CONFERENCE CALL

Reproxalap for the Potential Treatment of Dry Eye Disease: Regulatory Update

April 3, 2025

Nasdaq: ALDX

Disclaimers and Forward-Looking Statements

This presentation contains 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 possible or assumed future results of operations, expenses and financing needs, business strategies and plans, statements regarding Aldeyra's future expectations, plans and prospects, including, without limitation, statements regarding: the cost of ongoing clinical trials; Aldeyra' cash runway; the outcome, expected timing, and results of ongoing clinical trials; the outcome and expected timing of discussions with the FDA; FDA agreement with the clinical development and regulatory plan for reproxalap; the outcome and expected timing and results of the clinical development and regulatory plan; the outcome and timing of the FDA's acceptance, review and/or approval of a potential NDA resubmission for reproxalap and the adequacy of the data included in the potential NDA resubmission or the supplemental responses to the FDA; the potential for and timing of regulatory approval and commencement of commercialization of reproxalap; Aldeyra's expectations regarding the exercise of the AbbVie option; the potential profile and benefit of reproxalap in dry eye disease and allergic conjunctivitis and its other product candidates in the indications for which they are developed; the goals, opportunity and potential for reproxalap and its other product candidates, anticipated clinical or regulatory milestones for ADX-2191, ADX-248, ADX-743, ADX-631, ADX- 629 and ADX-246, including 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; political, economic, legal, social and health risks that may affect Aldeyra's business or the global economy; the structure, timing and success of Aldeyra's planned or pending clinical trials; and expected milestones, market sizing, pricing and reimbursement, competitive position, regulatory matters, industry environment and potential growth opportunities, among other things. 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.

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 of, and clinical and regulatory plans or expectations for Aldeyra's investigational new drugs (including reproxalap, ADX-2191, ADX-629, ADX-248, ADX-743, ADX-631, and ADX-246), and systems-based approaches, later developments with the FDA that may be inconsistent with Aldeyra's expectations and beliefs, including the risk that the results from earlier clinical trials, portions of clinical trials, or pooled clinical data may not accurately predict results of subsequent trials or the remainder of a clinical trial for the same or different indications, inconsistent expectations regarding FDA acceptance and review of the company's filings and submitted data sets, and Aldeyra's continuing or post-hoc 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 plans and timelines may be subject to adjustment depending on funding, recruitment rate, regulatory review, which regulatory review timeline may be flexible and subject to change based on the regulator's workload and other potential review issues, preclinical and clinical results, regulatory developments in the United States and other countries, and other factors any of which could result in changes to Aldeyra's development plans and programs or delay the initiation, enrolment, completion, or reporting of clinical trials.

In addition to the risks described above and in Aldeyra's other filings with the SEC, other unknown or unpredictable factors also could affect Aldeyra's results. No forward-looking statements can be guaranteed, and actual results may differ materially from such statements. The information in this presentation is provided only as of April 03, 2025, and Aldeyra undertakes no obligation to update any forward-looking statements contained in this presentation on account of new information, future events, or otherwise, except as required by law.

Aldeyra Received a Complete Response Letter for Reproxalap for the Treatment of Dry Eye Disease

The Complete Response Letter stated that the NDA “failed to demonstrate efficacy in adequate and well controlled studies in treating ocular symptoms associated with dry eyes” and that “at least one additional adequate and well controlled study to demonstrate a positive effect on the treatment of ocular symptoms of dry eye” should be conducted. The letter identified concerns with the data from the trial submitted to the NDA that may have affected interpretation of the results, which the FDA stated may be related to methodological issues, including a difference in baseline scores across treatment arms.

Results from two ongoing trials of reproxalap in dry eye disease are expected to be available this quarter. A Type A meeting with the FDA to discuss the letter and the ongoing clinical trials is expected to be held within approximately 30 days.

Per draft FDA guidance, efficacy in dry eye disease may be demonstrated with two symptom trials and two sign trials. Aldeyra previously conducted two dry eye chamber trials for ocular redness (a dry eye disease sign) and dry eye disease field trials (environmental exposure) trials for symptoms.

