June 2019

Nasdaq: ALDX

CORPORATE REVIEW

Innovating Transformative Therapies

Disclaimers and Forward-Looking Statements

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Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause Aldeyra's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These statements reflect Aldeyra's current views with respect to future events and are based on assumptions and subject to risks and uncertainties, including the development, clinical and regulatory plans or expectations for Aldeyra's product candidates and Aldeyra's continuing review and quality control analysis of clinical data. Important factors that could cause actual results to differ materially from those reflected in Aldeyra's forward-looking statements are described in Aldeyra's most recent Annual Report on Form 10-K and Quarterly Report on Form 10-Q, as well as Aldeyra's subsequent filings with the Securities and Exchange Commission. All of Aldeyra's development timelines may be subject to adjustment depending on recruitment rate, regulatory review, preclinical and clinical results, and other factors that could delay the initiation, completion, or reporting of clinical trials.

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Our Mission

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

~7%

Of Western Society

Suffer from some form of **immune-mediated disease,** and **incidence is increasing**

Disease control elusive despite existing therapies, and thus **novel approaches are needed**

Source: Lerner, Jeremias, and Matthias, International Journal of Celiac Disease, vol. 3, no. 4 (2015): 151-155;
Shurin and Smolkin, Advances in Experimental Medicines and Biology 601:3-12, 2007; Kuek et al, Postgraduate Medical Journal 83(978): 251-260, 2007.

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Deep and Innovative Pipeline Focused on Immune-Mediated Diseases

Disease Area	Compound	[Mechanism]	Indication	Preclinical	Phase 1	Phase 2	Phase 3	Next Anticipated Milestone
Ocular Diseases	Reproxalap	[RASP]	Dry Eye Disease					
			Allergic Conjunctivitis					
	ADX-2191	[DHFR]	Proliferative Vitreoretinopathy					Phase 3-Part 1 initiation H2 2019
	ADX-103	[RASP]	Retinal Disease					Phase 1/2 initiation 2020
	Undisclosed		Ocular Inflammation					*Research Collaboration (undisclosed)*
Systemic Diseases	Reproxalap	[RASP]	Sjögren-Larsson Syndrome					Phase 3-Part 1 completion H2 2019
	ADX-1612	[CHP]	PTLD					Phase 2 initiation 2019
			Mesothelioma					Phase 2 initiation 2019
			Ovarian Cancer					*Investigator-Sponsored Trial*
	ADX-629	[RASP]	Autoimmune Disease					Phase 1 initiation H2 2019
	ADX-1615	[CHP]	Autoimmune Disease / Cancer					
	Undisclosed	[RASP]	Systemic Inflammatory Disease					*Research Collaboration* janssen

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RASP Mechanism = Reactive Aldehyde Species Inhibitor
DHFR Mechanism = Dihydrofolate Reductase Inhibitor
CHP Mechanism = Chaperome Inhibitor
PTLD = Post-Transplant Lymphoproliferative Disorder

Trial initiations contingent on funding, regulatory review, and other factors

Our Lead Programs May Offer Potential Benefits Over Standard of Care

Late Stage Programs	Current Standard of Care	Pricing Benchmarks†	Drug Candidate and Dev. Stage	Potential Competitive Advantages †
Ocular Diseases				
Dry Eye Disease	Xiidra®, Restasis®	$500-550 per month (dry eye disease pricing)	Reproxalap: Phase 3	Rapid onset, broad activity, reduction in itch
Allergic Conjunctivitis	Antihistamines		Reproxalap: Phase 3	Non-drying, durable activity; Responder superiority vs. vehicle
Proliferative Vitreoretinopathy	None (repeat surgeries)	$30,000 per course (avg. cost of surgeries)	ADX-2191: Phase 3	Clinically demonstrated activity; Currently no FDA- or EMA-approved therapy
Systemic Diseases				
Sjögren–Larsson Syndrome	None (manage symptoms)	$200,000 - $400,000 per year	Reproxalap: Phase 3	Clinically demonstrated activity; Currently no FDA- or EMA-approved therapy

†Pending clinical data, regulatory discussions, payor negotiations, competition, potential legislative changes, and other factors, which may not be in Aldeyra's control. Preliminary assumptions are subject to change.

Source: Aldeyra internal estimates based on primary and secondary market research; published literature

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Our Lead Programs May Offer Potential Benefits Over Standard of Care

Late Stage Programs	Estimated U.S. Population†	U.S. Healthcare Providers	Competitive Value Proposition	Infrastructure Requirement‡
Ocular Diseases				
Dry Eye Disease	20 million DED Up to 10 million with DED & AC	~18,000 ophthalmologists and ~40,000 optometrists	Potential benefits over current therapies, which do not work well for many patients	Medium sized sales force for national reach
Allergic Conjunctivitis	30 million AC			
Proliferative Vitreoretinopathy	4,000	Retina specialists at targeted centers	Potential first and only Rx treatment	Small specialized operation
Systemic Diseases				
Sjögren-Larsson Syndrome	1,000	Geneticists and ped. neurologists	Potential first and only Rx treatment	Small specialized operation

†Pending clinical data, regulatory discussions, payor negotiations, competition, potential legislative changes, and other factors, which may not be in Aldeyra's control. Preliminary assumptions are subject to change.

Source: Aldeyra internal estimates based on primary and secondary market research; published literature

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- **DRY EYE DISEASE**
- ALLERGIC CONJUNCTIVITIS
- PROLIFERATIVE VITREORETINOPATHY

Ocular Disease Area

Dry Eye Disease:
Persistently Disturbing Disease with Inadequate Therapy

Dry Eye Disease

20 million or more **adults in the U.S.** suffer from DED

DED **increases with age**, with those over age 50 three times more likely to suffer from DED

Women are twice as likely to suffer from DED than men

Significant **negative quality of life** impact

Current Rx options **may require up to six weeks or longer** to achieve even modest efficacy

Up to 75% of patients with DED **are not satisfied with current prescription options**

Up to 50% of patients **treated for DED** with current therapies **fail and discontinue**

Underserved Patient Population

Reproxalap

Reproxalap in DED

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

Broad symptom and sign improvements in Phase 2b clinical trial

Source: Aldeyra internal estimates based on primary and secondary market research; published literature

