Issuer Free Writing Prospectus
Filed Pursuant to Rule 433
Registration No. 333-193204
April 29, 2014

A Pharmaceutical Platform
Focused on Trapping Aldehydes

Forward-Looking Statements

- This presentation includes statements contains forward-looking statements that involve risks and uncertainties. In some cases, you can identify forward-looking statements by terms such as "may," "might," "will," "objective," "intend," "should," "could," "can," "would," "expect," "believe," "anticipate," "project," "target," "design," "estimate," "predict," "potential," "plan" or the negative of these terms, and similar expressions intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Forward-looking statements include, but are not limited to, statements about: our expectations regarding our expenses and revenue, the sufficiency of our cash resources and needs for additional financing; our anticipated growth strategies; our expectations regarding competition; the anticipated trends and challenges in our business and the market in which we operate; the timing and success of preclinical studies and clinical trials conducted by us and our development partners; the ability to obtain and maintain regulatory approval of our product candidates, and the labeling for any approved products; the scope, progress, expansion, and costs of developing and commercializing our product candidates; the size and growth of the potential markets for our product candidates and the ability to serve those markets; the rate and degree of market acceptance of any of our product candidates; our ability to establish and maintain development partnerships; our ability to attract or retain key personnel; our expectations regarding federal, state and foreign regulatory requirements; regulatory developments in the United States and foreign countries; our ability to obtain and maintain intellectual property protection for our product candidates; and our use of proceeds from this offering.
- Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Any forward-looking statement made by us in this presentation speaks only as of the date on which it is made. Except as required by law, we assume no obligation to update these statements publicly, or to update the reasons actual results could differ materially from those anticipated in these statements, even if new information becomes available in the future.
- Although we believe that we have a reasonable basis for each forward-looking statement contained in this presentation, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operation, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this presentation as a result of, among other factors, the factors referenced in the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of the prospectus contained in our Registration Statement on Form S-1 filed with the Securities and Exchange Commission for our proposed initial public offering, as amended (the "Registration Statement"). In addition, even if our results of operation, financial condition and liquidity, and the development of the industry in which we operate are consistent with the forward-looking statements contained in this presentation, they may not be predictive of results or developments in future periods.
- You should read carefully Registration Statement, including the factors described in the "Risk Factors" section of the prospectus contained in the Registration Statement, to better understand the risks and uncertainties inherent in our business and underlying any forward-looking statements.

Free Writing Prospectus Statement

- This presentation highlights basic information about us and the offering. Because it is a summary, it does not contain all of the information that you should consider before investing.

- We have filed a registration statement (including a prospectus) with the SEC for the offering to which this presentation relates. The registration statement has not yet become effective. Before you invest, you should read the prospectus in the registration statement (including the risk factors described therein) and other documents we have filed with the SEC for more complete information about us and the offering. You may get these documents for free by visiting EDGAR on the SEC Web site at http://www.sec.gov. The preliminary prospectus, dated April 25, 2014, is available on SEC Web site at http://www.sec.gov.

- Alternatively, we or any underwriter participating in the offering will arrange to send you the prospectus if you contact Aegis Capital Corp., Prospectus Department, 810 Seventh Avenue, 18th Floor, New York, NY 10019, telephone: 212-813-1010, e-mail: prospectus@aegiscap.com.

Offering Summary

Issuer	Aldeyra Therapeutics, Inc.
Exchange/Ticker	NASDAQ Capital Market / ALDX
Shares Offered	1,200,000 (100% primary)
Over-Allotment	15% or 180,000 (100% primary)
Price Range	$10.00 - $12.00
Use of Proceeds	Clinical development of NS2, working capital, and other general corporate purposes
Sole Book-Runner	Aegis Capital Corp.

Management and Directors

- **Todd Brady, M.D., Ph.D. – President, CEO, and Director**
  - Over 15 years of pharmaceutical business and clinical development
  - Domain Associates, Phenome Sciences, (acquired by Xanthus/Antisoma), Aderis Pharmaceuticals (acquired by Schwarz/UCB)
- **Scott Young – Chief Operating Officer**
  - Over 25 years of pharmaceutical clinical development
  - Genetics Institute, Genzyme, Oxigene, Repligen

Board of Directors

Boyd Clarke – former CEO Aviron (acquired by MedImmune)

Gary Phillips, M.D. – Chief Strategy Officer Mallinckrodt Pharmaceuticals

Ben Bronstein, M.D. – former CEO Peptimmune (acquired by Genzyme)