No manufacturing or safety issues were identified in the letter.

Regulatory review 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, the availability of clinical research facilities and staffing, and the ability to recruit patients. Topical ocular reproxalap is an investigational drug candidate that has been studied in more than 2,500 patients with no observed safety concerns; mild and transient instillation site discomfort is the most commonly reported adverse event in clinical trials.

Aldeyra is Well Positioned to Execute on Potential NDA Resubmission Milestones

With $101M in cash, cash equivalents, and marketable securities as of 12/31/2024, Aldeyra is well positioned to execute on potential NDA resubmission milestones.

- Top-line results from dry eye disease field and chamber clinical trials are expected in Q2 2025.
- The majority of the costs for the additional trials were incurred in 2024; total 2025 costs of trials are approximately $6M.
- Contingent on positive results and FDA discussions, NDA resubmission is anticipated mid-2025.
- The review period for the potential NDA resubmission expected to be six months.

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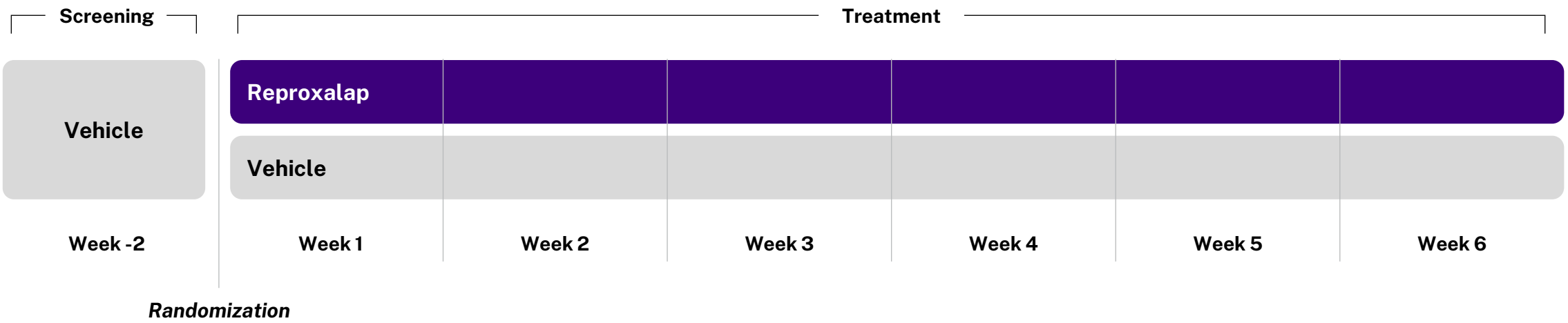
Dry Eye Disease Field Trial Design

Design	Randomized, double-masked, parallel group, vehicle-controlled, environmental exposure
Dosing	Reproxalap or vehicle Four-times-daily dosing for 4 weeks, followed by two-times-daily dosing for 2 weeks
Size	421 patients (approximately 210 per arm)
Primary Endpoint	Subject-reported ocular discomfort score from Week 1 to Week 6
Other Endpoints	Safety

Further information can be found on www.clinicaltrials.gov: Trial #NCT0642444.



Further information can be found on www.clinicaltrials.gov: Trial #NCT0642444.

