ASLAN A^4 Series:
Aspects of Atopic Dermatitis and ASLAN004
with Dr Jonathan Silverberg

25 October 2021

NASDAQ: ASLN

ASLAN PHARMACEUTICALS

Aspects of Atopic Dermatitis and ASLAN004

• Company introduction and ASLAN004	Dr Carl Firth / Dr Karen Veverka
• Heterogeneity of Atopic Dermatitis	Dr Jonathan Silverberg
• Q&A	
• Close	

Introduction

Dr Carl Firth
CEO

Legal disclaimer

This presentation contains forward-looking statements. These statements are based on the current beliefs and expectations of the management of ASLAN Pharmaceuticals Limited (the "Company"). These forward-looking statements may include, but are not limited to, statements regarding the Company's business strategy, the Company's plans to develop and commercialize its product candidates, the safety and efficacy of the Company's product candidates, including their potential to be best-in-class, the Company's plans and expected timing with respect to clinical trials, clinical trial enrollment and clinical trial results for its product candidates, the Company's plans and expected timing with respect to regulatory filings and approvals, the size and growth potential of the markets for the Company's product candidates, and the potential for ASLAN004 as a first-in-class treatment for atopic dermatitis. The Company's estimates, projections and other forward-looking statements are based on management's current assumptions and expectations of future events and trends, which affect or may affect the Company's business, strategy, operations or financial performance, and inherently involve significant known and unknown risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation the risk factors described in the Company's US Securities and Exchange Commission filings and reports (Commission File No. 001-38475), including the Company's Form 20-F filed with the U.S. Securities and Exchange Commission (the "SEC") on April 23, 2021.

This presentation discusses product candidates that are under clinical study and which have not yet been approved for marketing by the US Food and Drug Administration. No representation is made as to the safety or effectiveness of these product candidates for the use for which such product candidates are being studied. Caution should be exercised when comparing data across trials of different products and product candidates. Differences existing between trial designs and patient populations and characteristics. The results across such trials may not have interpretative value on our existing or future results.

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ASLAN Pharmaceuticals

- Clinical-stage, immunology-focused biopharma developing **innovative therapies to treat inflammatory disease**

- ASLAN004 is a potential **first-in-class antibody targeting the IL-13 receptor that has the potential to improve upon current biologics** used to treat allergic disease
  - There are few safe and effective treatments for moderate-to-severe atopic dermatitis (AD), expected to be a $24B market by 2029[1]. Despite dupilumab advancing the standard of care, physicians / patients still seek additional options.
  - Topline data from recently completed multiple ascending dose study conclusively establishes proof of concept for ASLAN004 in AD, and supports a potentially differentiated safety and efficacy profile
  - Preparations for Phase 2b underway, evaluating 2-weekly and 4-weekly regimens. FPI on track for 4Q 2021

- ASLAN003 is a second generation **DHODH inhibitor with the potential to be best-in-class** for autoimmune disease
  - Stronger *in vitro* potency and lower potential for hepatotoxicity compared to other DHODH inhibitors
  - Expecting to initiate phase 2 in IBD in 1H 2022. Planning future studies in autoimmune skin diseases