Neal Walker, D.O. – CEO Aclaris Therapeutics

Marty Joyce – former North American CFO of Serono Inc.
Jesse Treu, Ph.D. – Domain Associates

Todd Brady – CEO Aldeyra Therapeutics

Investment Highlights

Unique, Innovative Platform Technology to Trap Aldehydes

- Orphan and mass-market diseases in which toxic aldehydes are implicated

Modest Funding Required for Multiple Clinical Events

- $5M raise for clinical development of aldehyde traps: Phase II/III results for Sjögren-Larsson Syndrome and Phase II results for acute anterior uveitis in 2015
- Initiate one Phase II/III and one Phase II trials in 2014
- Lead compound in two topical indications: one dermal and one ocular

Large Markets with Significant Unmet Medical Need

- Markets for orphan indications are substantial, and positive data may suggest efficacy in a broad array of mass-market diseases

Strong Patent Portfolio of Compositions, Uses, and Formulations

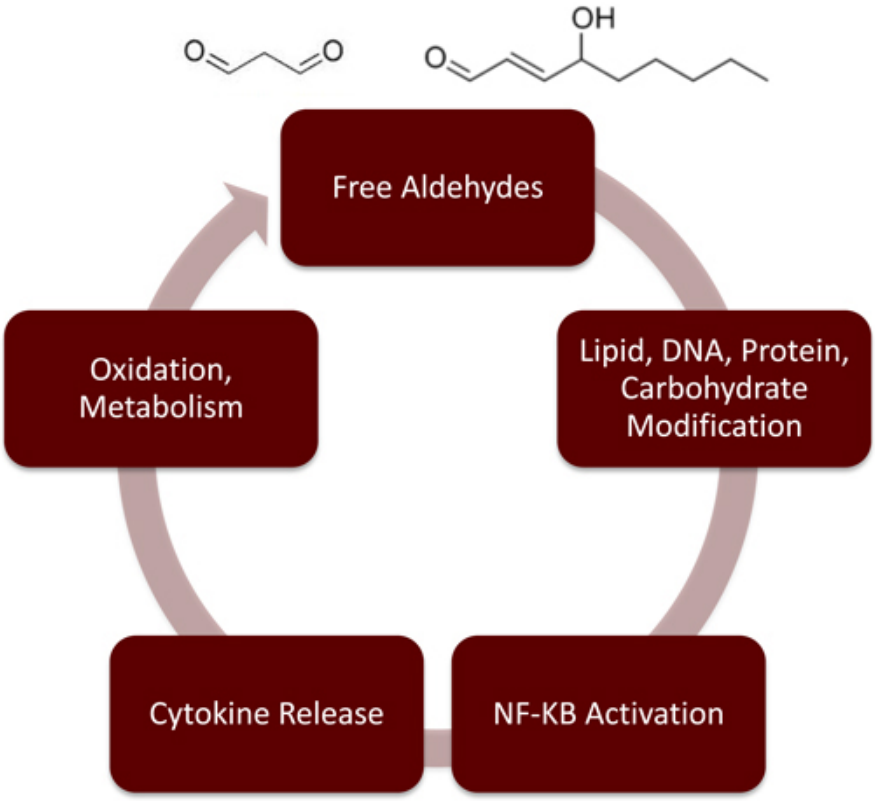
- Extend to late 2020s worldwide and to 2033 in US, assuming Hatch-Waxman extension

Marquee Investors Validate Science

- Johnson & Johnson Development Corporation and Domain Associates – one of the oldest and largest healthcare venture capital funds worldwide

Aldehydes Are Mediators of Disease

- Toxic mediators of numerous diseases
- Modify cellular constituents, lead to indigestible aggregates, and are pro-inflammatory
- Dehydrogenases attempt to eliminate free aldehydes
- High levels are implicated in autoimmune, inflammatory, neurological, cardiovascular and endocrinologic diseases



