Astria Corporate Presentation

February 2024

Forward Looking Statements

This presentation contains forward-looking statements within the meaning of applicable securities laws and regulations including, but not limited to, statements regarding: our expectations regarding the potential significance of the results from the Phase 1a clinical trial of STAR-0215; our expectations regarding the timing, nature, goals and results of our Phase 1b/2 ALPHA-STAR clinical trial of STAR-0215, including the expected timing of release of proof-of-concept data, and that favorable results from such trial could allow us to move directly into a Phase 3 trial of STAR-0215 as a potential treatment for hereditary angioedema (HAE); the expected timing of initiation of a Phase 3 trial of STAR-0215; the potential best-in-class profile of STAR-0215, the potential therapeutic benefits of STAR-0215 as a treatment for HAE and our vision and goals for the STAR-0215 program; the potential best-in-class profile of STAR-0310 and the potential therapeutic benefits and potential attributes of STAR-0310 as a treatment for atopic dermatitis (AD); expectations regarding the timing of regulatory filings for STAR-0310; expectations regarding the timing of initiation and planned design of clinical trials for STAR-0310 in AD; expectations regarding the timing and nature of anticipated data from planned trials of STAR-0310; our goals and vision for STAR-0310; the potential commercial opportunity for STAR-0310 in AD and the likelihood that it can effectively compete in AD, assuming it is approved; the plans to develop STAR-0310 for additional indications and the timing of clinical trials for such potential indications; the expected growth and evolution of the AD market and comparisons of the AD market to analog markets; anticipated cash runway; and our corporate strategy and vision, including the goal to meet the unmet needs of patients with rare and niche allergic and immunological diseases. The use of words such as, but not limited to, "anticipate," "believe," "continue," "could," "estimate," "expect," "goals," "intend," "may," "might," "plan," "potential," "predict," "project," "should," "target," "will," "would," or 'vision," and similar words expressions are intended to identify forward-looking statements. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on Astria's current beliefs, expectations and assumptions regarding the future of its business, future plans and strategies, future financial performance, results of pre-clinical and clinical results of the Astria's product candidates and other future conditions. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including risks and uncertainties: changes in applicable laws or regulations; the possibility that we may be adversely affected by other economic, business, and/or competitive factors; risks inherent in pharmaceutical research and development, such as: adverse results in our drug discovery, preclinical and clinical development activities, the risk that the results of preclinical studies may not be replicated in clinical trials, that the preliminary or interim results from clinical trials may not be indicative of the final results, that the results of early stage clinical trials, such as the results from the STAR-0215 Phase 1a clinical trial, may not be replicated in later stage clinical trials, including the ALPHA-STAR trial, the risk that we may not be able to enroll sufficient patients in our clinical trials on a timely basis, and the risk that any of our clinical trials may not commence, continue or be completed on time, or at all; decisions made by, and feedback received from, the U.S. Food and Drug Administration and other regulatory authorities on our regulatory and clinical trial submissions and other feedback from potential clinical trial sites, including investigational review boards at such sites, and other review bodies with respect to STAR-0215, STAR-0310, and any other future development candidates; our ability to manufacture sufficient quantities of drug substance and drug product for STAR-0215, STAR-0310, and any other future product candidates on a cost-effective and timely basis, and to develop dosages and formulation for STAR-0215, STAR-0310, and any other future product candidates that are patient-friendly and competitive; our ability to develop biomarker and other assays, along with the testing protocols therefore; our ability to obtain, maintain and enforce intellectual property rights for STAR-0215, STAR-0310 and any other future product candidates; our potential dependence on collaboration partners; competition with respect to STAR-0215, STAR-0310, or any of our other future product candidates; the risk that survey results, modeling data and market research may not be accurate predictors of the commercial landscape for HAE, the ability of STAR-0215 to compete in HAE and the anticipated position and attributes of STAR-0215 in HAE based on clinical data to date, its preclinical profile, pharmacokinetic modeling, market research and other data; risks that any of our clinical trials of STAR-0310 may not commence, continue or be completed on time, or at all; risks that results of preclinical studies of STAR-0310 will not be replicated in clinical trials; risks with respect to the ability of STAR-0310 to compete in AD and the anticipated position and attributes of STAR-0310 in AD based on its preclinical profile; our ability to manage our cash usage and the possibility of unexpected cash expenditures; our ability to obtain necessary financing to conduct our planned activities and to manage unplanned cash requirements; the risks and uncertainties related to our ability to recognize the benefits of any additional acquisitions, licenses or similar transactions; and general economic and market conditions; as well as the risks and uncertainties discussed in the "Risk Factors" section of our Quarterly Report on Form 10-Q for the period ended September 30, 2023 and in other filings that we may make with the Securities and Exchange Commission.

New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Astria may not actually achieve the forecasts or expectations disclosed in our forward-looking statements, and investors and potential investors should not place undue reliance on Astria's forward-looking statements. Neither Astria, nor its affiliates, advisors or representatives, undertake any obligation to publicly update or revise any forward-looking statement, whether as result of new information, future events or otherwise, except as required by law. These forward-looking statements should not be relied upon as representing Astria's views as of any date subsequent to the date hereof.

