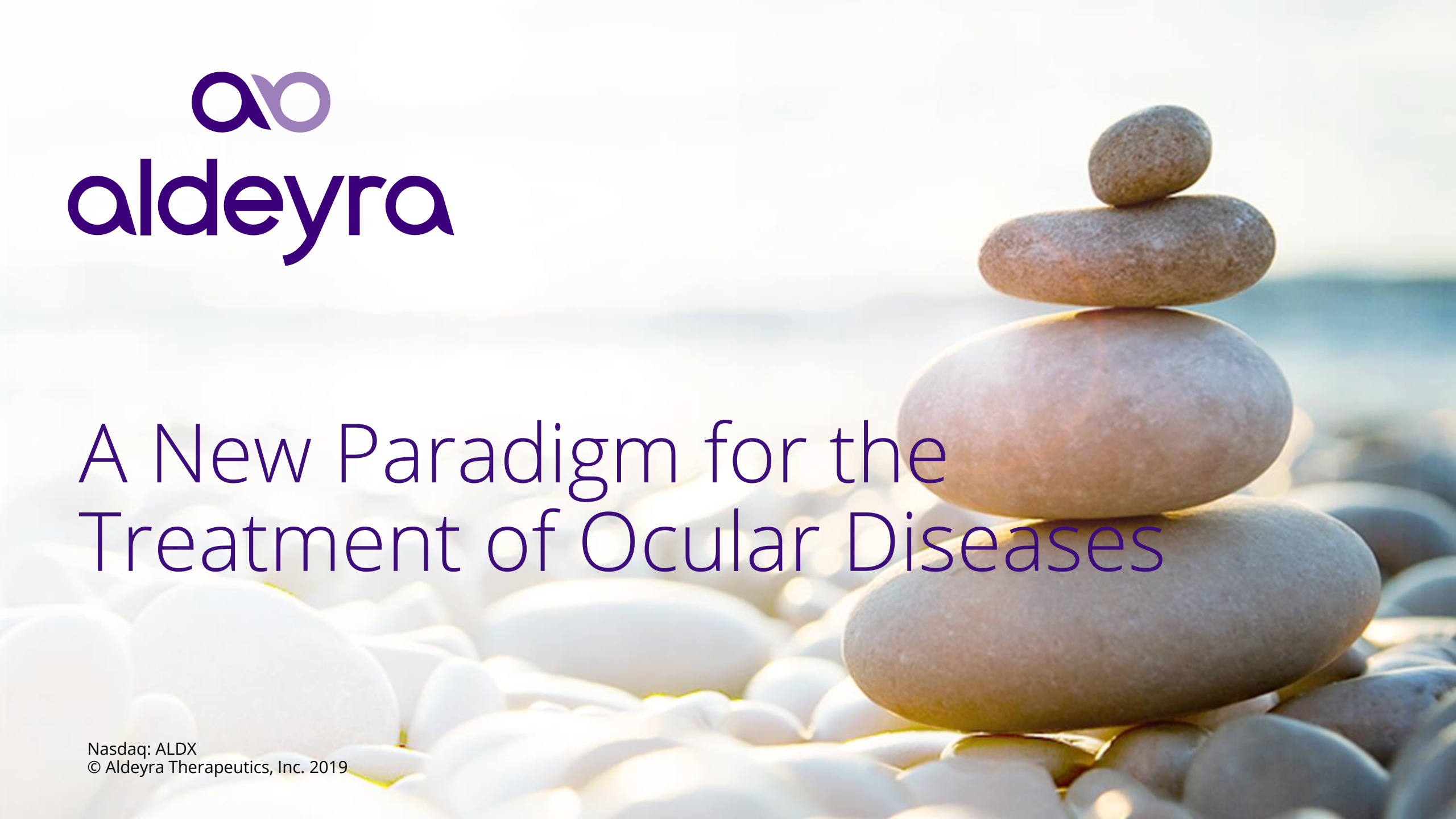
ADX-2191

- Potential therapeutic **breakthrough** for PVR
  - ✓ U.S. orphan designation
  - ✓ FDA fast track designation
- **Reattachment success and tolerability demonstrated** in Phase 1b clinical trial*

GUARD Phase 3 - Part 1 Initiation Q4 2019

Contingent on funding, regulatory review, clinical results and other factors
*Open-label investigator sponsored Phase 1b clinical trial; results demonstrated over the study period

PVR = Proliferative vitreoretinopathy



A New Paradigm for the Treatment of Ocular Diseases

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