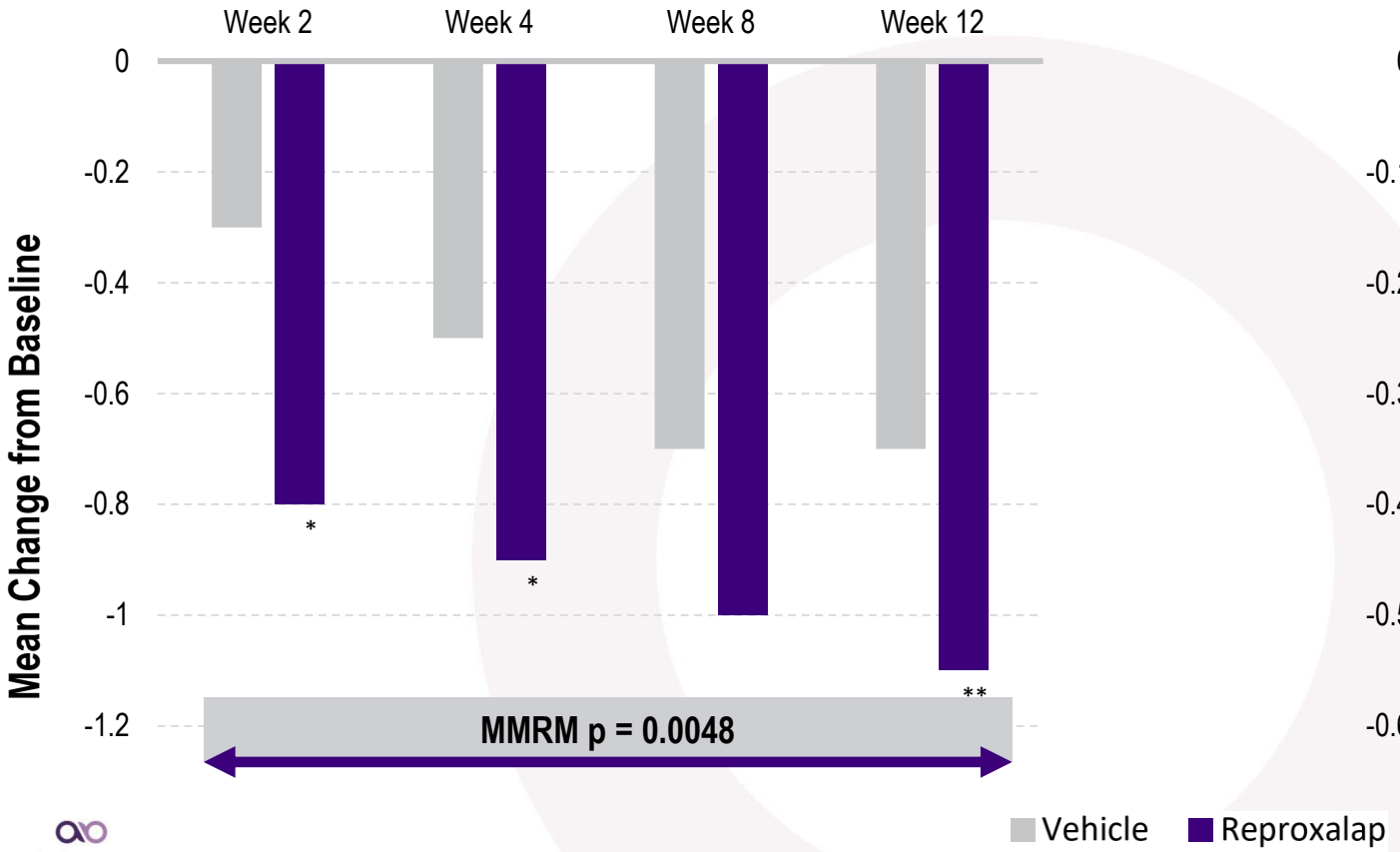
DED = Dry eye disease

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

Primary Symptom Endpoint for Phase 3

OD & 4-Symptom Questionnaire: Dryness (0-5)

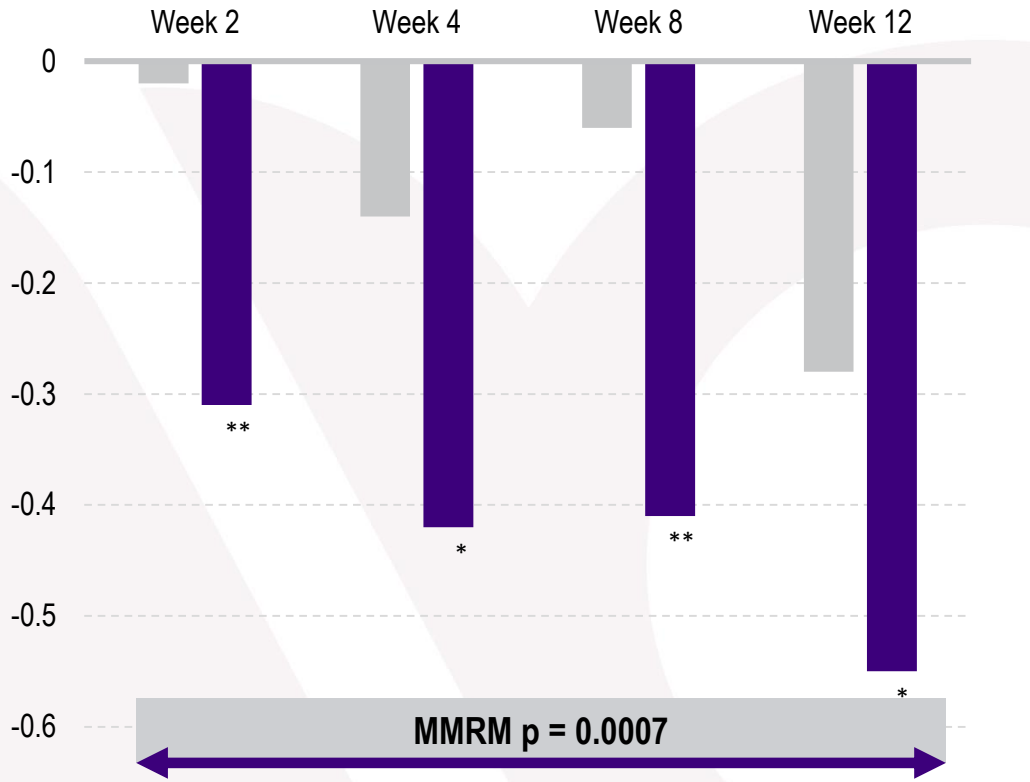
Baseline Score ≥ 3 (N=69|69)



Primary Sign Endpoint for Phase 3

Fluorescein Staining: Nasal (0-4)

Baseline Score ≥ 2 (N=62|56)

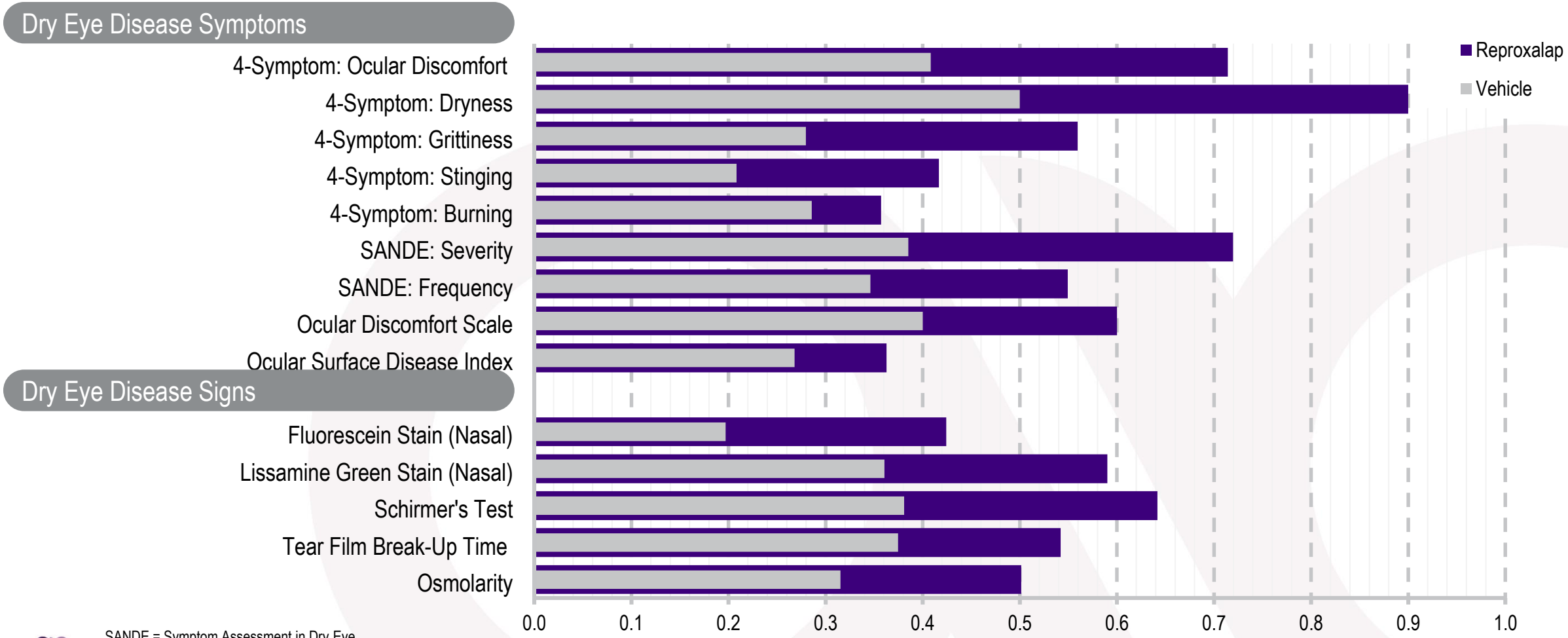


*p<0.05 **p<0.01
OD = Ocular Discomfort
MMRM = Mixed Effect Model Repeated Measures

Source: Reproxalap DED Phase 2b clinical trial results (reproxalap 0.25%)

Broad Pattern of Drug Activity Across Dry Eye Disease Symptoms and Signs Supports Differentiated Product Profile

Improvement Effect Size at Week 12



SANDE = Symptom Assessment in Dry Eye

Average improvement effect size across both eyes for tear quality and tear quantity measures (Schirmer's Test, Tear Film Break-Up Time, and Osmolarity)

