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CLINICAL DEVELOPMENT PLAN UPDATE

Clinical Development Plan for Resubmission of New Drug Application for Reproxalap in Dry Eye Disease

March 28, 2024

Nasdaq: ALDX

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This presentation and various remarks which may be made during this presentation contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and Section 21E of the Securities Exchange Act of 1934, as amended, including statements regarding Aldeyra's future expectations, plans and prospects, including, without limitation, statements regarding: the goals, opportunity, and potential for reproxalap; anticipated clinical or regulatory milestones for reproxalap, ADX-2191, ADX-246, ADX-248, and ADX-629; FDA agreement with the clinical development plan for reproxalap; expectations regarding the results of scheduled FDA meetings and discussions, clinical trial initiations and completions, and the timing and nature of NDA or other submissions to the FDA; Aldeyra's business, research, development and regulatory plans or expectations; and the structure, timing and success of Aldeyra's planned or pending clinical trials. The results of earlier preclinical or clinical trials may not be predictive of future results. Forward-looking statements include all statements that are not historical facts and, in some cases, can be identified by terms such as "may," "might," "will," "objective," "intend," "should," "could," "can," "would," "expect," "believe," "anticipate," "project," "on track," "scheduled," "target," "design," "estimate," "predict," "contemplates," "likely," "potential," "continue," "ongoing," "aim," "plan," or the negative of these terms, and similar expressions intended to identify forward-looking statements.

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Clinical Development Plan for Resubmission of Reproxalap New Drug Application for Dry Eye Disease

FDA Feedback

- The New Drug Application (NDA) Complete Response Letter received on November 27, 2023 stated that "at least one additional adequate and well-controlled study to demonstrate a positive effect on the treatment of ocular symptoms of dry eye" needed to be conducted; no other NDA deficiencies were identified by the U.S. Food and Drug Administration (FDA) in the Complete Response Letter.
- Feedback has been received from the FDA on a clinical trial protocol to assess symptoms in a dry eye chamber; Aldeyra believes that all substantive FDA comments on the protocol have been addressed.

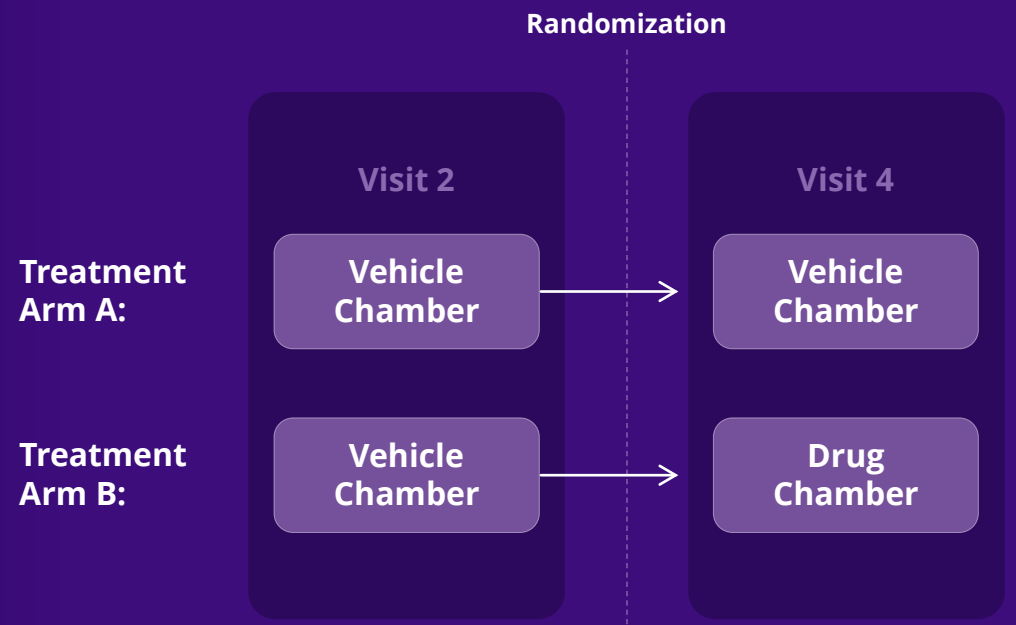
Clinical Plan

- The dry eye chamber clinical trial, similar to the four previously completed dry eye chamber clinical trials with reproxalap, is expected to be initiated in the first half of 2024; results from the trial and, pending positive results, a potential NDA resubmission are expected in the second half of 2024.†
- An additional dry eye chamber clinical trial and a traditional six-week field clinical trial are expected to be conducted in parallel with the planned clinical trial as part of a contingency strategy designed to account for disease heterogeneity and potential differences across clinical sites and environment.†

†Regulatory review and discussion timelines are flexible and subject to change based on the regulator's workload and other potential review issues. The timing of clinical trials depends, in part, on the availability of clinical research facilities and staffing, the ability to recruit patients, and the number of patients in the trial. Topical ocular reproxalap is an investigational new drug candidate that has been studied in more than 2,400 patients with no observed safety concerns; mild and transient instillation site irritation is the most commonly reported adverse event in clinical trials.