- **Strong cash position ($94M[2]) with runway to late 2023**

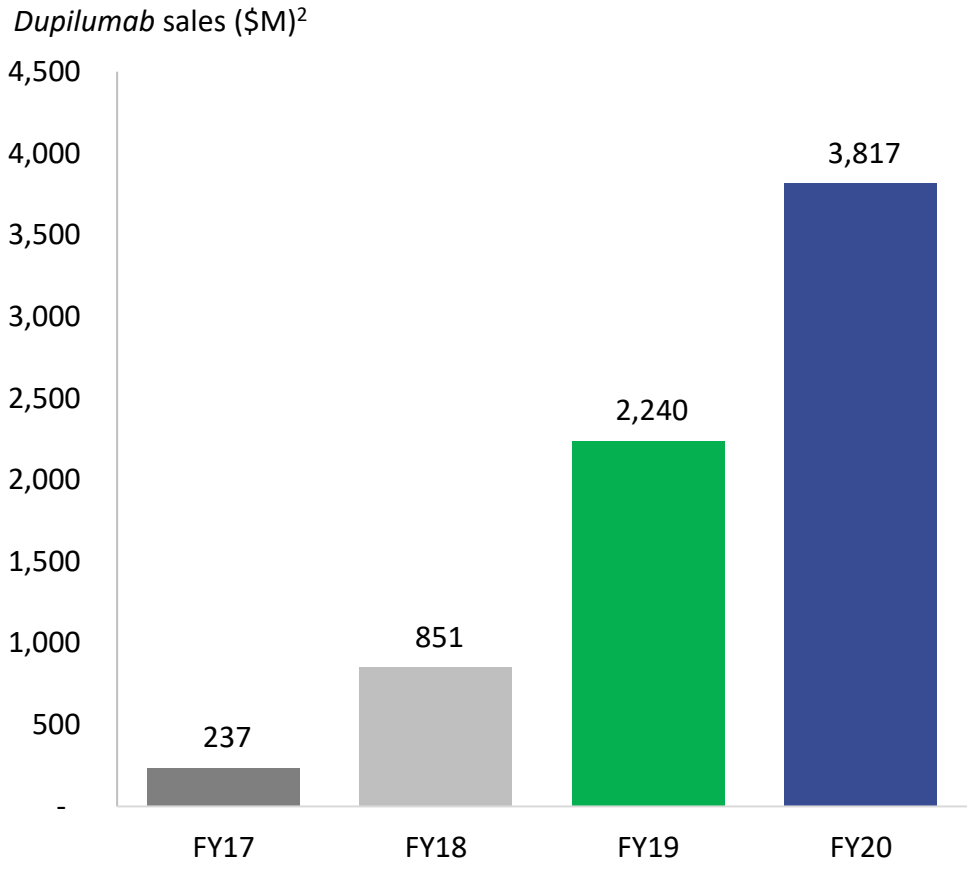
1 Decision Resources Group, June 2021
2 As of Q2 ending June 30, 2021

Developing innovative therapies to treat inflammatory disease

Program	Target	Discovery	Preclinical	Phase 1	Phase 2	Anticipated milestones
ASLAN004	IL-13Rα1	Atopic dermatitis (AD)				• Initiate Phase 2b in 4Q 2021
		Asthma				
ASLAN003	DHODH	Inflammatory bowel disease				• Initiate Phase 2 in 1H 2022
		Autoimmune skin disease				

Dupilumab has advanced the standard of care for atopic dermatitis but a significant unmet need remains

- There are few safe and effective treatments for moderate-to-severe AD
- Treatment is traditionally focused on topical corticosteroids but steroid use can be associated with safety risks
- *Dupilumab* has established dual blockade of IL-4/IL-13 biologic therapy as the new standard of care
  - Launch of *dupilumab* in 2017 helped drive a large market for systemic AD therapy
  - Sanofi expects to grow sales to over $11B
- However, there remains a significant unmet need:
  - Only 35% of patients treated with *dupilumab* achieved an optimal response[1]
  - Conjunctivitis is common and can lead to treatment discontinuations
  - Opportunity to improve upon biweekly dosing regimen



1 Spherix (2018) Atopic dermatitis ATU study

2 Sanofi's published quarterly/ financials

ASLAN004 is a potential first-in-class IL-13R antibody that has the potential to be a differentiated therapy for AD patients