Improvement Effect size = Change from Baseline / Standard Deviation at Baseline

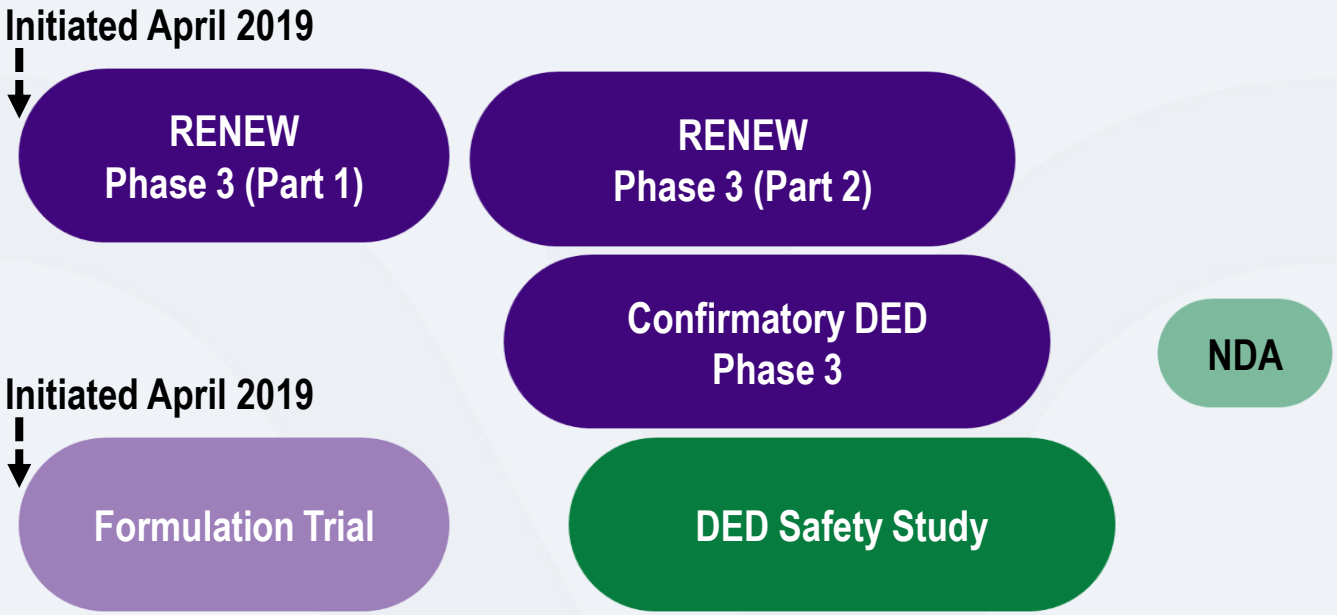
Source: Reproxalap DED Phase 2b clinical trial results (reproxalap 0.25%)

Adaptive Phase 3 Dry Eye Disease Clinical Program

Adaptive Phase 3 Program

- Confirm symptom and sign endpoints from Phase 2b trial
- Confirm dosing regimen (QID vs. QID to BID taper)
- Confirm sample size for subsequent trial

Dry Eye Disease
Clinical Program



Contingent on funding, regulatory review, and other factors

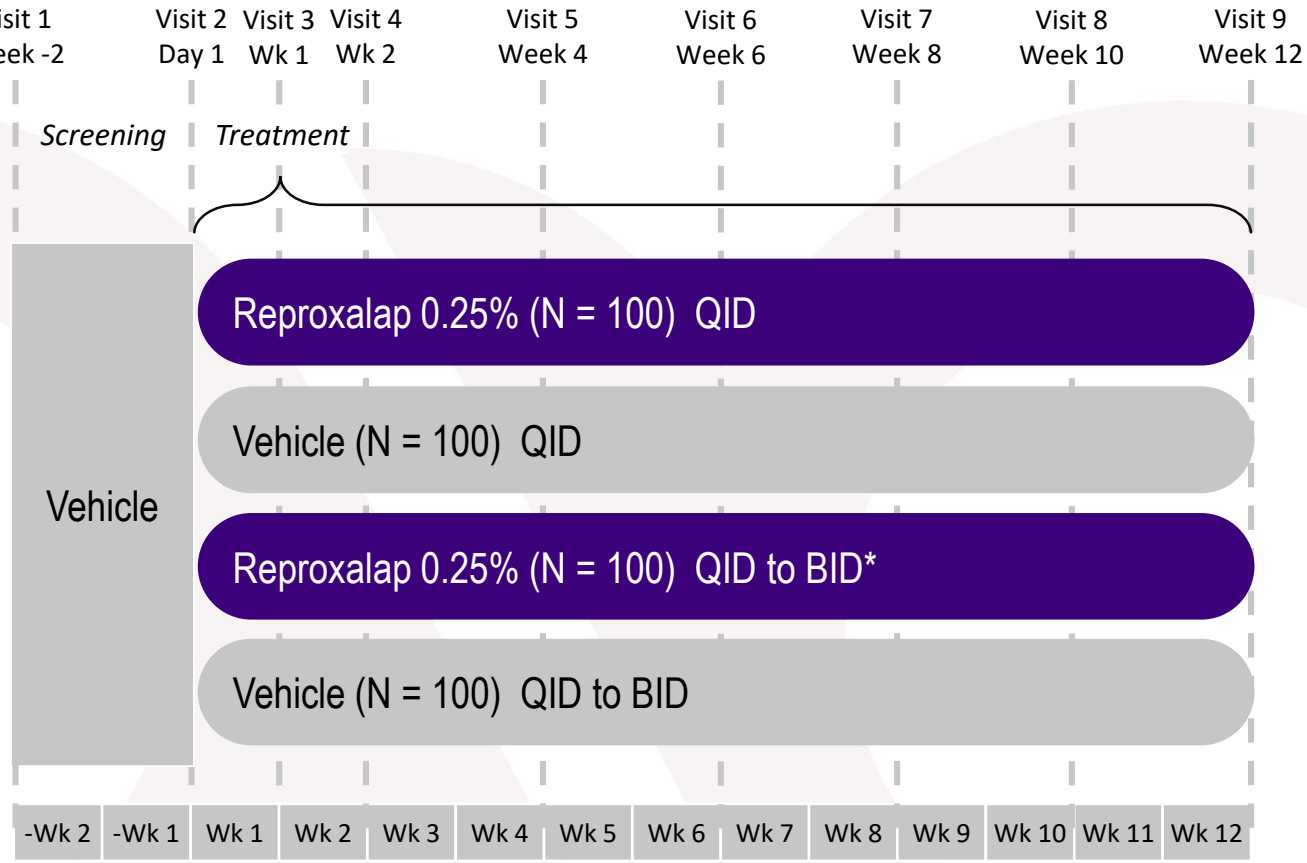
Adaptive design, co-primary endpoints, and innovative analysis strategy confirmed with FDA at EOP2 Meeting

DED = Dry eye disease
BID = Two times daily
QID = Four times daily
EOP2 = End of Phase 2

RENEW Trial Design in Dry Eye Disease
Adaptive Phase 3 (Part 1) Clinical Trial Initiated April 2019

- **Primary objective:**
  - Evaluate efficacy of reproxalap ophthalmic solution (0.25%) vs. vehicle to confirm dosing regimen and sample size for Part 2
- **Inclusion/exclusion criteria:**
  - Same as used for Phase 2b
  - Moderate to severe dry eye disease
- **Co-primary endpoints:**
  - Ocular dryness score (0-100mm VAS) and fluorescein nasal region staining
- **Analysis strategy:**
  - Both co-primary endpoints will be assessed using Mixed Model Repeated Measures (MMRM) from week 2 to week 12
  - Both co-primary endpoints will be assessed based on separate pre-specified patient populations
    - Ocular dryness score (OD4SS): baseline score of $\geq$ 3
    - Fluorescein nasal staining: baseline score $\geq$ 2

Phase 3 Dry Eye Disease Clinical Trial: Part 1



Further information can be found on www.clinicaltrials.gov: Trial #NCT03879863.