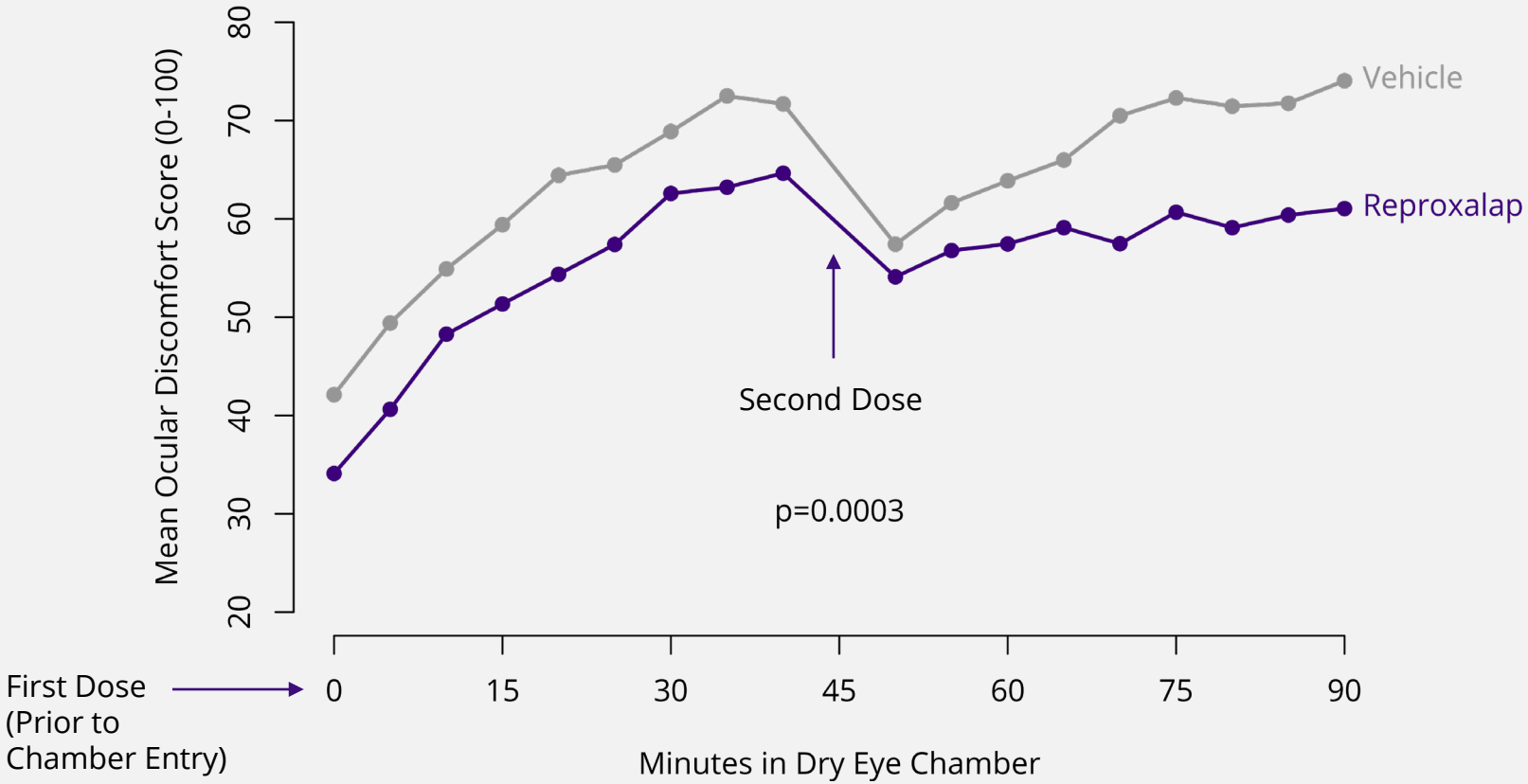
Phase 3 Clinical Trial of Reproxalap in a Dry Eye Chamber†

Design	• Randomized, double-masked, vehicle-controlled dry eye chamber challenge
Dosing	• Visit 1: Medical screening • Visit 2: Vehicle dry eye chamber (dosing just before and 50 minutes after entry) • Visit 3: Four doses of randomized treatment (reproxalap or vehicle) • Visit 4: Randomized dry eye chamber (dosing just before and 50 minutes after entry)
Size	~100 dry eye disease patients
Primary Endpoint	Ocular discomfort score
Other Endpoints	Safety



†The timing of clinical trials depends, in part, on the availability of clinical research facilities and staffing, the ability to recruit patients, and the number of patients in the trial.

Based on Pooled Data from Four Dry Eye Chamber Trials, Ocular Discomfort Score was Lower with Reproxalap than with Vehicle



Ocular discomfort data are derived from four previously completed dry eye chamber clinical trials of reproxalap vs. vehicle, encompassing approximately 110 patients and incorporating trial conduct and statistical analysis amendments.

Topical ocular reproxalap is an investigational new drug candidate that has been studied in more than 2,400 patients with no observed safety concerns; mild and transient instillation site irritation is the most commonly reported adverse event in clinical trials.