Investment Highlights

Astria (Nasdaq: ATXS) is developing first-choice therapeutics for patients with allergic and immunological diseases

Our lead program, **STAR-0215**, is a monoclonal antibody inhibitor of plasma kallikrein for the preventative treatment of Hereditary Angioedema (HAE)

- STAR-0215 has shown early proof of concept for its target profile: long-acting preventative therapy, best-in-class PK profile, and dosing once every 3 and 6 months

Phase1b/2 ALPHA-STAR trial in HAE patients is underway and is enrolling and administering STAR-0215 to patients. Initial proof-of-concept results expected in Q1 2024

Our second program, **STAR-0310**, is a potential best-in-class OX40 program for AD with the goal to expand into additional indications. Anticipate IND submission by YE 2024 and Ph 1a initiation Q1 2025

Expected cash runway into mid-2027 based on current operating plan[1]

1. Current operating plan includes the development of STAR-0215 and STAR-0310, including (i) for STAR-0215, support for all program activities up to the completion of a planned Phase 3 pivotal trial and (ii) for STAR-0310, the anticipated submission of an IND and the initiation and completion of the planned Phase 1a clinical trial of healthy subjects (and any related anticipated milestone payments).

Our Strategy for Astria

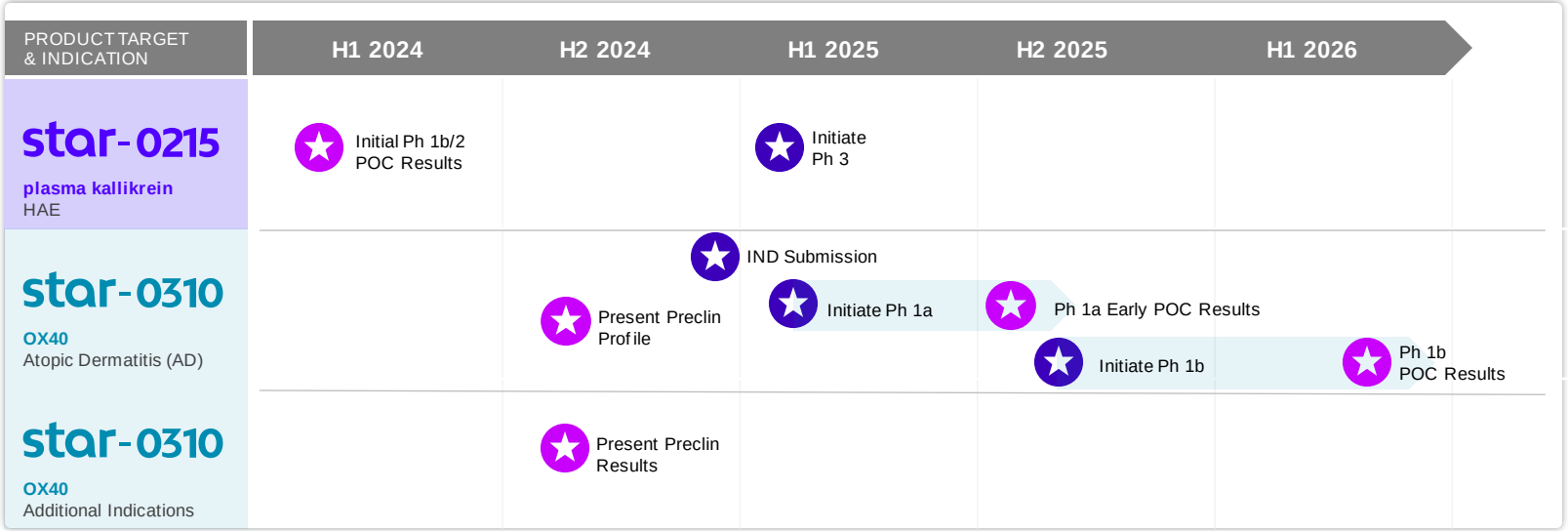
star -0215

Vision for lead program **STAR-0215** is to be the first-choice preventative treatment to help normalize the lives of **hereditary angioedema (HAE)** patients

star -0310

Potential best-in-class OX40 program, **STAR-0310**, for **atopic dermatitis (AD)** and expansion into additional allergic and immunological indications

Multiple Anticipated Milestones in the Next Two Years Including POC Data in HAE Patients in Q1 2024



Results

Clinical/ Regulatory milestones

Anticipated Milestones

STAR-0215
- Q1 2024: Initial POC results in HAE patients
- Q1 2025: Phase 3 pivotal trial initiation if positive POC results

STAR-0310
- YE 2024: IND submission
- Q3 2025: Ph 1a early POC results
- Q2 2026: POC results in AD patients

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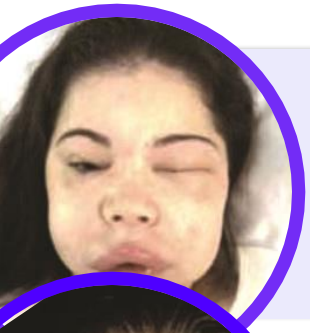
Hereditary Angioedema (HAE): A Rare, Disfiguring, and Potentially Life-Threatening Disease



Rare genetic disorder characterized by severe, unpredictable, sometimes **life-threatening** swelling[1]

Affects **<8,000 in the U.S. and <15,000 in Europe,**[2,3,4] average age of onset is 11 years old[5]

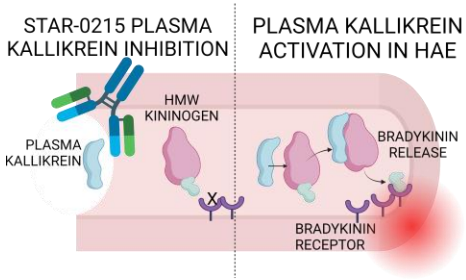
> "[During a laryngeal attack] it starts to be difficult to swallow and then your voice changes, and then you have to make the decision- am I going to go to the hospital? Because certainly [doctors] would say you should- because you never know if the rescue medication is going to work."