*QID for weeks 1-4 and BID for weeks 5-12

VAS = Visual analog scale
OD4SS = Ocular Discomfort 4-Symptom Score

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- DRY EYE DISEASE
- ALLERGIC CONJUNCTIVITIS
- PROLIFERATIVE VITREORETINOPATHY

Ocular Disease Area

Allergic Conjunctivitis:
A Common Disease with Unmet Medical Need

Allergic Conjunctivitis

30 million

Up to 30 million of **AC sufferers** in the U.S. **do not respond adequately** to or are **dissatisfied with antihistamines**

AC patients experience symptoms throughout **all decades of adult life**

AC can result in **acute, intermittent, and chronic** symptoms

Significant **negative quality of life** impact

Many AC **patients make significant sacrifices** due to lack of drug activity

24%

Antihistamines are not effective in an estimated 24% of treated AC patients

2%

~2% of AC patients have severe symptoms and **may be corticosteroid-dependent**

Underserved Patient Population

Reproxalap

Reproxalap in AC

Clinically significant and durable symptom response in Phase 3 clinical trial

Active in post-histaminic allergy, for which no drug is approved

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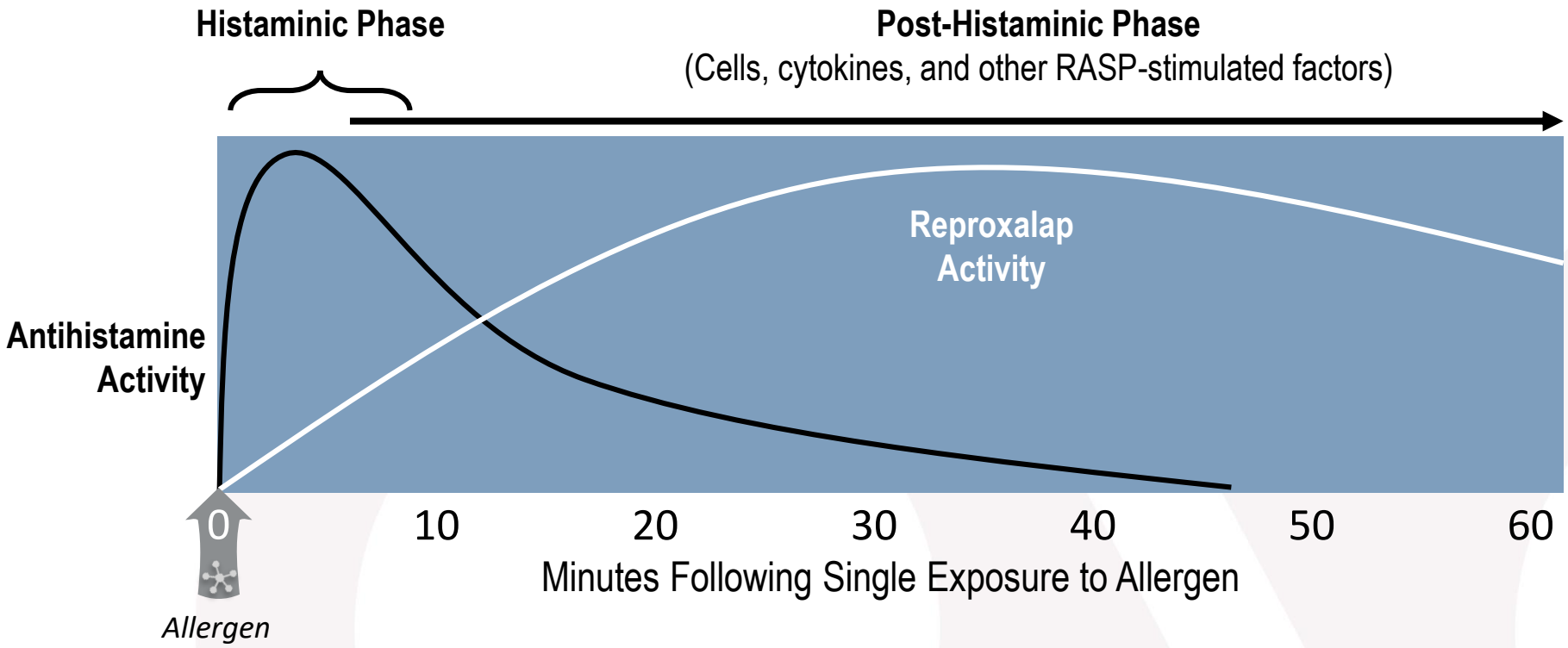
Source: Aldeyra internal estimates based on primary and secondary market research; published literature

AC = Allergic conjunctivitis

Novel Mechanism of Action has the Potential to Provide Differentiated Activity Versus Antihistamines



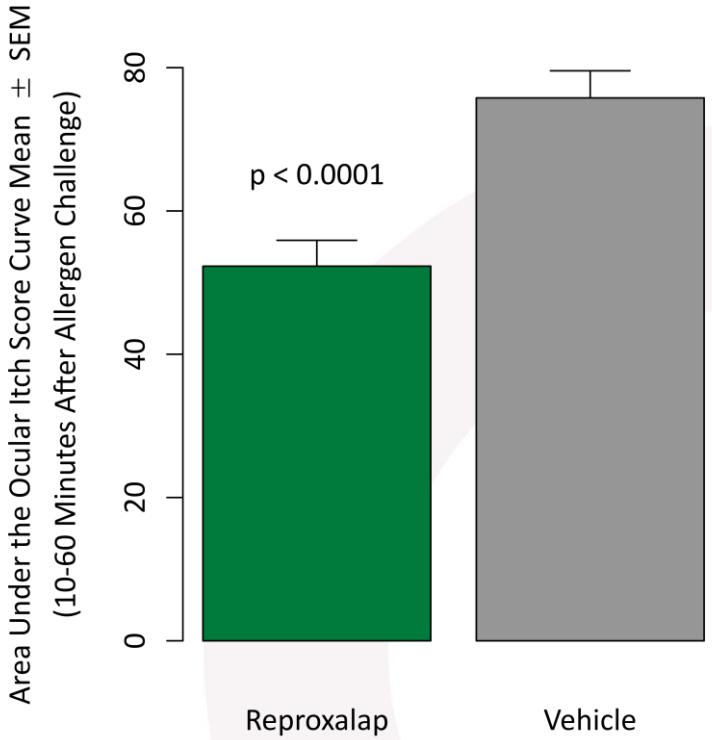
Reproxalap has the potential to be uniquely effective in post-histaminic allergy, which affects all allergic conjunctivitis patients

RASP = Reactive Aldehyde Species
Illustrative only, based on published literature and internal estimates

Reproxalap Showed Greater and More Durable Clinical Responses vs. Vehicle Group in ALLEVIATE Phase 3 Clinical Trial

Primary Endpoint

Area Under the Curve: Ocular Itch Score (0-4) 10 to 60 Minutes After Allergen Challenge

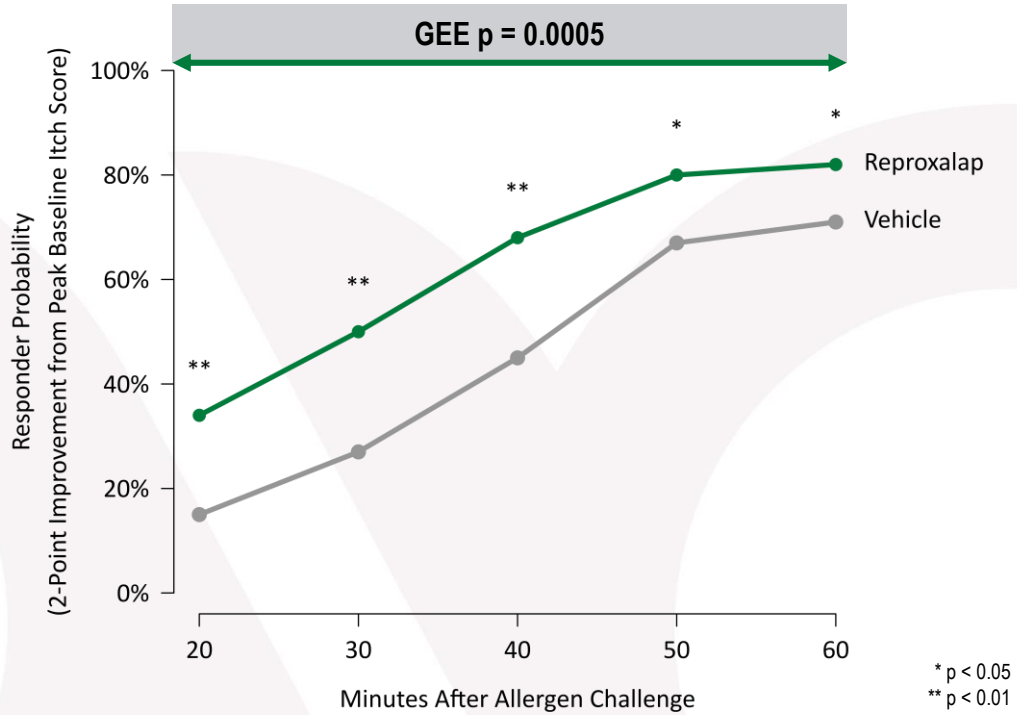


Improvement in itch score over one hour after allergen exposure statistically greater for reproxalap vs. vehicle