Topical ocular reproxalap is an investigational new drug candidate that has been studied in more than 2,500 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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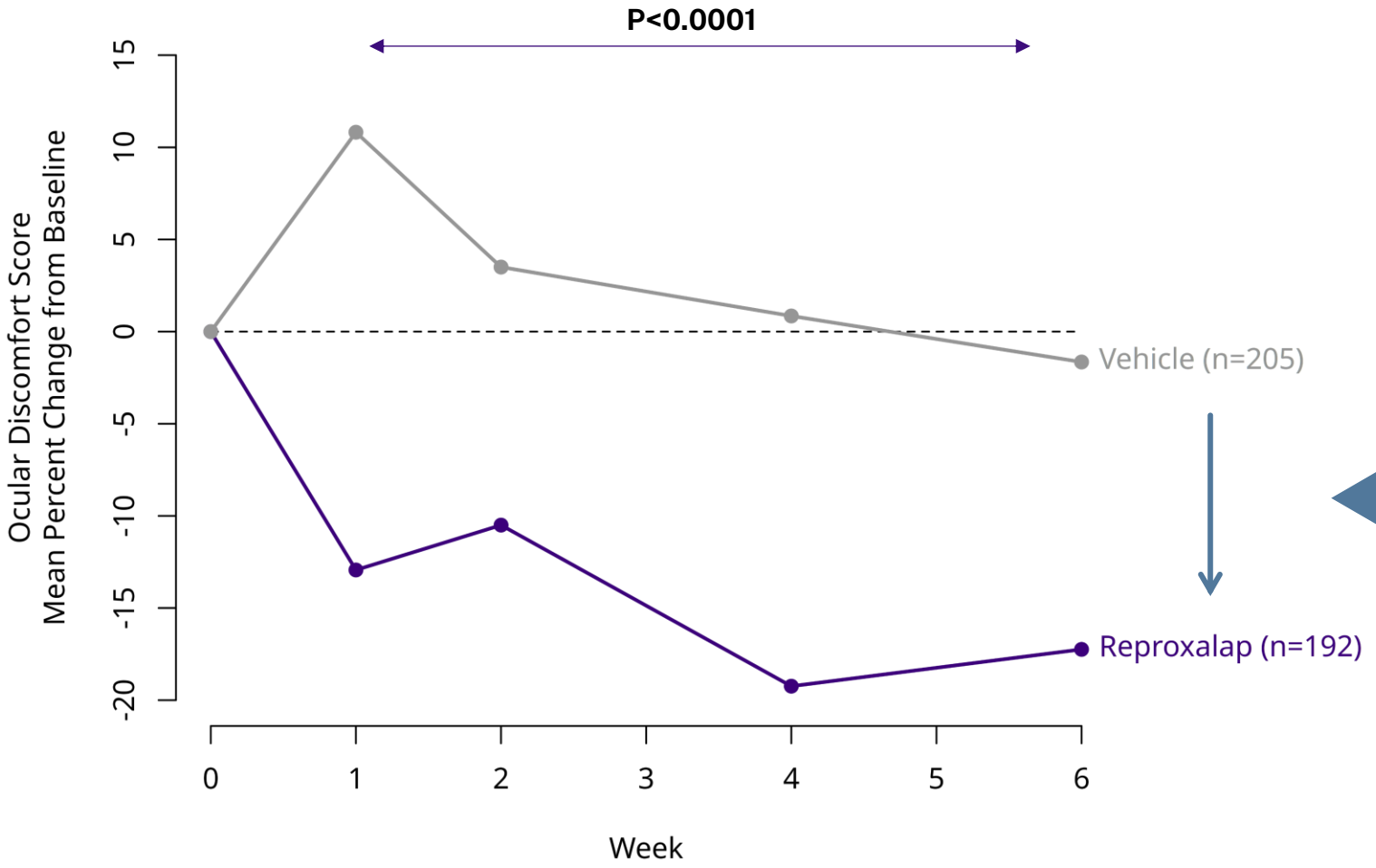
Pooled Data from Two Completed Field Trials Suggested Consistent Symptom Control Relative to Vehicle

Pooled Analysis
Weeks 1-6

RENEW-Part 1
(Induction-Maintenance)

Phase 2 Formulation



The reproxalap improvement from baseline was

10X

more than that of vehicle.

Topical ocular reproxalap is an investigational new drug candidate that has been studied in more than 2,500 patients with no observed safety concerns; mild and transient instillation site irritation is the most commonly reported adverse event in clinical trials. Prior results may not be indicative of results of ongoing or future trials involving our product candidates.