1. Zuraw BL. N Engl J Med. 2008;359:1027-36.
2. Busse, P.J. et al. N Engl J Med. 2021; 132-150.
3. Lumry, W.R. Front Med. 2018; 5, 22.
4. Aygören-Pürsün, E. et.al. Orphanet j Rare Dis. 2018; 13:73.
5. Bork K, et al. Am J Med. 2006;119;267-274.
6. Images obtained by haeimages.com

STAR-0215
Potential First-Choice Preventative Treatment in HAE

Validated Mechanism

Inhibition of plasma kallikrein leverages the same mechanism as market leader TAKHZYRO® (lanadelumab)



Vision to Become the First-Choice Preventative

- Goal: reduce disease and treatment burden to normalize lives
- Current treatments have high burden of administration or limited efficacy

Differentiated profile

- YTE extended half-life supports Q3 and Q6 month dosing
- High-concentration formulation for self-administration
- Citrate-free to reduce pain

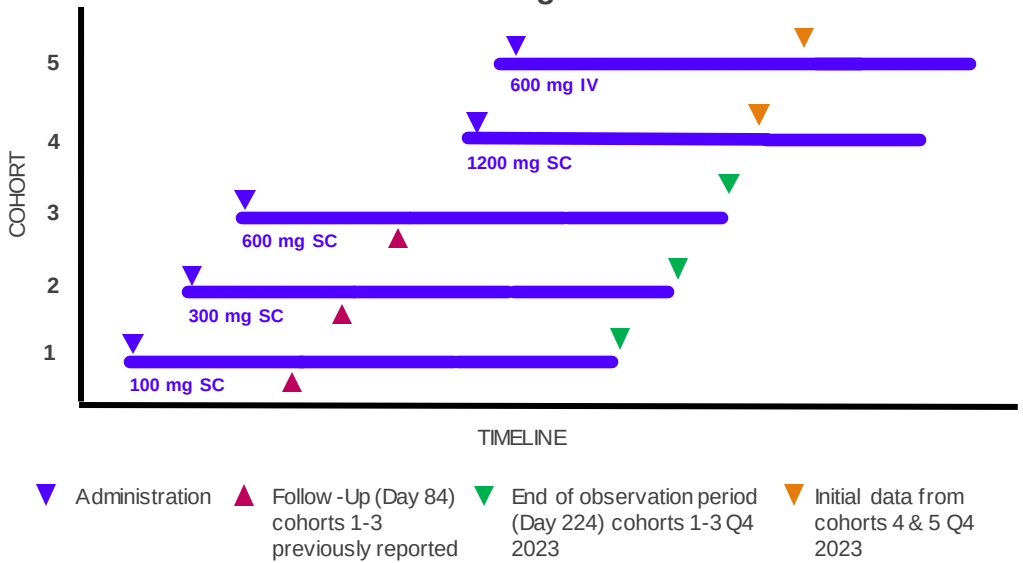
Encouraging clinical results

- Potential best-in-class PK profile with long plasma half-life
- Sustained inhibition of plasma kallikrein

STAR-0215 Phase 1a Trial

- **Randomized, double-blind, placebo-controlled in healthy adult subjects (n=41)**
  - 5 single ascending doses (6:2 randomization)
  - Endpoints: Safety, tolerability, PK, PD, ADA
- **Results include safety and tolerability, PK, and PD through:**
  - 224 days for cohorts 1-3
  - 112 days for cohort 4
  - 84 days for cohort 5
- **Results and modeling support Q3 and Q6 month dosing**

Phase 1a Trial Design Schematic



SC = subcutaneous; PK = pharmacokinetic; PD = pharmacodynamic; ADA = anti-drug antibody