SEM = Standard error of the mean

Key Secondary Endpoint

Probability of Two-Point Response: Ocular Itch Score (0-4)



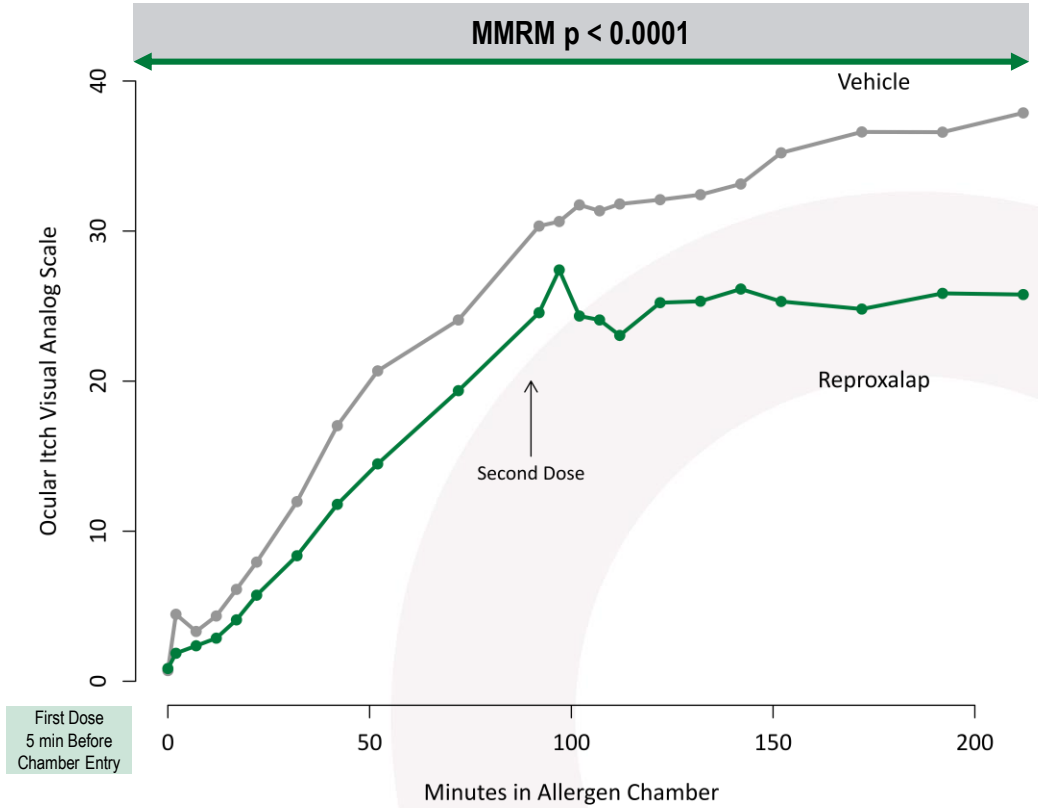
Clinically significant response rate of reproxalap statistically higher than that of vehicle

GEE = Generalized estimating equation analysis

Source: ALLEVIATE allergic conjunctivitis Phase 3 clinical trial results (reproxalap 0.25%); Ocular itch scale 0 (no itch) to 4 (incapacitating itch)

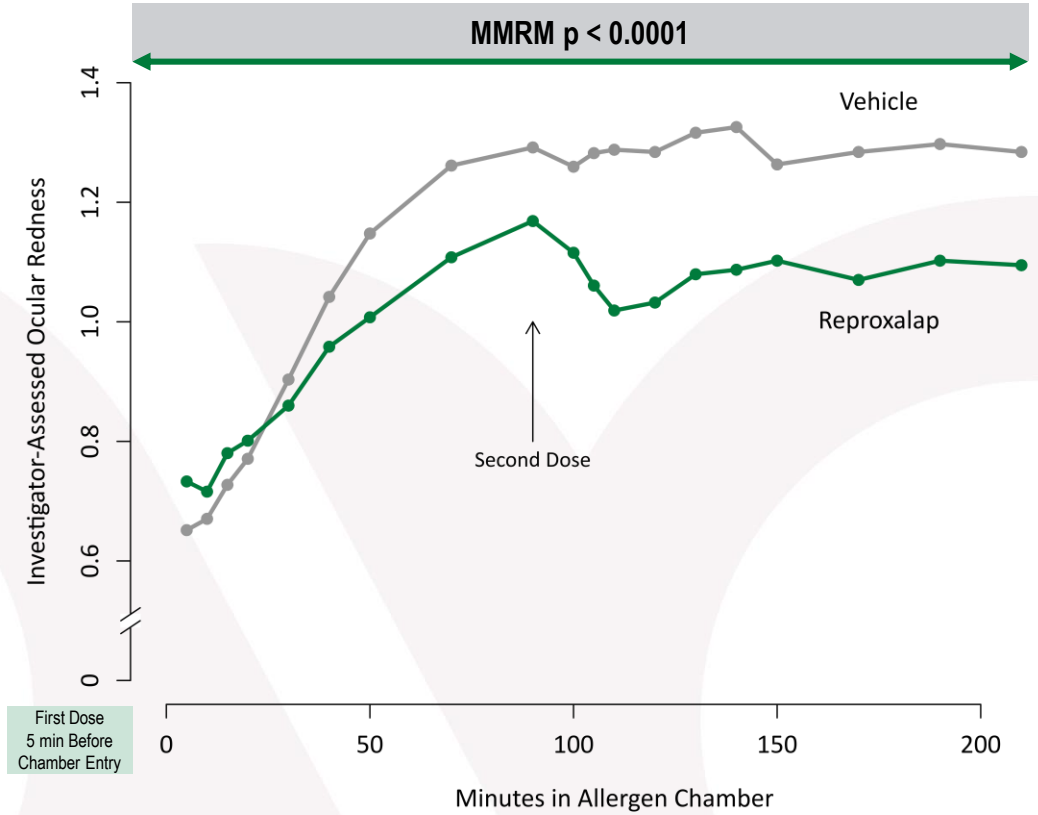
Reproxalap Showed Greater and More Durable Clinical Responses vs. Vehicle in Allergen Chamber Clinical Trial

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

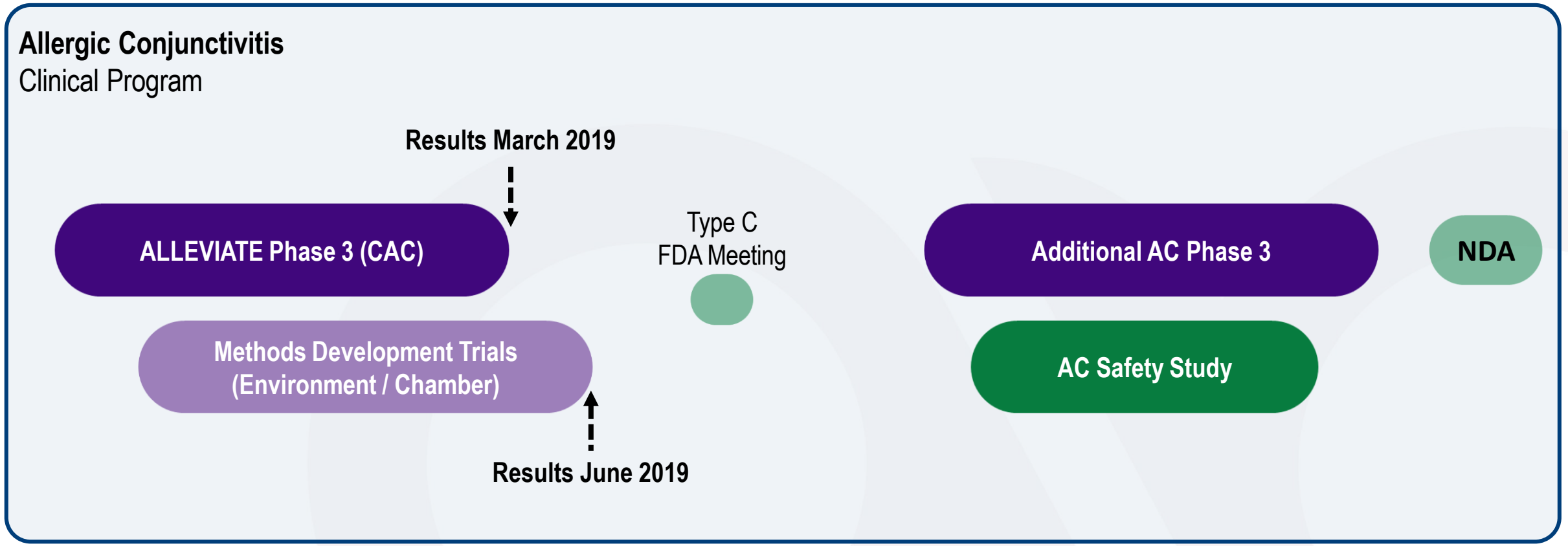


Statistically significant reduction in ocular redness vs. vehicle for more than three hours of exposure to allergen

MMRM = Mixed Effect Model Repeated Measures

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

Allergic Conjunctivitis Phase 3 Clinical Program Design Elements



Contingent on funding, clinical results, regulatory review, and other factors.