Aldehyde Traps: A Novel Therapeutic Approach

Aldehyde Binding
- Aldeyra's compounds rapidly trap free aldehydes

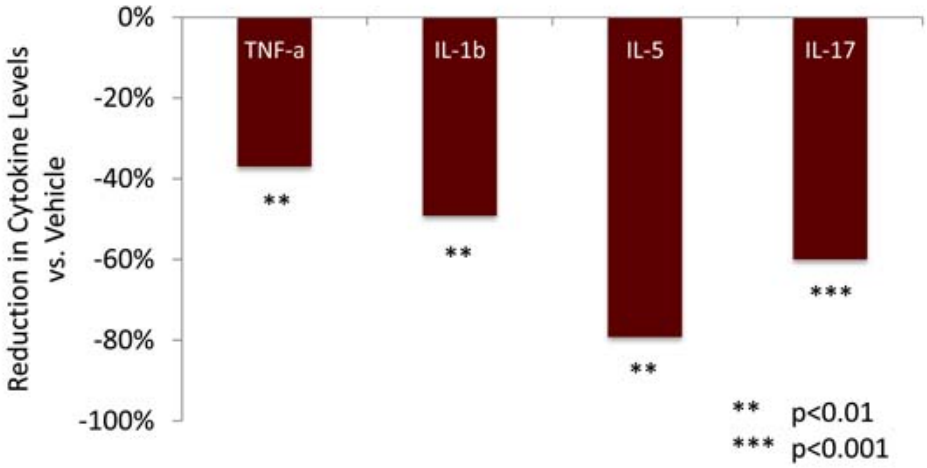
Adduct Transport
- Trapped aldehydes are transported to the lysosome

Cellular Disposal
- Drug and aldehydes are metabolized within hours

Aldeyra's lead aldehyde trap, NS2, appears to have minimal pharmacology; it does not seem to affect receptors or proteins. No similar technology believed to be available.

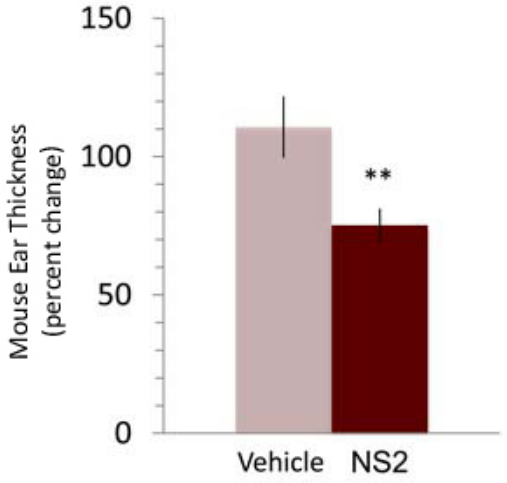
Trapping Aldehydes Generates a Broad Anti-Inflammatory Response

Mice treated with NS2 or vehicle 30 minutes prior to endotoxin exposure; cytokines measured two hours after endotoxin exposure

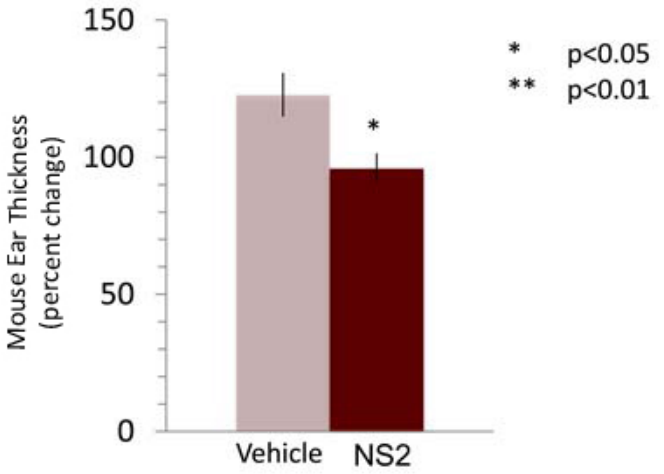


In an endotoxin model of cytokine generation in mice, NS2 administration significantly reduced levels of a broad array of pro-inflammatory cytokines.