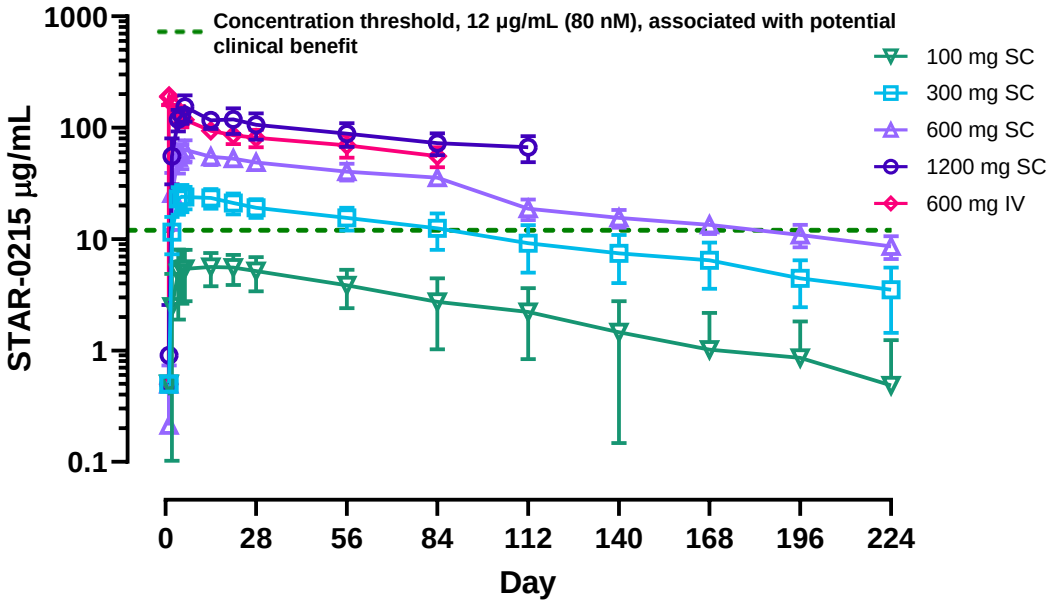
STAR-0215 Phase 1a Results Show Best-in-Class Pharmacokinetic Profile

Rapid and sustained increases in STAR-0215:

- Concentrations >12 µg/mL achieved ~11 h after 600 mg SC dose
- Concentrations remained >12 µg/mL after all single doses (except 100 mg SC) for >84 D
- Estimated half-life of up to 127 days

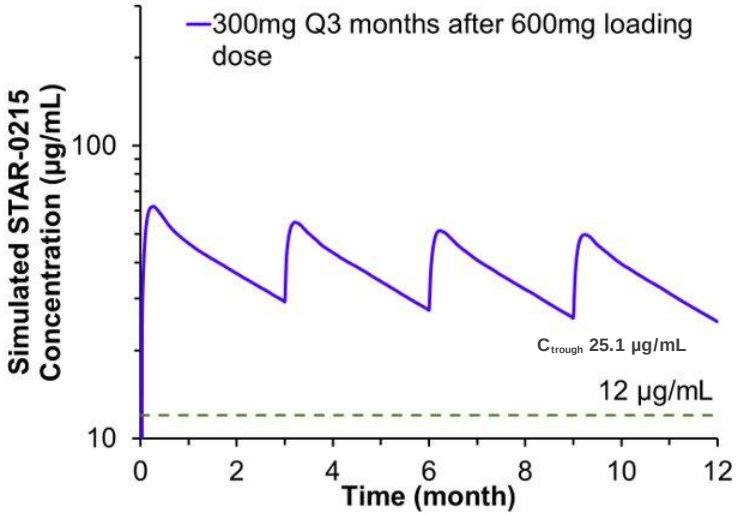
Favorable safety and tolerability:

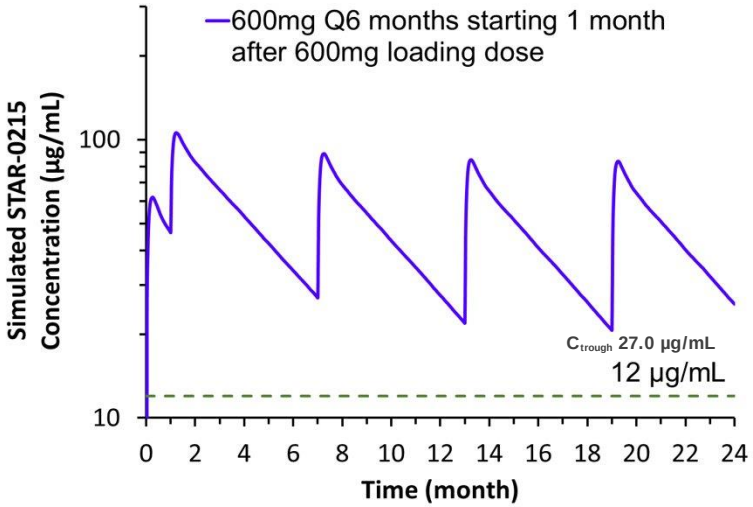
- No serious adverse events or discontinuations due to an adverse event
- Most common treatment-emergent adverse events included injection site reactions of erythema, pruritus, and swelling



Treatment-emergent anti-drug antibodies (ADAs) observed in 6 subjects from completed cohorts, all occurring after Day 84. Assessment of ADA impact on PK/PD is ongoing.