AC = Allergic conjunctivitis
CAC = Conjunctival Allergen Challenge

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- DRY EYE DISEASE
- ALLERGIC CONJUNCTIVITIS
- PROLIFERATIVE VITREORETINOPATHY

Ocular Disease Area

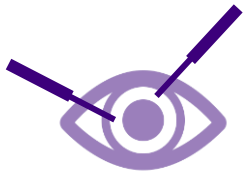
Proliferative Vitreoretinopathy:
A Rare Sight-Threatening Retinal Disease With No Approved Therapies

Proliferative vitreoretinopathy | **ADX-2191**

PVR is a **rare disease**, with ~4,000 patients per year in the U.S. and nearly twice as many in Europe and Japan

Left untreated, retinal detachment due to **PVR can progress to permanent blindness**

No FDA- or EMA-approved therapy



Repeat surgery and subsequent **vision loss** currently the only possible course of action

ADX-2191

- A **novel approach and potential therapeutic breakthrough** in PVR treatment
- **Granted U.S. orphan designation** for the prevention of PVR
- **Tolerability and reattachment success** during study period **demonstrated in Phase 1b** open-label investigator sponsored clinical trial
- Adaptive Phase 3 clinical trial **expected to initiate H2 2019**

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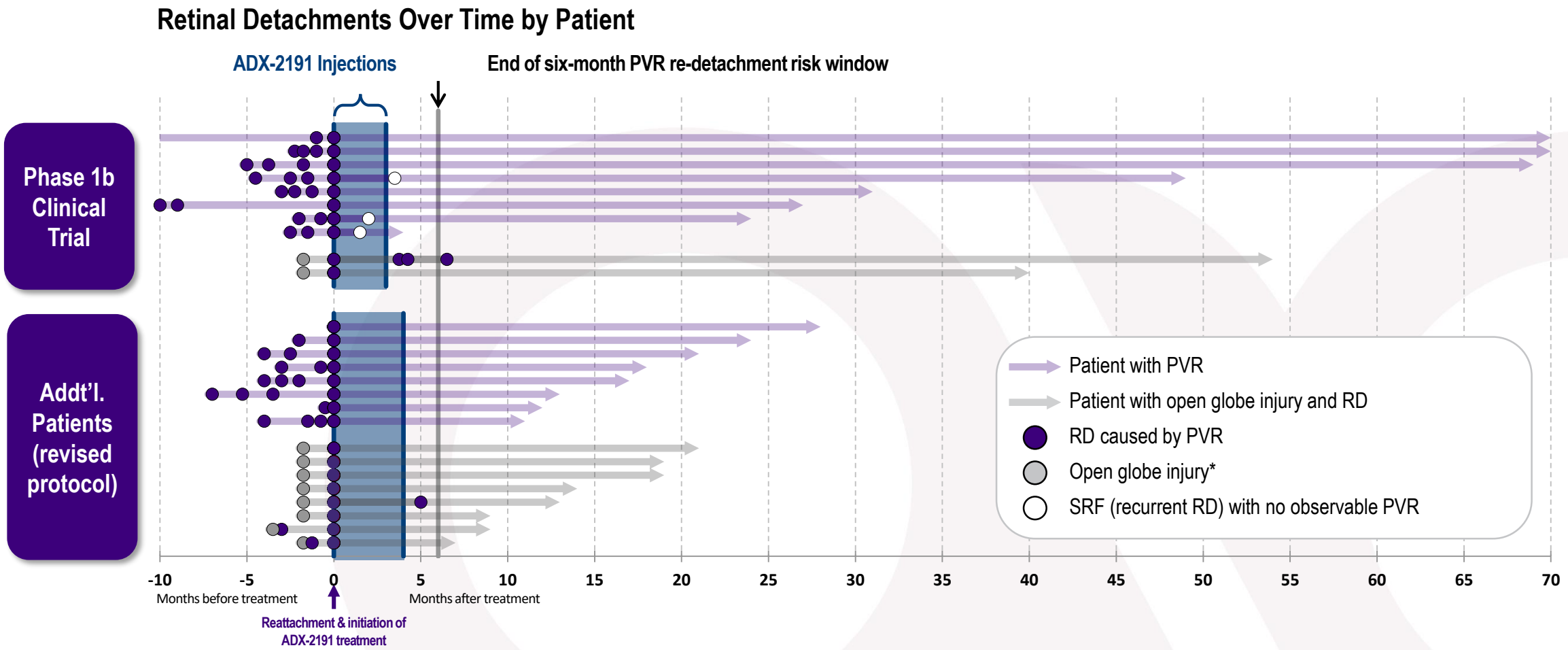
Source: Aldeyra internal estimates based on primary and secondary market research; published literature

ADX-2191 Reduced Recurrent Retinal Detachment in Investigator Sponsored Phase 1b Clinical Trial and in Additional In-Practice Use



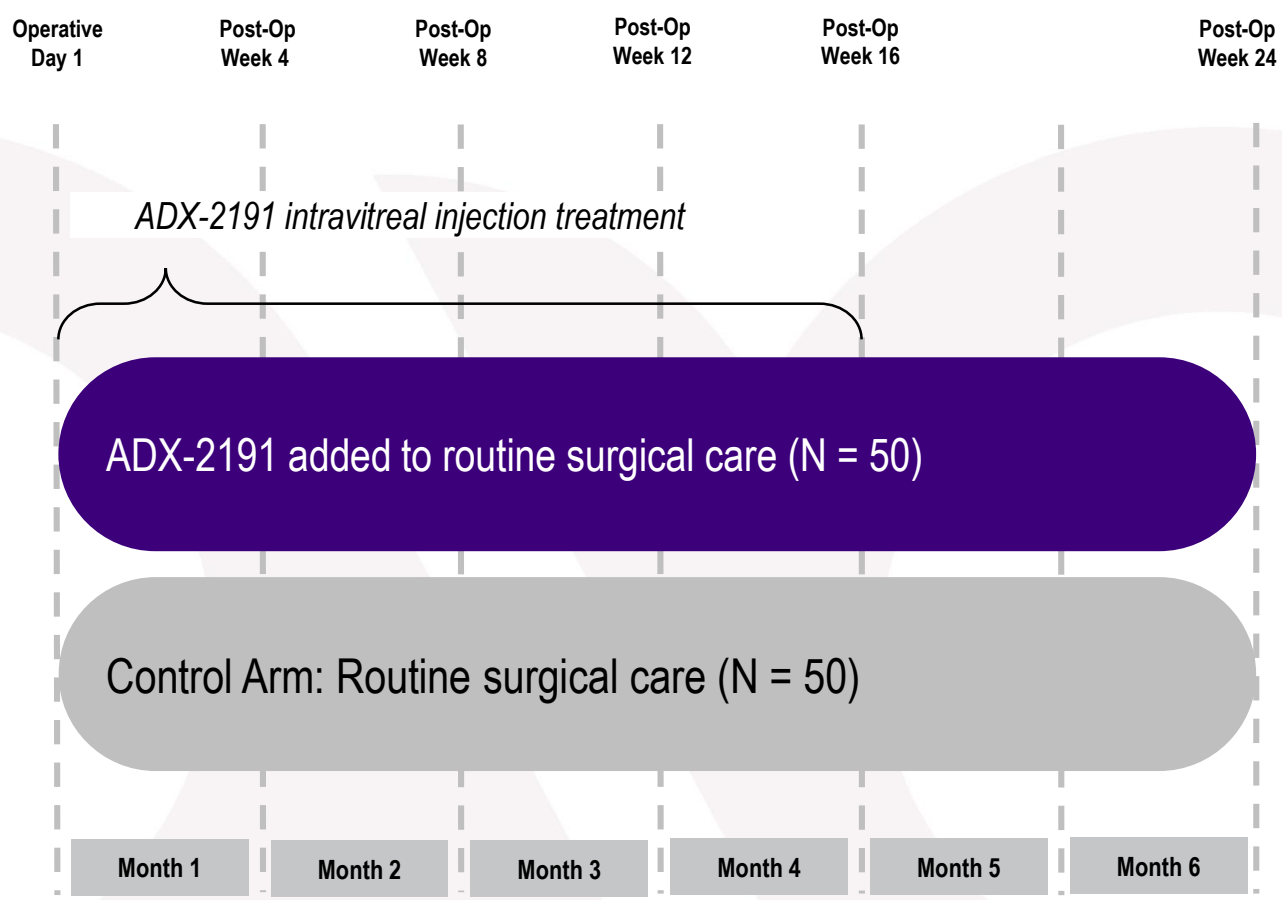
*Timing of open globe injury as shown is estimated. Typically 6-8 weeks prior to reattachment & initiation of ADX-2191.
There is no assurance that prior results, such as signals of safety, activity or durability of effect, observed from this open label investigator sponsored trial will be replicated 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