NS2 Decreases Dermal Inflammation in Animal Models



Murine Model of **Contact Dermatitis** (PMA)
6.5 hours after NS2 Administration

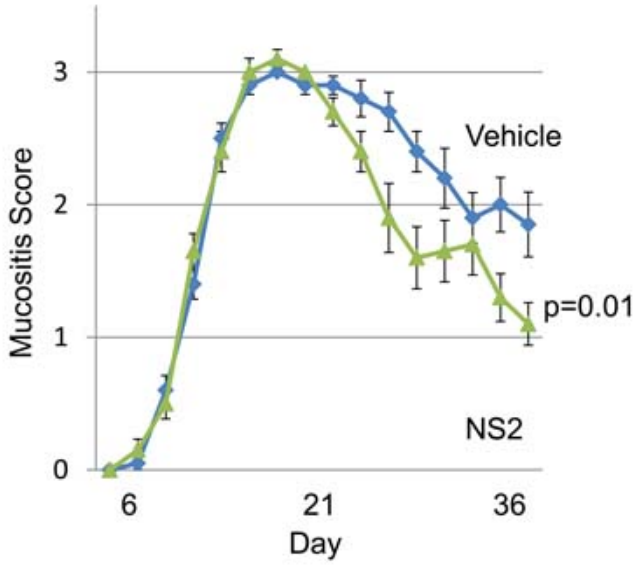


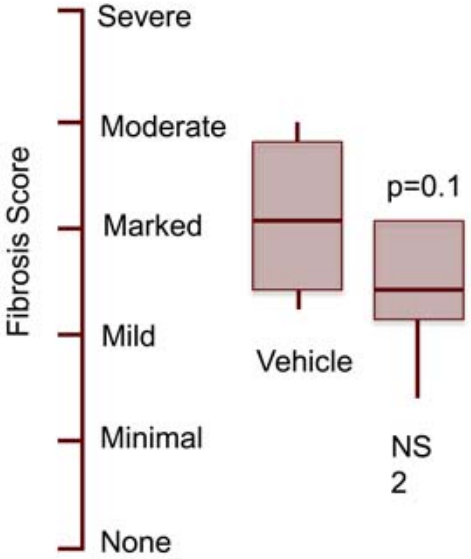
Murine Model of **Allergic Dermatitis** (Oxazolone)
24.5 hours after NS2 Administration

Single dose of NS2 has early and potent anti-inflammatory effect that reduces swelling in two different models of skin inflammation

NS2 Speeds Healing and Reduces Scarring of Lesions in Animal Models

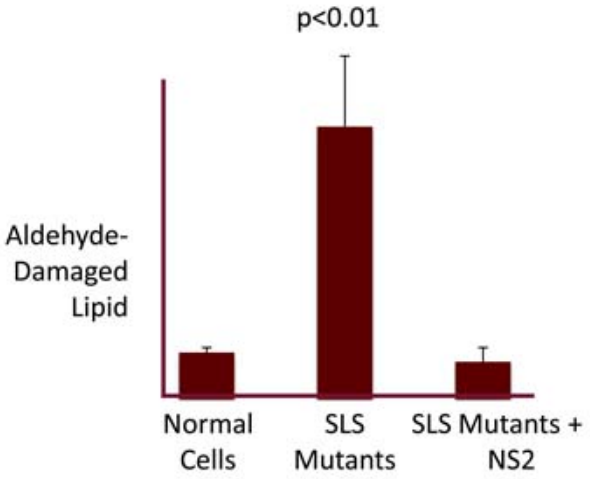
Hamster cheek pouch radiation-induced oral mucositis

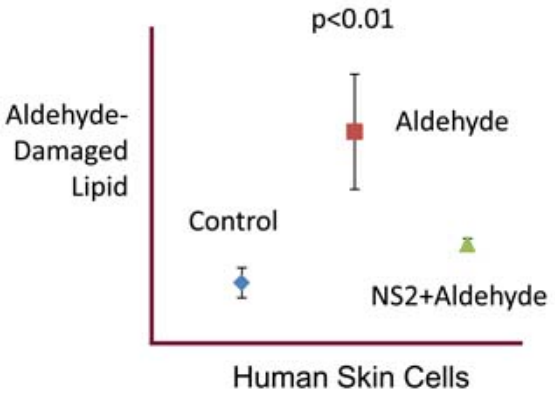




NS2 speeds lesion healing and reduces scarring in a model of skin and eye disease