STAR-0215 Expected to Sustain Exposure Above Target Threshold with Both Q3 and Q6 Month Dosing

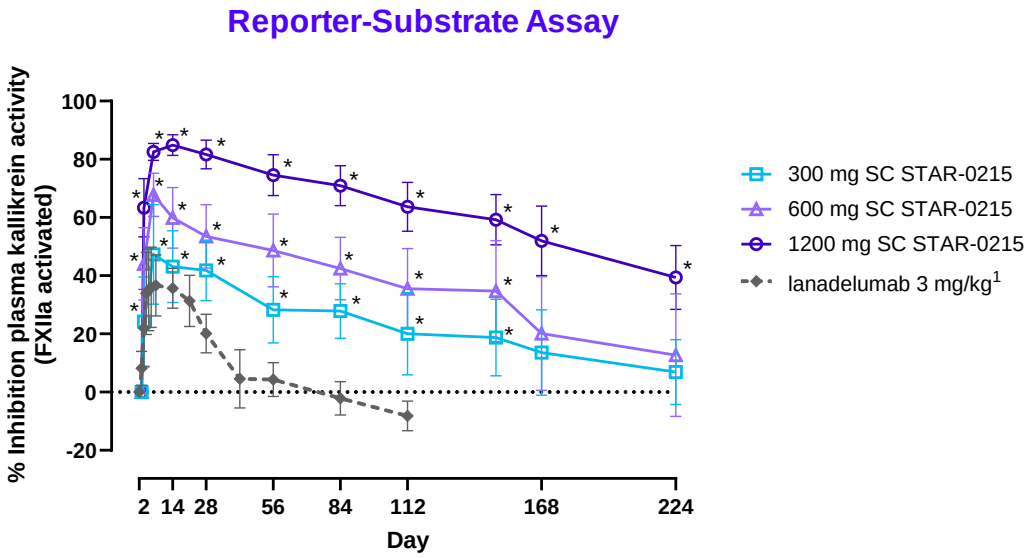




- C_{trough} steady-state concentrations remain above target threshold (12 µg/mL) associated with clinical benefit[1-3]

1. Kaufman 1991 June 15. Blood 77(12): 2660-2667
2. Wang et al. Clin Transl Sci. 2020 Nov, 13(6): 1208-1216. doi 10-1111/cts. 12806 Epub 2020 May 26.
3. Ecallantide EMA Assessment Report. 2011 June 23. EMA/CHMP/476618/2011

STAR-0215 Phase 1a Results Demonstrated Rapid and Sustained Inhibition of Plasma Kallikrein



- **Statistically significant inhibition of plasma kallikrein activity observed through day 140 after single doses of 300 mg SC and 600 mg SC, and through Day 224 after single doses of 1200 mg SC**
- **For STAR-0215, % inhibition is maintained through at least D84 after single doses at levels greater than or similar to those achieved by lanadelumab at peak**
- **Plasma kallikrein inhibition assessed by western blot assay of cHMWK are consistent (data pending for 1200 mg cohort through day 224).**

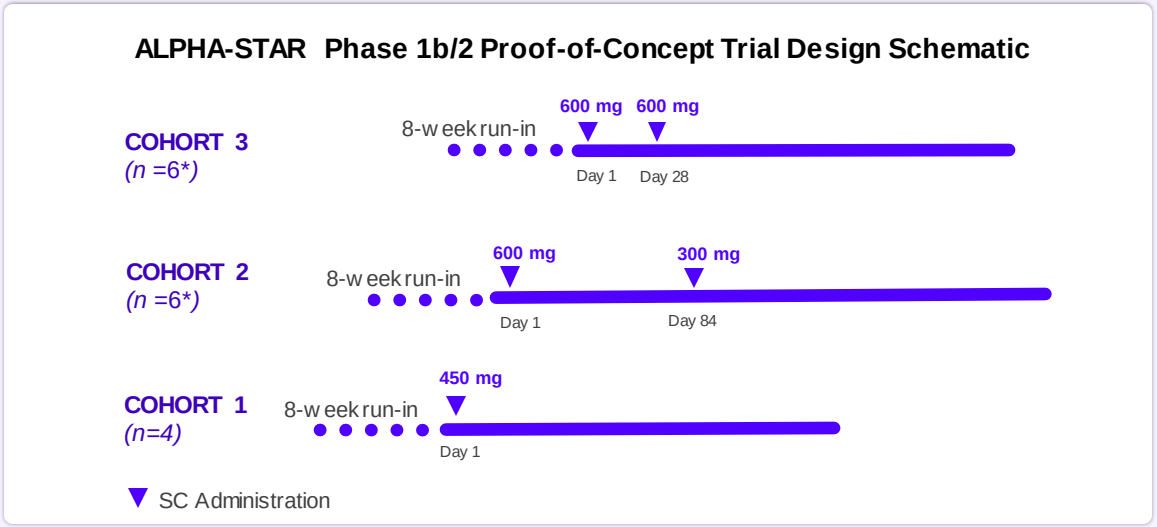
Pkal = plasma kallikrein. Ex vivo FXIIa-activated changes in pkal activity, assessed with a reporter-substrate assay.

1. Chyung et al (2014) Ann Allergy Asthma Immunol 113 (2014) 460-. FXIIa-activated inhibition of pkal in healthy adult subjects after single doses. Lanadelumab 3 mg/kg approximates the clinical dose of 300 mg.