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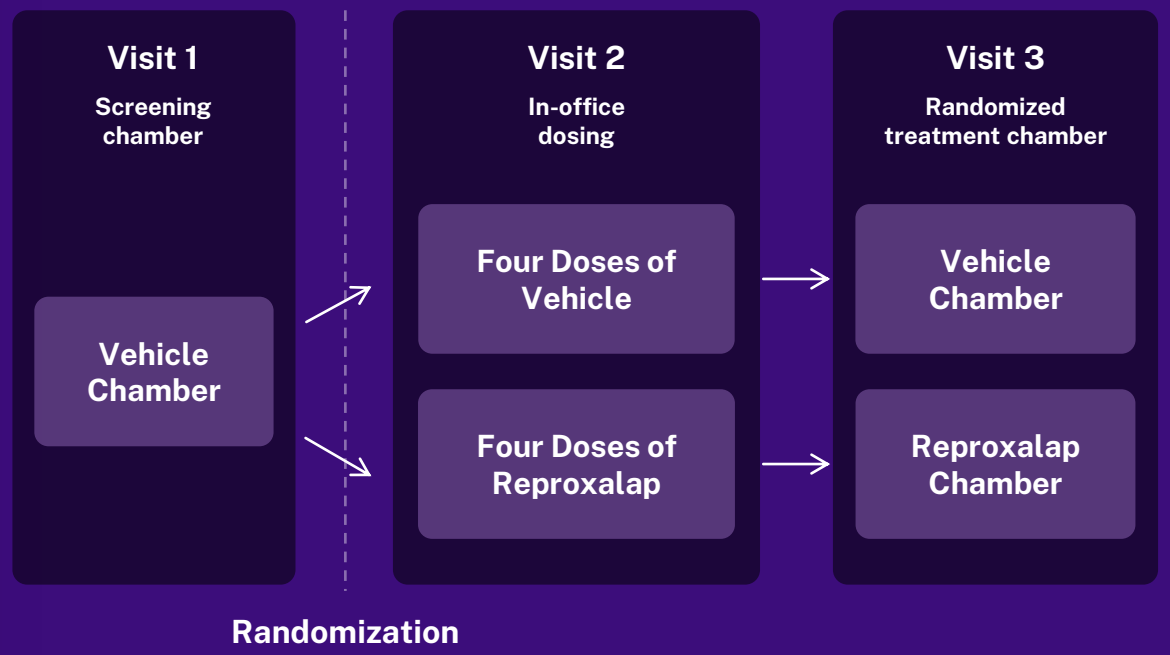
Dry Eye Disease Clinical Chamber Trial Design

Design	Randomized, double-masked, parallel-group, vehicle-controlled, dry eye chamber challenge
Dosing	• Visit 1: Screening vehicle dry eye chamber (dosing just before and 50 minutes after entry) • Visit 2: Four doses of randomized treatment (reproxalap or vehicle) • Visit 3: Randomized dry eye chamber (dosing just before and 50 minutes after entry)
Size	116 patients (approximately 58 per arm)
Primary Endpoint	Subject-reported ocular discomfort score from 80 to 100 minutes
Other Endpoints	Safety

Trial Schematic



Further information can be found on www.clinicaltrials.gov: Trial #NCT06389214.