NS2 Protects a Key Lipid Relevant to Skin and Eye Disease in Cell Systems

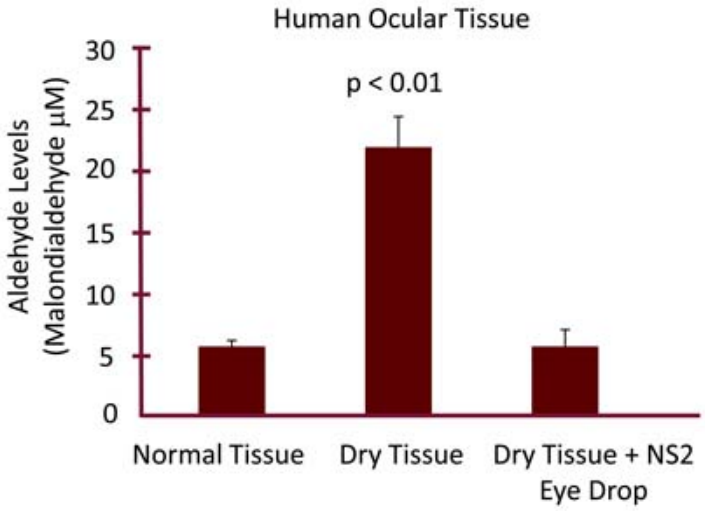


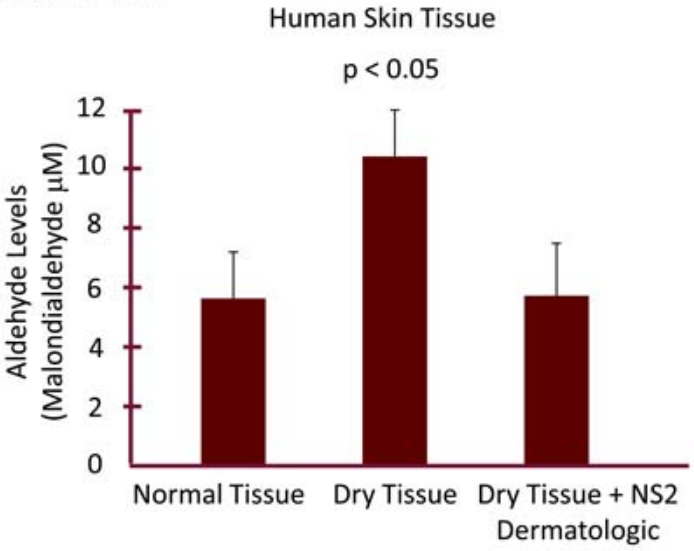


NS2 prevents aldehyde-mediated damage of lipid that is critical to dermal moisture barrier and ocular tear integrity

NS2 Traps Aldehydes Generated by Dry Conditions in Human Tissue

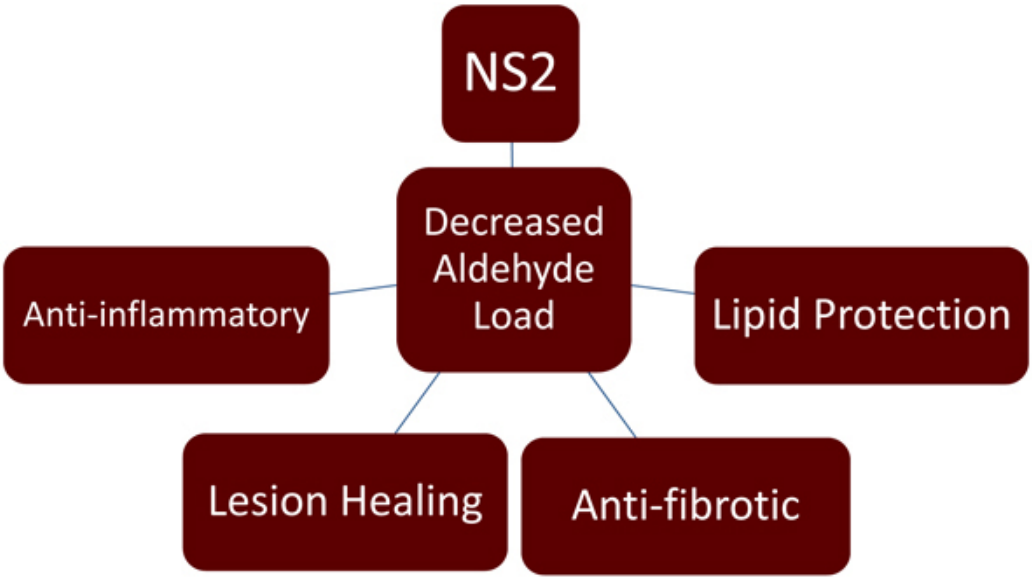
Malondialdehyde concentration in human tissues after 72 hours of NS2





Potential to reduce aldehyde-mediated damage in diseases characterized by dry tissue
(Including Sjögren-Larsson Syndrome and Ocular Rosacea with Meibomian Gland Dysfunction)

NS2 Summary of Efficacy: Multiple Mechanisms of Action



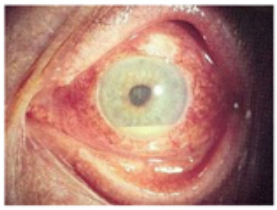
The same biological mechanisms may apply to many rare and prevalent diseases.