The comparison presented between STAR-0215 and lanadelumab represents a cross-trial comparison and does not involve data from a head-to-head clinical trial

* $p < 0.05$

ALPHA-STAR Trial Initial Proof-of-Concept Results Expected Q1 2024



- **Three dose-ranging cohorts* designed to show proof of concept**
  - Assessing safety and tolerability, PK, PD, HAE attack rate, and quality of life
- **Pending positive ALPHA-STAR results, expect to initiate a pivotal Phase 3 trial in Q1 2025**
- **ALPHA-SOLAR: data accruing in participants who have received multiple doses of STAR-0215**

Cohorts planned to be opened sequentially
*Up to 6 additional participants may be added to Cohorts 2 and/or 3; additional cohorts may be added
For more detailed information, visit www.clinicaltrials.gov, NCT05695248

STAR-0215: Potential First-Choice for HAE Patients and Physicians

Strong data from Phase 1a trial in healthy subjects that supports potential best-in-class profile

Proven MOA and trusted modality- the same as the current market leader- provides confidence for patients and physicians

Rapid and durable protection against HAE attacks based on Phase 1a results

Patient-friendly administration with citrate-free formulation for low pain and SC self-administration

Plan to develop Q3 and Q6 month dose options and prioritize Q3 month clinical development given faster expected development timelines

Atopic Dermatitis Is a Complex Chronic Disease with Insufficient Therapies[1]

Immune disorder associated with **loss of skin barrier function and itching**. AD is caused by diverse mechanisms, spanning the spectrum of T cell-driven pathology[2].

Approximately 90% of patients develop the disease within the **first 5 years of life**[3]. Estimated to **affect 5% (16 million) of adult population in the US**, approximately half are reported to be moderate or severe[4].

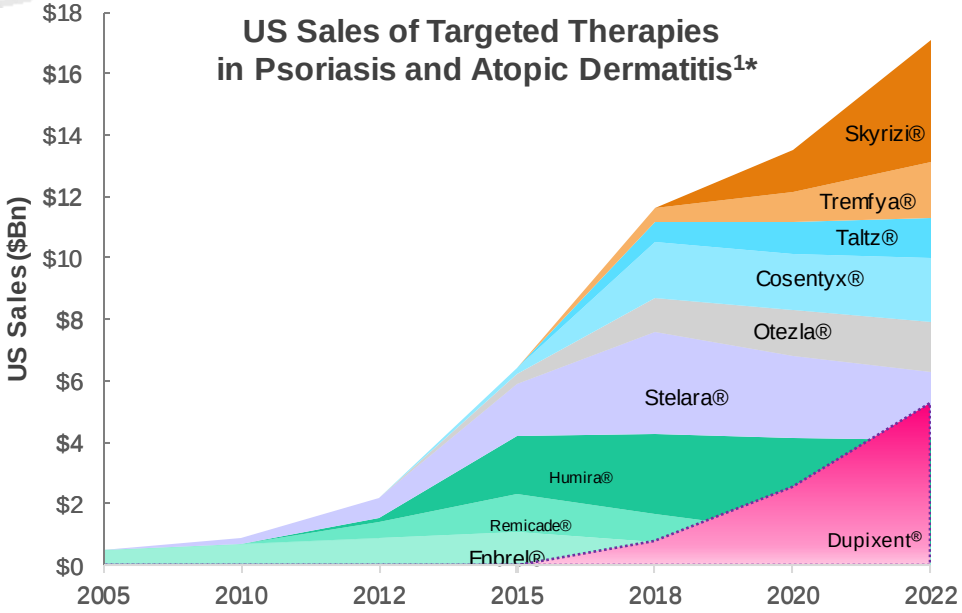
> "Moderate-to-severe AD is not just a more intense form of a mild disease, it's an entirely different condition because it brings with it many other symptoms that may not occur in mild patients."
>
> - Dr. Silverberg

Greatest burdens for AD patients include[5]:

- **Itch** "more than just a simple sensation"
- **Red, inflamed skin**
- **Sleep disruption**
- **Depression**
- **Infections**
- **Co-occurring atopic conditions**

1. Lobefaro, F. Biomedicines. 2022 Nov 14; 10(11):297. doi: 10.3390/biomedicines10112927
2. Sroka-Tomaszewska J, et al. Int J Mol Sci. 2021 Apr 16;22(8):4130. doi: 10.3390/ijms22084130
3. Avena-Woods. Am J Manag Care. 2017 Jun;23(8 Suppl):S115-S123. PMID: 28978208
4. Barbarot S, et al. Allergy. 2018 Jun;73(6):1284-1293. doi: 10.1111/all.13401
5. McCleary, K., et al. "More Than Skin Deep Voice of Patient Report on the Eczema Patient-Focused Drug Development Meeting" 2020 Mar.

Proven Precedence for Market Growth and Evolution for Targeted Dermatology Therapies



US Prevalence

Psoriasis: 2-3%[2]

Atopic Dermatitis: 5%[4]

- The market for targeted AD therapies is nascent with tremendous potential for growth – only 2 drugs/drug classes are currently approved.
- The psoriasis market has demonstrated the growth opportunity for targeted therapies in dermatology
- Given the higher prevalence of atopic dermatitis, the AD market may have even greater potential

Drug Classes:

Psoriasis[5]
- TNF-α inh.
- IL-23 inh.
- IL-17A inh.
- IL-12/23 inh.
- PDE-4 inh.

Atopic Dermatitis[3]
- IL-4/13 inh.