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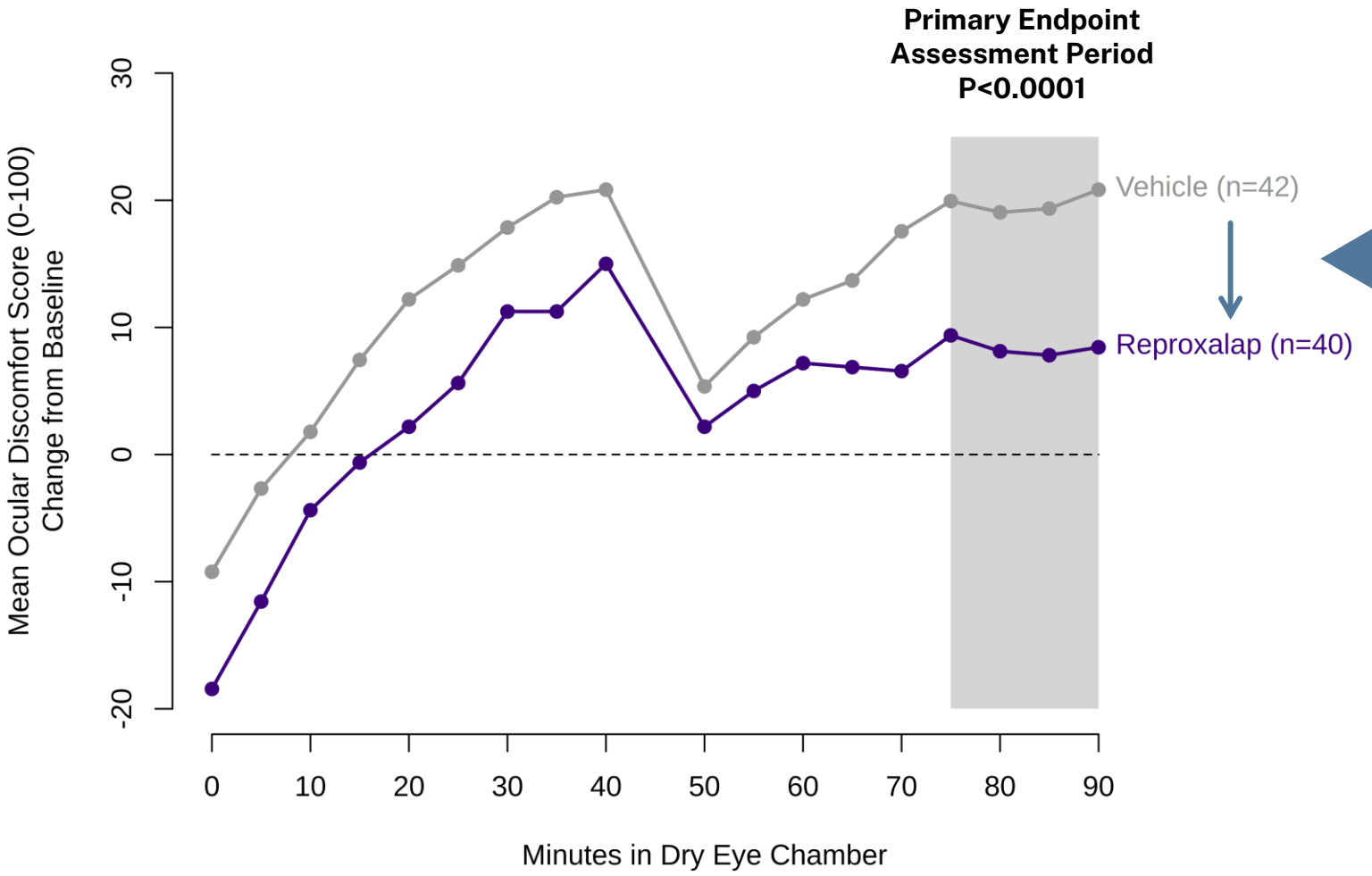
Pooled Data from Three Completed Trials in the Same Chamber as the Ongoing Trial Supported Rapid Activity of Reproxalap

Pooled Analysis

- Phase 2 Chamber Trial
- TRANQUIILITY
- TRANQUIILITY-2



The vehicle increase from baseline was **148%** higher than that of reproxalap.

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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 United States.†

†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 2,500 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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Clinical and Regulatory Milestones