Positive NS2 Eye Drop Phase I Results

- 48 healthy volunteers
- Double masked and placebo controlled
- Two treatment stages for two drug concentrations:
  - Single day 0.25% & 0.5% *bid & qid*
  - Seven day 0.25% & 0.5% *qid*
- Eye drops were well tolerated in all treatment groups
- No plasma exposure detected by LC-MS/MS (<5 ng/ml)

NS2 is Phase II-ready as an eye drop

Acute Anterior Uveitis: A Rare Inflammatory Ocular Disease



- **Uveitis**
  - Acute anterior ocular inflammation
  - Pain, photophobia, loss of vision
  - Estimated 25,000 US patients/year

Aldehydes are inflammatory mediators of ocular diseases, and can lead to degradation of tear quality

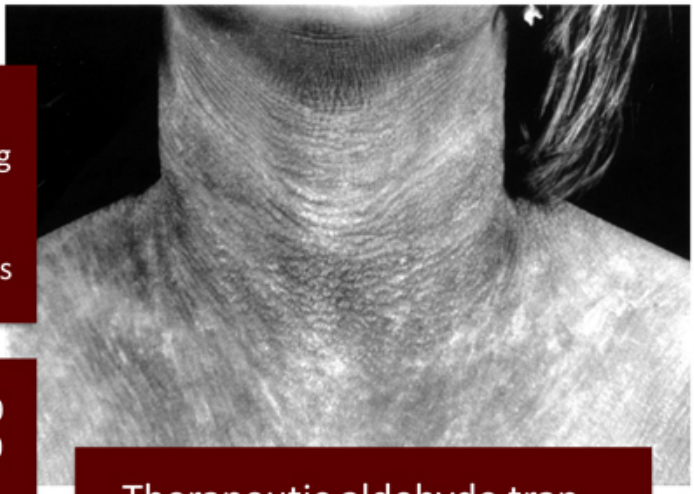
Anticipated Clinical Trial Designs for Ocular Disease

	Acute Anterior Uveitis
Formulation	Eye Drop
Control	Active 1:1
Total Patients	40-45 Patients
Treatment Time	8 weeks
Endpoints	Cell Counts, Symptoms

Sjögren-Larsson Syndrome (SLS): A Rare Disease with No Approved Therapy

Rare disease caused by mutation in Fatty Aldehyde Dehydrogenase, leading to high levels of toxic aldehydes

Symptoms include severe skin thickening (ichthyosis), retinal disease, and neurological disorders



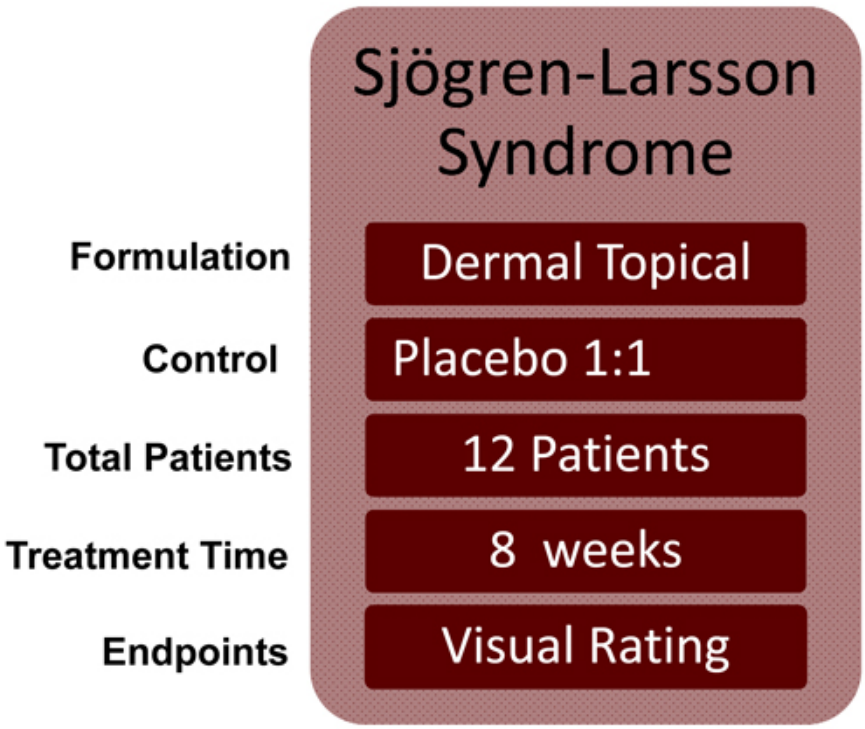
Diagnosed at birth, but no approved therapy that addresses disease; patients survive into 50s

Estimated 1/250,000 people = about 1000 patients in US and a greater number in Europe (1)

Therapeutic aldehyde trap would be analogous to an enzyme replacement therapy

(1) Extrapolating from a Swedish estimate, it is generally assumed that there are approximately 1,000 SLS patients in the United States and a greater number of SLS patients in Europe.