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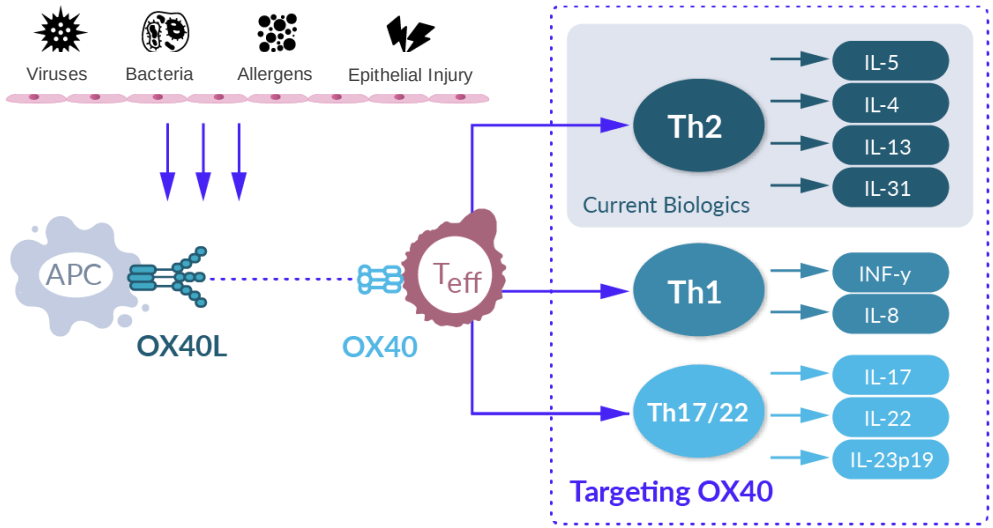
*Not shown:
- Psoriasis products with US sales under $150M[1] (Cimzia®, Siliq®, Ilumya®)
- AD products approved in 2022 (Adbry®)

1. Evaluate Pharma Consensus Sales by Indication in the US
2. Damiani, G. et al. Front Med (Lausanne) 2021 Dec 16:8:743180. doi: 10.3389/fmed.2021.743180
3. Decision Resources Group: Atopic Dermatitis Disease Landscape & Forecast, July 2023
4. Barbarot S, et al. Allergy. 2018 Jun;73(6):1284-1293. doi: 10.1111/all.13401
5. Yasmeen, N. et al. J Dermatolog Treat. 2022 Feb;33(1):204-218

Immune Dysregulation in Atopic Dermatitis Beyond Th2



- Current biologics target only the Type 2 pathway, and may not address the diversity of endotypes in atopic dermatitis
- Inhibition of the OX40 pathway targets Types 1-3 pathways, impacting a broader group of Th cells
- OX40 inhibition may induce higher rates of clinical responses in more patients than anti-cytokine biologics and be disease modifying

1. Adapted from Croft, M. et al. Immunol Rev. 2009 May; 229(1):173-91. doi: 10.1111/j.1600-065X.2009.00766.x.
2. Guttman-Yassky, et al. J All Clin Immunol. V 144, Issue 2, P482-493.E7, Aug 2019. doi. 10.1016/j.jaci.2018.11.053

Clinical PoC Achieved in AD by 3 Programs Targeting the OX40-OX40L Pathway

Anti-OX40L Monoclonal Antibody

Amlitelimab[1,2,5]

- Fully human, IgG4
- Targets OX40L on a wide array of APCs
- Positive Phase 2a and 2b results in AD
- Binding OX40L may increase risk for upper respiratory infection, nasopharyngitis, respiratory, and vascular AEs
- Ph 2 in asthma ongoing
- Ph 3 in AD ongoing

Anti-OX40 Monoclonal Antibodies

Rocatinlimab[2,3,6]

- Fully human, afucosylated, IgG1
- Targets OX40 on activated T cells
- Depletes T cells via enhanced ADCC
- Positive Phase 2a and 2b results in AD
- Phase 2b results suggest possibility of disease modification in AD
- T cell depletion leads to cytokine release (pyrexia and chills) and potential increased risk of infection
- Ph 3 in AD ongoing

Telazorlimab[4]

- Fully humanized, IgG1
- Targets OX40 on activated T cells
- Full antagonist
- Positive Phase 2a and 2b results in AD
- Phase 2b results suggest possibility of disease modification in AD
- Favorable safety and tolerability profile
- STAR-0310 is a next generation mAb designed for higher affinity, higher potency, and longer half-life

APCs=antigen presenting cells. These include epithelial, endothelial, smooth muscle, mast and B cells. AEs= adverse events

1. Weidinger et al, 2023
2. Guttman-Yassky et al 2022; Pharmaceutics. 2022, Dec 8; 14(12):2753
3. Guttman-Yassky et al 2023; Lancet. 2023, Dec 9; 401:204-14
4. Rewerska et al 2023; AAAAI. 2023, Nov 22.
5. Clinicaltrials.gov NCT05131477
6. Clinicaltrials.gov NCT05651711

STAR-0310:
Potential First-Choice for Moderate-to-Severe AD

High Affinity, Next Generation Anti-OX40 antibody

Selective Potency for Activated T-Cells

Potential Best-in-Class Safety Profile Designed for low ADCC and to be T cell preserving

Extended Half-Life with YTE technology

Potential for Low Volume, Infrequent SC Delivery

Patent Pending Technology U.S. provisional patent application filed, potential patent expiry 2044[3]

1. Dall'Acqua WF, Kiener PA, Wu H. Properties of human IgG1s engineered for enhanced binding to the neonatal Fc receptor (FcRn). J Biol Chem. 2006 Aug 18;281(33):23514-24.
2. Booth BJ, Ramakrishnan B, Narayan K, Wollacott AM, Babcock GJ, Shriver Z, Viswanathan K. Extending human IgG half-life using structure-guided design. MAbs. 2018 Oct;10(7):1098-1110.
3. U.S. provisional patent application filed October 2023 covering STAR-0310 and its use in AD and other disorders. If converted, nationalized and approved, expect the patent to expire in 2044, excluding potentially applicable patent term extension.