Ideal target product profile

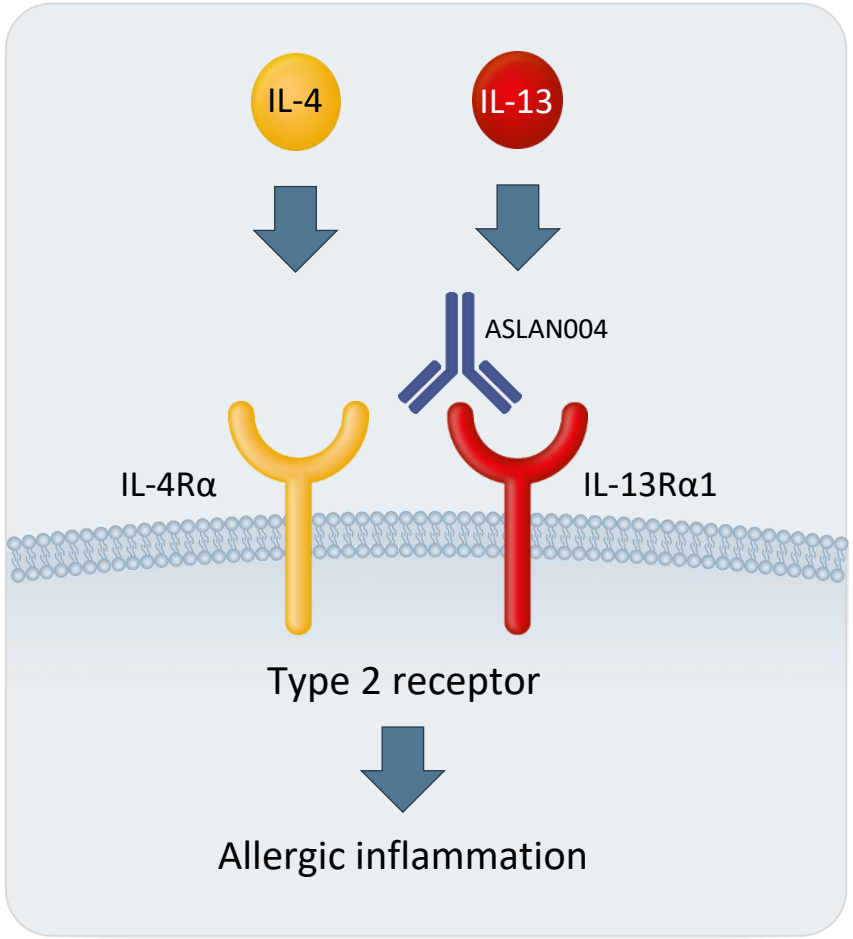
Better efficacy over current standard-of-care

Monthly dosing, improving convenience and compliance

Addresses physician concerns on safety with lower rate of discontinuation

Greater storage flexibility, allowing it to be stored at room temperature

ASLAN004 is the only monoclonal antibody in the clinic targeting IL-13Rα1

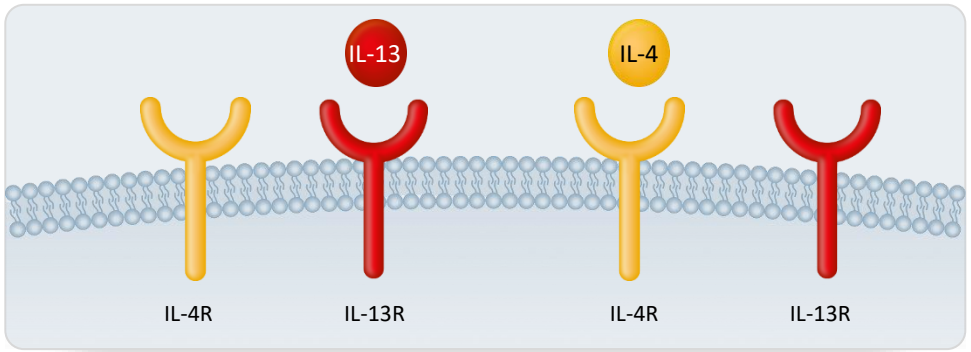


- IL-4 and IL-13 are central to triggering allergy and symptoms of atopic dermatitis
- ASLAN004 blocks the Type 2 receptor, preventing signaling through **both** IL-4 and IL-13

Potential for improved efficacy, safety and dose regimen:

- Selectively targets the Type 2 receptor. Blocking the Type 1 receptor may lead to unwanted effects
- Stronger binding to receptor than *dupilumab* relative to its respective ligand

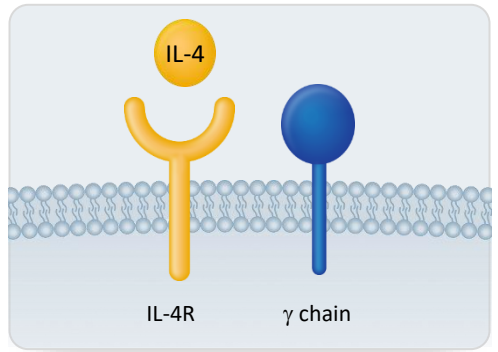
ASLAN004 selectively blocks the Type 2 receptor