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Reproxalap Represents a Novel Potential Therapeutic Approach in Dry Eye Disease with Rapid Activity in Clinical Trials

Potential advantages for patients and healthcare providers could effect a paradigm shift relative to standard of care.

Rapid and sustained symptom improvement

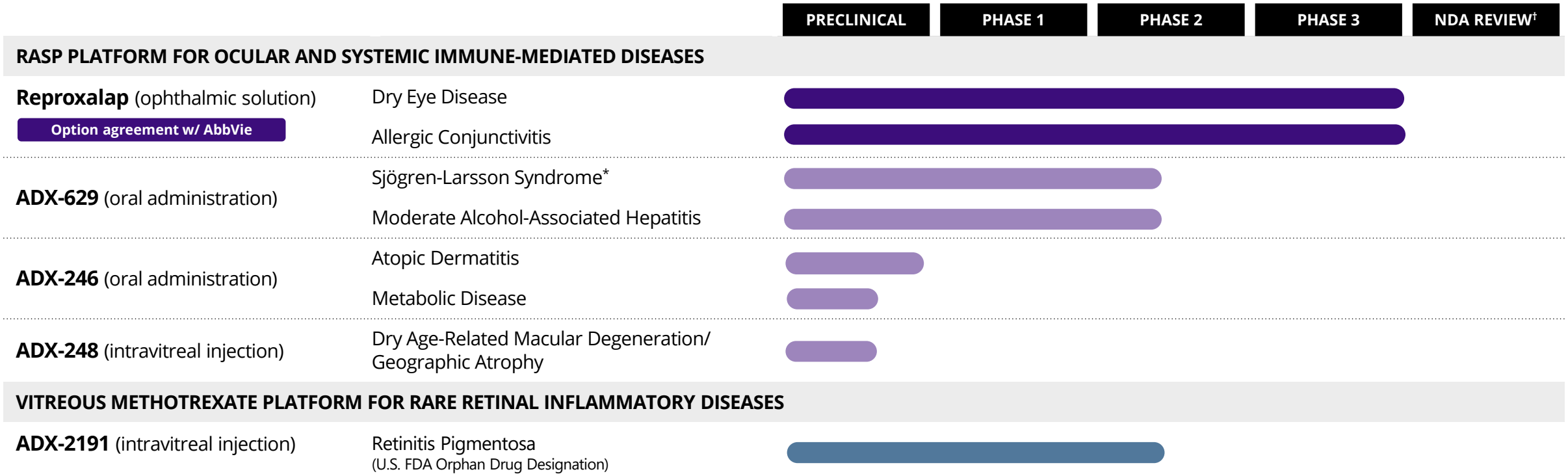
Broad symptomatic activity

Acute reduction of ocular redness

Dry Eye Disease Afflicts 39 Million or More Adults in the U.S.[†]

[†]Company estimates and Am J Ophthalmol. 2014;157(4):799-806. Topical ocular reproxalap is an investigational new drug candidate that has been studied in more than 2,400 patients with no observed safety concerns; mild and transient instillation site irritation is the most commonly reported adverse event in clinical trials.

Aldeyra Is a Well-Capitalized Biotechnology Company with a Broad Immunology Pipeline



As of 12/31/2023, cash and cash equivalents were $142.8M, which Aldeyra believes will be sufficient to fund the Company beyond 2026.‡

†Regulatory review timelines are flexible and subject to change based on the regulator's workload and other potential review issues. ‡Company guidance as of March 7, 2024; includes continued early and late-stage development of our product candidates in ocular and systemic immune-mediated diseases. Guidance does not include any potential licensing or product revenue associated with reproxalap. *Investigator sponsored. NDA = New Drug Application

Clinical and Regulatory Milestones

Reproxalap

- [x] **Allergic Conjunctivitis**
  Positive Phase 3 INVIGORATE 2 trial top-line results announced
- [ ] **Dry Eye Disease**
  Proposed clinical trial top-line results and potential NDA resubmission expected in second half of 2024, pending clinical trial results, feedback from ongoing FDA discussions, and other factors[† ‡]

ADX-629

- [x] **Sjögren-Larsson Syndrome**
  Phase 2 clinical trial top-line results announced*
- [ ] **Moderate Alcohol-Associated Hepatitis**
  Open-label Phase 2 clinical trial results expected H2 2024[‡]

ADX-246

- [ ] **Atopic Dermatitis**
  Phase 1 clinical trial initiation expected in H1 2024[‡]
- [x] **Metabolic Disease**
  Pre-clinical program initiated

ADX-248

- [ ] **Dry Age-Related Macular Degeneration/Geographic Atrophy**
  IND expected to be submitted in 2024

ADX-2191

- [ ] **Retinitis Pigmentosa**
  Type C Meeting with FDA expected in first quarter of 2024 to discuss pivotal clinical testing[†]

[†]Regulatory review and discussion timelines are flexible and subject to change based on the regulator's workload and other potential review issues. [‡]The timing of clinical trials depends, in part, on the availability of clinical research facilities and staffing, the ability to recruit patients, and the number of patients in the trial. *Investigator sponsored.

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