ADX-2191: Adaptive Phase 3 (Part 1) Proliferative Vitreoretinopathy Clinical Trial Design*

- **Primary objective:**
  - Evaluate efficacy of intravitreal ADX-2191 injections for prevention of recurrent retinal detachment due to proliferative vitreoretinopathy (PVR)
- **Design:**
  - Multi-center, non-masked, randomized, controlled, two- part, adaptive Phase 3 clinical trial
- **Inclusion highlights:**
  - Recurrent retinal detachment due to PVR, or
  - Retinal detachment associated with open-globe trauma
- **Dosing regimen:**
  - At surgery, weekly (x8), and then every other week (x4) intravitreal ADX-2191 injections
- **Endpoint:**
  - Retinal re-detachments due to PVR requiring re-operation within 6 months:
    1. OCT demonstrating fovea-off retinal detachment
    2. Photographic documentation retinal detachment

Adaptive Phase 3 PVR Clinical Trial Design: Part 1



OCT = Optical Coherence Tomography
*Contingent on funding, regulatory review, and other factors

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SJÖGREN-LARSSON SYNDROME

Systemic Disease Area

Sjögren-Larsson Syndrome:
A Rare RASP-Mediated Disease with No Approved Therapy

Sjögren-Larsson Syndrome

SLS is a **rare disease caused by an enzyme mutation** (Fatty Aldehyde Dehydrogenase), with ~1,000 SLS patients in the U.S. and a greater number in Europe

Severe symptoms significantly impacts **SLS patient and caregiver quality of life**

No FDA- or EMA-approved therapy

Nonstop disease burden prevents normal patient/caregiver life, with hours devoted to managing painful scaling, monitoring, & care

Reproxalap

Reproxalap

- A **novel approach and potential lifelong therapy** to replace missing enzymatic activity in SLS
- **Granted U.S. orphan designation** for the treatment of congenital ichthyosis (primary symptom of SLS)
- **Significantly reduced SLS ichthyosis** in a randomized, vehicle-controlled Phase 2 clinical trial
- RESET Part 1 Phase 3 clinical trial **completion expected H2 2019**

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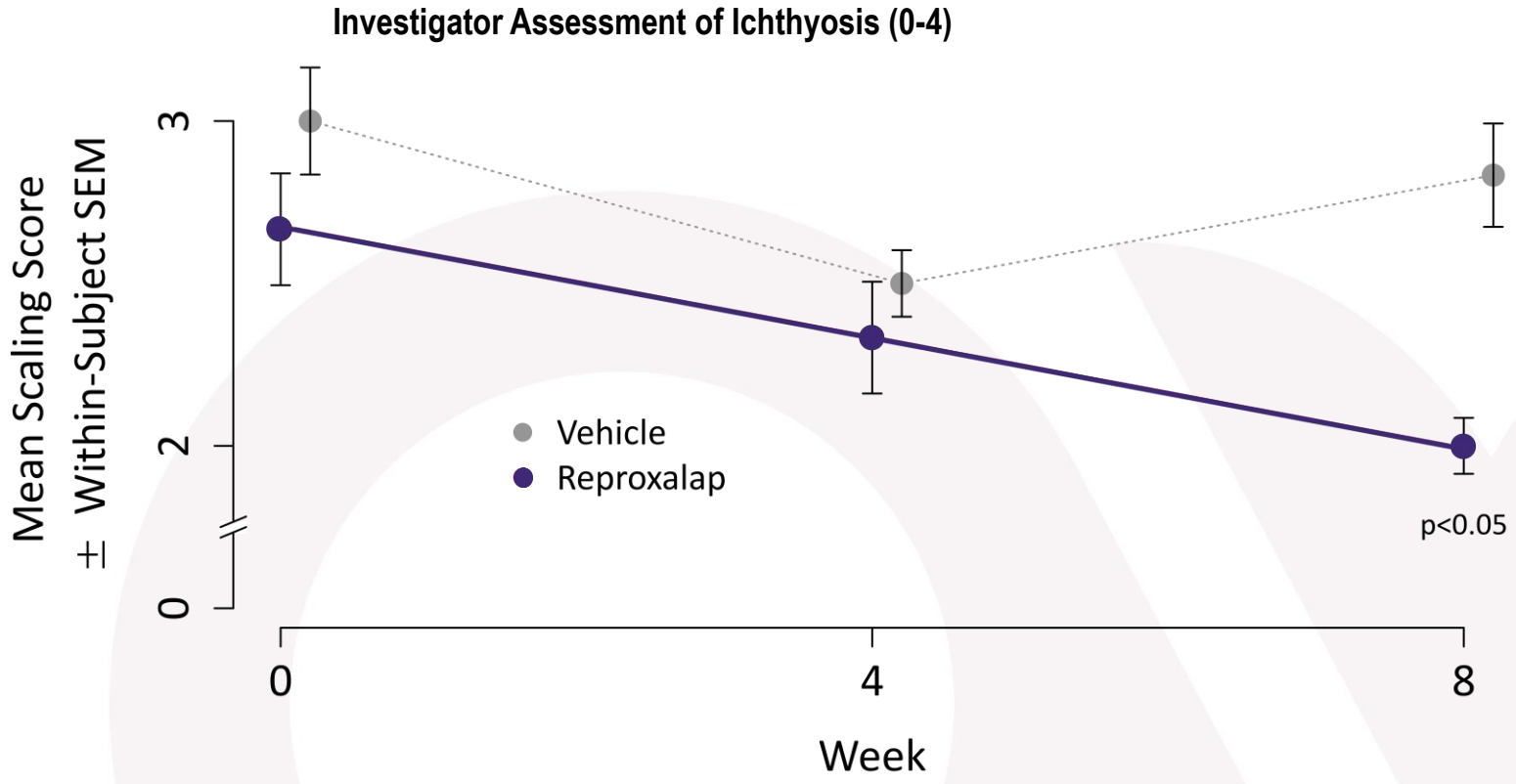
Source: Aldeyra internal estimates based on primary and secondary market research; published literature

RASP = Reactive Aldehyde Species
SLS = Sjögren-Larsson Syndrome

Reproxalap Demonstrated Clinically Relevant and Consistent Activity in Phase 2 Clinical Trial