STAR-0310 Designed to be a Potential Best-in-Class and First-Choice AD Treatment

EFFICACY

Potential effectiveness across Th1, Th2, and Th17/22 for robust and sustained responses in AD

DOSING

Extended half-life enabling infrequent dosing

SAFETY

Reduced T cell depletion from ADCC

Low potential for on-target safety events

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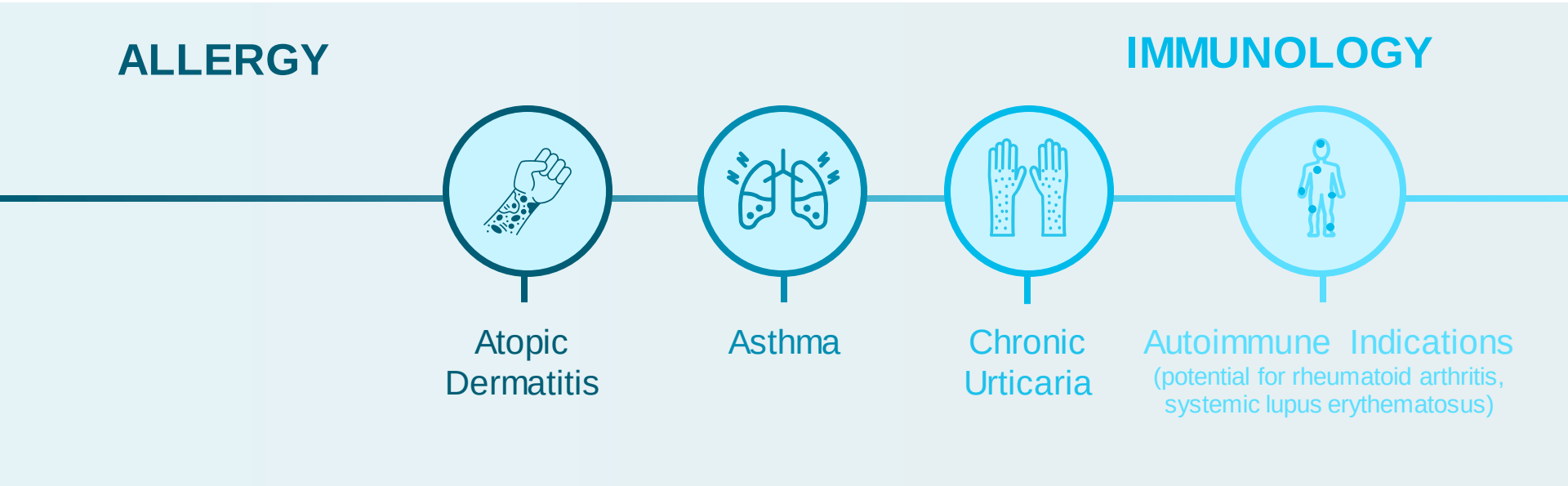
Comparison not based on head-to-head clinical trials

Opportunity for Expansion Into Additional Indications



ATXS: Strong Financial Foundation

- **Cash, cash equivalents and short-term investments as of 9/30/2023: $188.8M**
- **$239M in financing activity in Q4 2023 and Q1 2024**
- **Cash expected to support current operating plan[1] into mid-2027**

- **Equity summary:**

	Common	Preferred Stock as Common Equivalents	Pre-Funded Warrants	Total OS Common Equivalents
Outstanding as of 9/30/2023	28,042,296	5,184,591	-	33,226,887
Subsequent Equity Issuances	26,633,716	-	1,571,093	28,204,809
Outstanding as of 2/1/24	54,676,012	5,184,591	1,571,093	61,431,696

1. Current operating plan includes the development of STAR-0215 and STAR-0310, including (i) for STAR-0215, support for all program activities up to the completion of a planned Phase 3 pivotal trial and (ii) for STAR-0310, the anticipated submission of an IND and the initiation and completion of the planned Phase 1a clinical trial of healthy subjects (and any related anticipated milestone payments).

Anticipated Milestones and Future Development Goals to Bring Treatments to Patients

2024

STAR-0215
- **Q1 2024: HAE POC results**

STAR-0310
- IND enabling activities
- Present preclinical profile
- **IND submission**
- Evaluate additional indications

2025

STAR-0215
- Q1: Initiate pivotal Phase 3 trial if positive POC results

STAR-0310
- Initiate Phase 1a with **early POC results in Q3**
- Initiate Phase 1b in patients with AD

2026

STAR-0215
- Progress Phase 3 trial

STAR-0310
- **Q2: AD POC results**
- H2: initiate Phase 2 in AD*
- H2: initiate Phase 2 in additional indication*

Future Goals

STAR-0215 and STAR-0310 broadly available to patients

*Assuming positive results in Phase 1a trial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