Anticipated Clinical Trial Designs For Dermatologic Disease



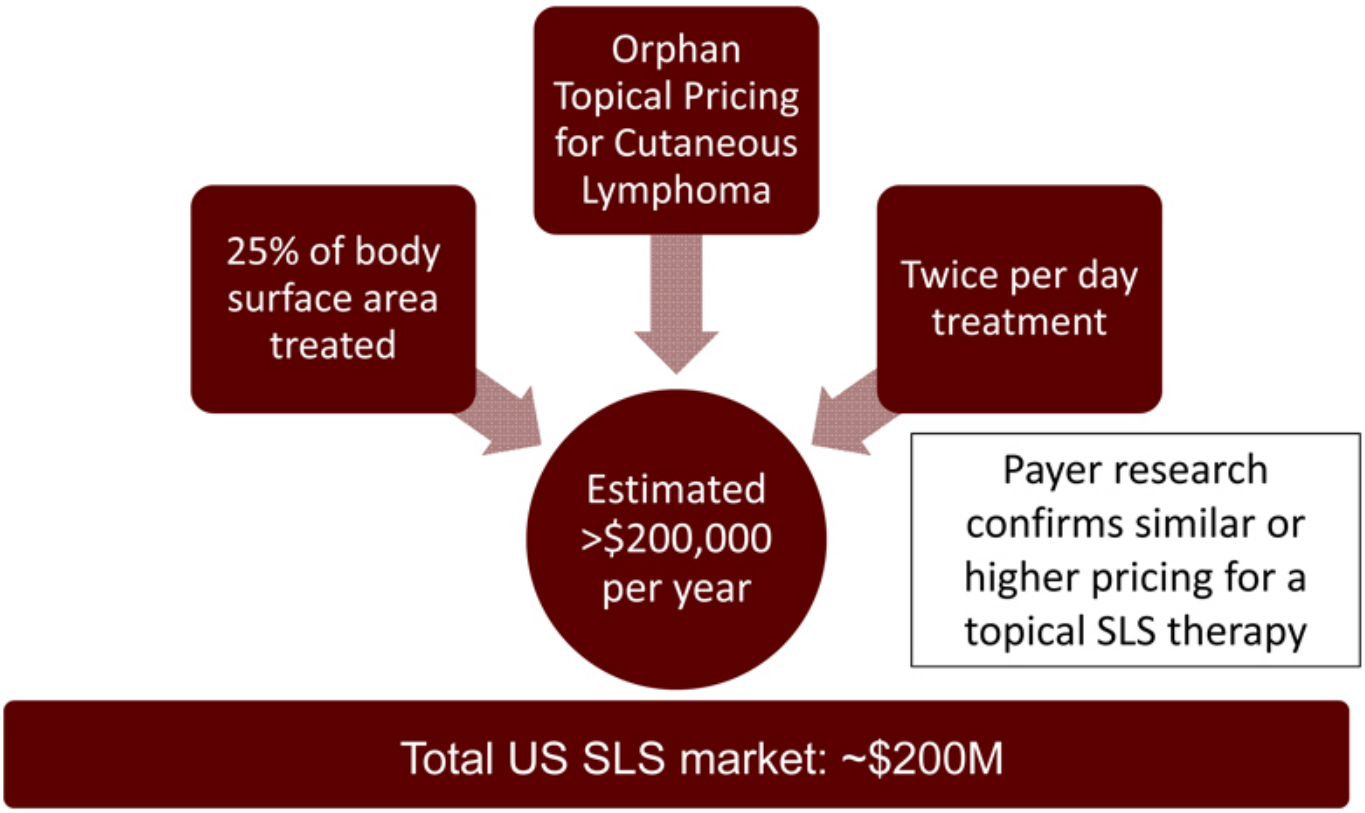
Unmet Medical Need for Our Clinical Indications

Market demand is substantial for a novel therapy that is safe and effective in the indications that we intend to develop