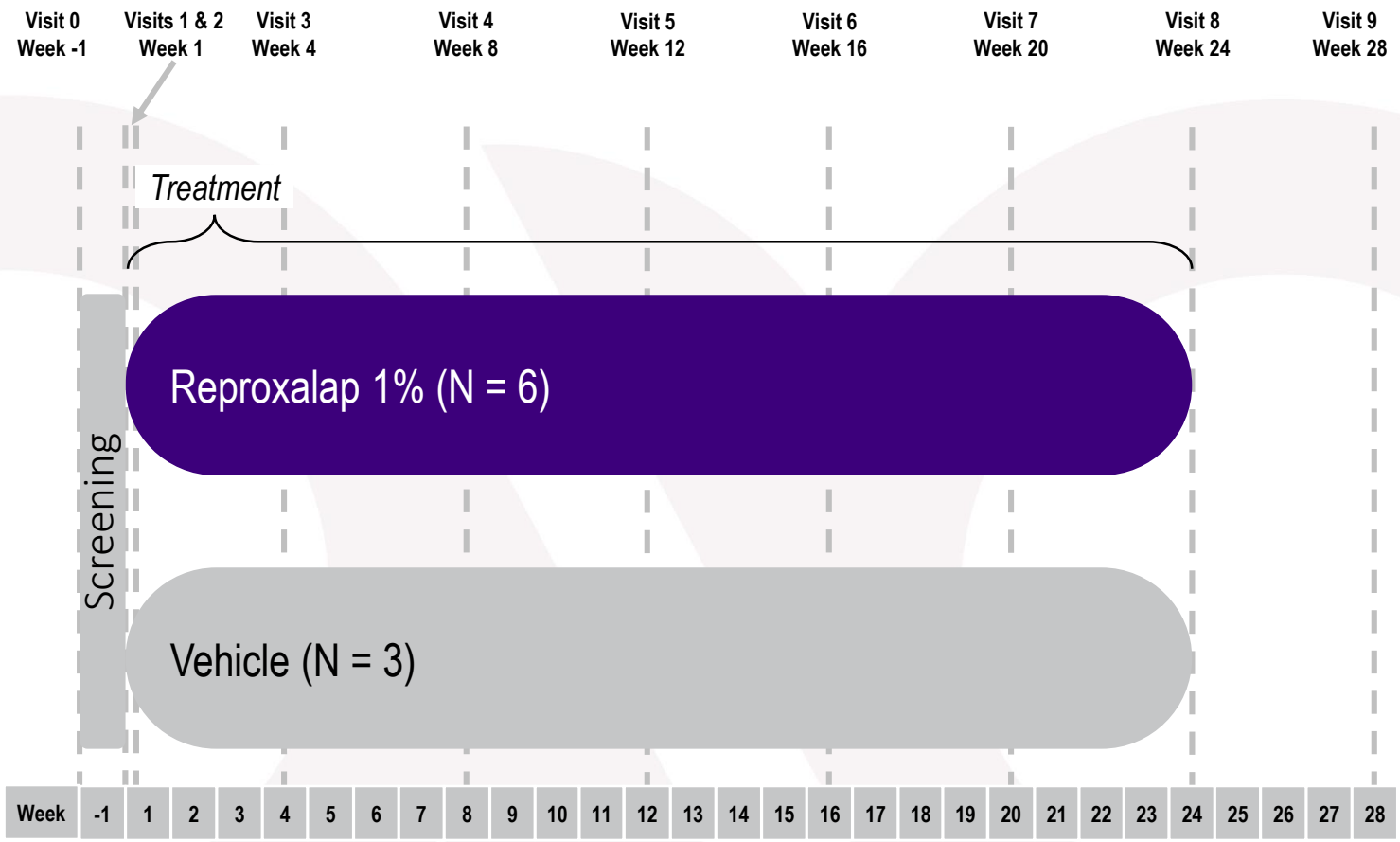
Over two months of treatment, ichthyosis improved consistently from moderate to mild disease

Source: Reproxalap SLS Phase 2 clinical trial results (6 patients per arm; reproxalap 1%)

RESET Trial Design in Sjögren-Larsson Syndrome
Phase 3 Part 1 Clinical Trial Initiated July 2018

- **Primary objective:**
  - Evaluate efficacy of reproxalap topical dermal cream (1%) for the treatment of SLS associated ichthyosis
- **Inclusion/exclusion highlights:**
  - Genetically confirmed diagnosis of SLS and at least 3 years of age or older
  - Active ichthyosis grade ≥2 on the VIIS scaling score
  - No systemic or topical retinoids or other topical medications with in the past 30 days prior to baseline visit 1
- **Dosing regimen:**
  - Weeks 1-12: 20% of Body Surface Area (BSA)
  - Weeks 13-20: 40-45% of BSA
  - Weeks 21-24: 90% of BSA
- **Endpoints:**
  - Baseline ichthyosis change in drug-treated subjects
  - Safety / tolerability
- **Completion expected H2 2019**

Phase 3 SLS-Ichthyosis Study: Part 1



Further information can be found on www.clinicaltrials.gov: Trial #NCT03445650.

VIIS = Visual Index for Ichthyosis Severity

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Building The Future

Our Value Proposition

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

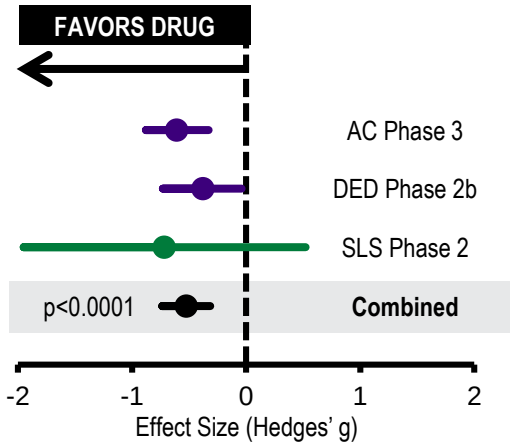
Solid Cash Position

Cash, cash equivalents and marketable securities were $82.1 million as of March 31, 2019

Our Lead Drug Candidates Are Protected and Well Positioned

Reproxalap

- **Worldwide rights**, royalty free
- **Composition of matter IP through 2033** (with Hatch-Waxman extension) and extensive additional patent protection
- **FDA Orphan drug designation** for the treatment of congenital ichthyosis (primary symptom of SLS)
- **Meta analysis strongly supports drug activity**



Bars represent 95% confidence intervals. Between-group comparisons used for vehicle controlled trials (DED, AC, SLS). Results based on dryness (OD & 4 Symptom Score) in DED, area under the curve ocular itch in AC, and scaling in SLS.

ADX-2191

- **Worldwide rights**
- FDA **505(b)(2) approval pathway**
- **Methods of use (therapeutic and delivery) IP** and additional patent work ongoing
- **FDA Orphan drug designation** for the prevention of PVR
- If approved, ADX-2191 has the potential to be the only approved form of the drug for use in the eye
- U.S. **Drug Quality and Security Act** prohibits the compounding of approved drugs

Source: Aldeyra analysis of Phase 2 and Phase 3 clinical trial data on file.

DED = Dry eye disease
AC = Allergic conjunctivitis
PVR = Proliferative vitreoretinopathy
SLS = Sjögren-Larsson Syndrome
IP = Intellectual property

Experienced Management Team and Board of Directors

Management Team

Todd Brady, M.D., Ph.D.
President, CEO, & Director

Joshua Reed, M.B.A.
Chief Financial Officer

David Clark, M.D.
Chief Medical Officer

David McMullin, M.B.A.
Chief Commercial Officer

Stephen Machatha, Ph.D.
SVP Technical Operations

Board of Directors

Richard Douglas, Ph.D. CHAIRMAN	Former SVP Corporate Development at Genzyme
Ben Bronstein, M.D.	Former CEO Peptimmune[8]
Marty Joyce, M.B.A.	Former CFO of Serono USA
Gary Phillips, M.D.	CEO OrphoMed
Jesse Treu, Ph.D.	Domain Associates
Neal Walker, D.O.	CEO Aclaris Therapeutics
Todd Brady, M.D., Ph.D.	CEO Aldeyra Therapeutics

1. Acquired by Xanthus/Antisoma
2. Acquired by Schwarz/UCB
3. Acquired by Alexion
4. Acquired by Takeda
5. Acquired by Ligand
6. Acquired by Merck
7. Acquired by Alexion
8. Acquired by Genzyme

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Expected Development Milestones:*
Novel Approaches to Address Immune-Mediated Disease

Ocular Diseases: Anticipated Milestones

- ✓ **Positive** reproxalap **ALLEVIATE Phase 3 clinical trial results March 2019**
- ✓ Reproxalap dry eye disease **RENEW Phase 3 clinical trial program initiation April 2019**
- ○ ADX-2191 Proliferative Vitreoretinopathy **Phase 3 clinical program initiation H2 2019**
- ○ **Remaining clinical requirements** for potential allergic conjunctivitis NDA to be **confirmed H2 2019**

Systemic Diseases: Anticipated Milestones

- ○ Reproxalap Sjögren-Larsson Syndrome **RESET Phase 3-Part 1 clinical trial completion H2 2019**
- ○ ADX-629 **Phase 1 clinical trial initiation H2 2019** followed by NASH and/or IBD Phase 2a
- ○ ADX-1612 post-transplant lymphoproliferative disorder **Phase 2 clinical trial initiation 2019**
- ○ ADX-1612 mesothelioma **Phase 2 clinical trial initiation 2019**

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*Contingent on funding, regulatory review, clinical results and other factors

NDA = New Drug Application

June 2019

Nasdaq: ALDX

Innovating Transformative Therapies