- [ ] **Dry Eye Disease (Reproxalap)**
  Completion of Field and Chamber Trials Expected in Q2 2025
- [ ] **Dry Eye Disease (Reproxalap)**
  Potential NDA Resubmission Expected Mid-2025
- [x] **Allergic Conjunctivitis (Reproxalap)**
  Positive Phase 3 INVIGORATE 2 trial top-line results announced
- [x] **Atopic Dermatitis (ADX-248)**
  Phase 1 clinical trial initiated‡
- [ ] **Moderate Alcohol-Associated Hepatitis (ADX-629)**
  Open-label Phase 2 clinical trial top-line results expected in 2025‡
- [ ] **Retinitis Pigmentosa (ADX-2191)**
  Phase 2/3 clinical trial initiation expected in H1 2025‡
- [ ] **Dry Age-Related Macular Degeneration/Geographic Atrophy (ADX-631/ ADX-246)**
  Investigational New Drug application expected to be submitted in 2025
- [ ] **Sjögren-Larsson Syndrome (ADX-629)**
  Phase 2 clinical trial pediatric cohort top-line results expected in 2025
- [ ] **Obesity/Hypertryglyceridemia (ADX-743)**
  Investigational New Drug application expected to be submitted in 2025

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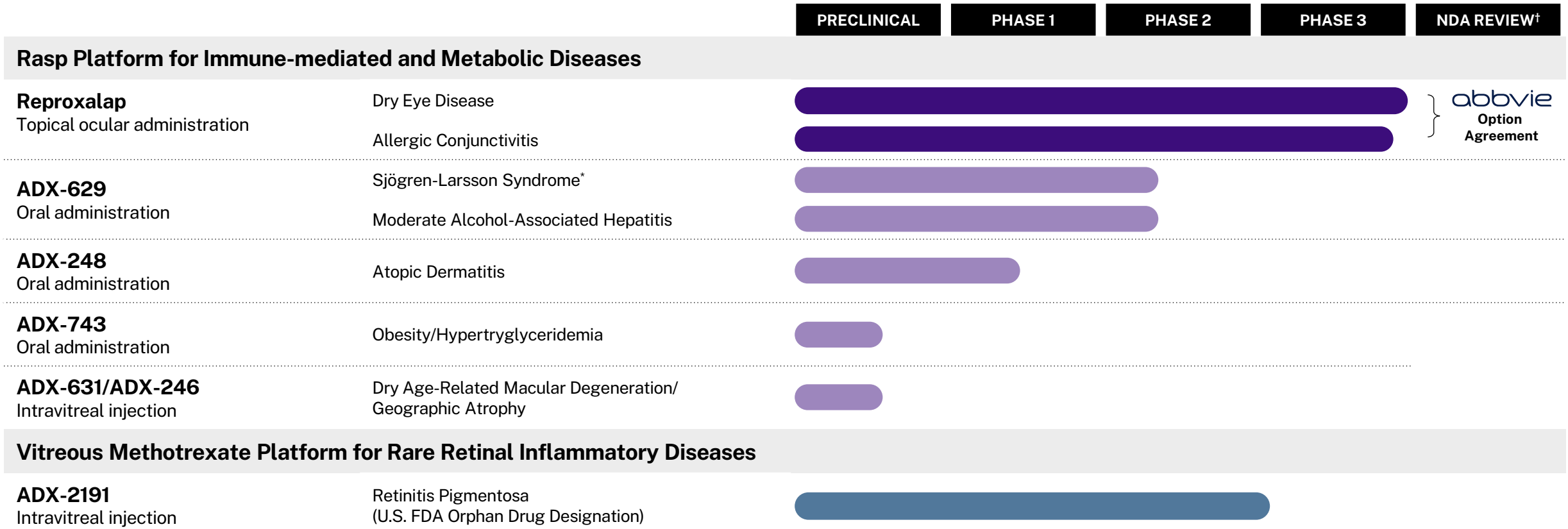
Aldeyra Is a Well-Capitalized Biotechnology Company with a Broad Immunology and Metabolic Pipeline



As of 12/31/2024, cash, cash equivalents, and marketable securities were $101.2M, which Aldeyra believes will be sufficient to fund the Company into 2027.‡

†Regulatory review timelines are flexible and subject to change based on the regulator's workload and other potential review issues. ‡Company guidance as of February 28, 2025; includes continued early and late-stage development of our product candidates in immune-mediated and metabolic diseases. Guidance has not been updated or confirmed since February 28, 2025 and does not include any potential licensing or product revenue associated with reproxalap. *Investigator sponsored.