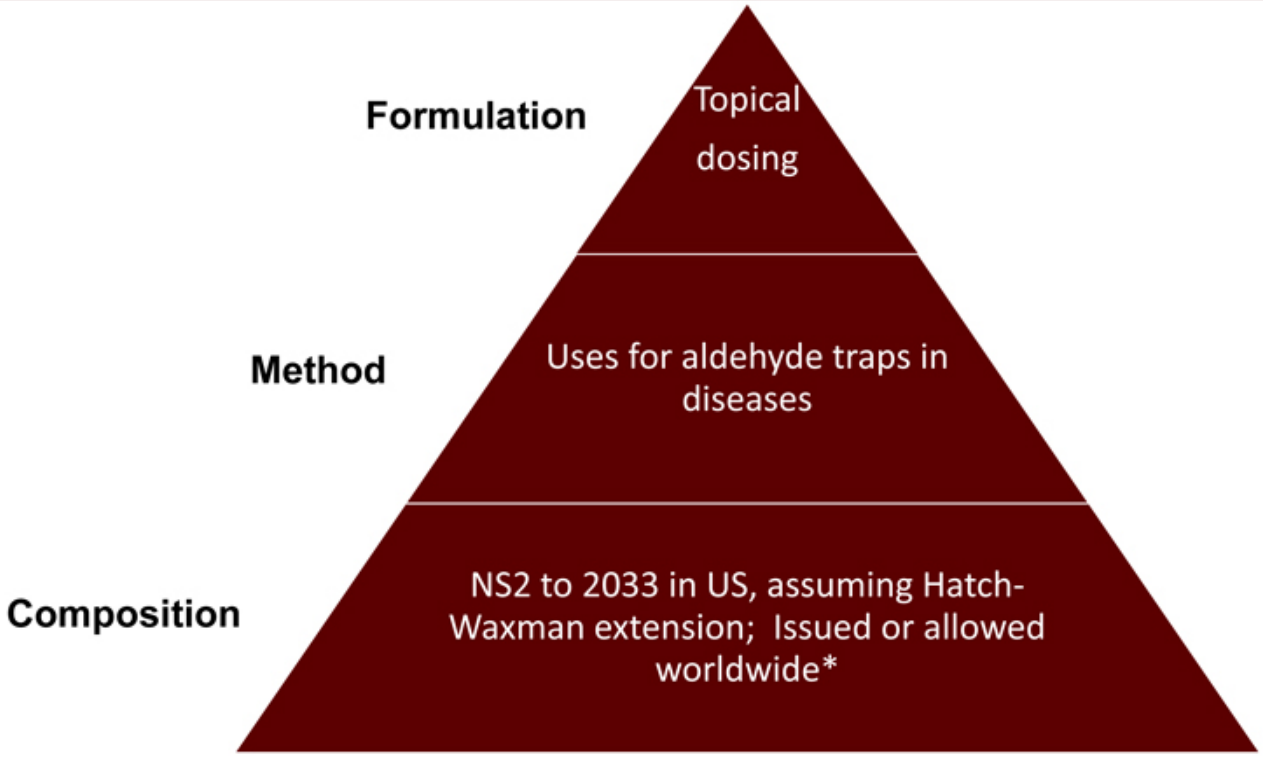
There is no FDA-approved therapy for Sjögren-Larsson Syndrome

Therapies for acute anterior uveitis are associated with significant side effects

Orphan Topical: Attractive Pricing, Large Market



Intellectual Property Portfolio: Composition of Matter into the 2030s



*Pending in Brazil, India

Orphan Disease Company Valuation Comparables

Company	Stage	Diseases in Phase II or III Clinical Trials	Valuation
Aldeyra Therapeutics (ALDX)	Phase II	2 (1)	$66M (midpoint post-money)
Bluebird Bio (BLUE)	Phase II	2	$649M
Sarepta Therapeutics (SRPT)	Phase II	1	$1.1B
Ultragenyx (RARE)	Phase II	2	$1.8B
Synageva BioPharma (GEVA)	Phase III	1	$3.1B
Intercept Pharmaceuticals (ICPT)	Phase III	4	$8.6B

Orphan disease-focused biotechnology companies are highly valued, but Aldeyra has potential to expand to prevalent diseases as well.

(1) Anticipated by end of 2014, pending FDA review, among other contingencies.

Data as of 3/20/14

Pre-IPO Capital Structure

Capitalization	Shares Outstanding	% Outstanding
Common Stock (1)	3,970,164	85%
Stock Options (2)	609,842	13%
Warrants (3)	107,394	2%
Fully-Diluted Shares Outstanding	4,687,400	100%

(1) Includes Preferred Stock to be converted to Common Stock at IPO
(2) Does not include 155,148 options to be granted at IPO
(3) To be net-exercised at IPO; does not include underwriter warrants

Use of Proceeds and News Flow

- Research and Development: $5M
  - Orphan designations, IND filings, and additional pre-clinical data and publications
  - Phase II/III for Sjögren-Larsson Syndrome (SLS)
  - Phase II for acute anterior uveitis
- Working capital and other general corporate purposes

Data from all trials expected in 2015

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