Type 2 receptor

Blocks IL-13 signalling

Blocks IL-4 signalling



Type 1 receptor

Blocks IL-4 signalling

ASLAN004

Specific and complete blockade of Type 2 receptor

Lebrikizumab

Partial blockade of Type 2 receptor signalling

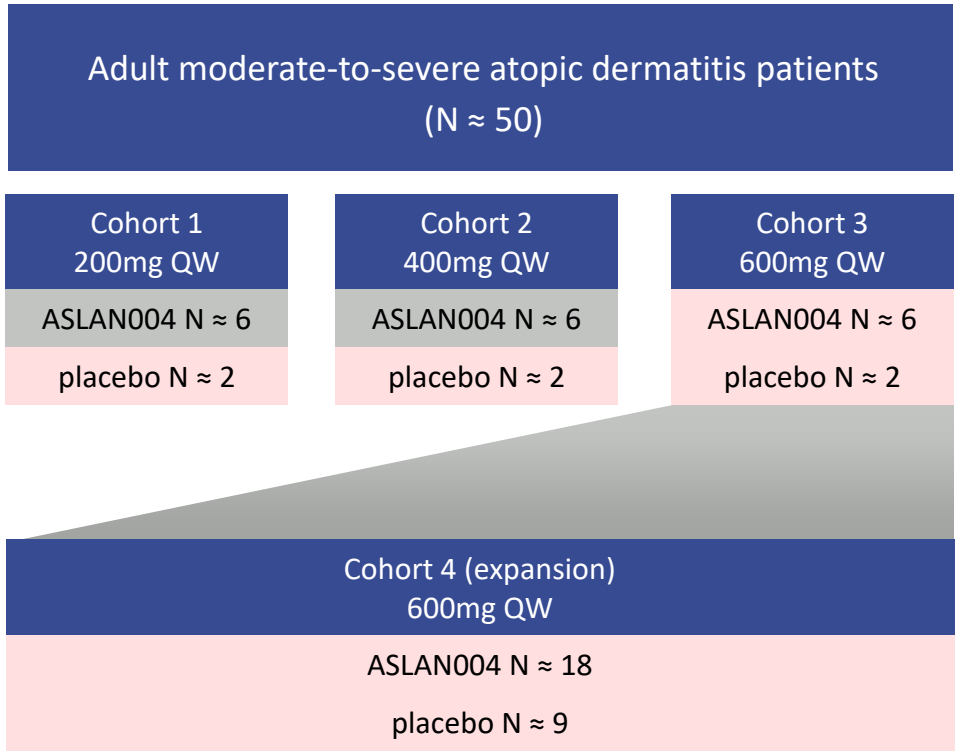
Dupilumab

Broad blockade of Type 1 and Type 2 receptors

ASLAN004: Phase 1 study results

Dr Karen Veverka
VP Medical

Completed MAD / PoC study in moderate-severe AD



Study has 80% power to detect 39% improvement in EASI from baseline, compared to placebo, based on a one-sided 5% significance level

- Double-blind, randomized, placebo-controlled Phase 1 study
- Patients dosed weekly via subcutaneous injection for 8 weeks with a 12-week recovery period
- Positive interim data from dose escalation (cohorts 1 to 3) announced in March 2021
- Cohort 4 (expansion) recruited additional patients dosed with 600mg QW
- Subsequent analysis compares patients in cohorts 3 and 4 dosed with 600mg QW against all placebos

Primary endpoints were safety and tolerability

Secondary endpoints included percentage change from baseline in EASI (Eczema Area and Severity Index) score, pruritus score (numeric rating scale, NRS) and IGA (Investigator Global Assessment), and biomarkers TARC and IgE

Key inclusion criteria:

- Chronic AD present for ≥3 years before screening visit
- EASI score ≥16 at screening and baseline
- IGA score ≥3 (scale of 0 to 4) at screening and baseline
- ≥10% BSA (Body Surface Area) of AD involvement at screening and baseline

Pink box denotes patients included in the analysis in this presentation

Selected baseline patient characteristics

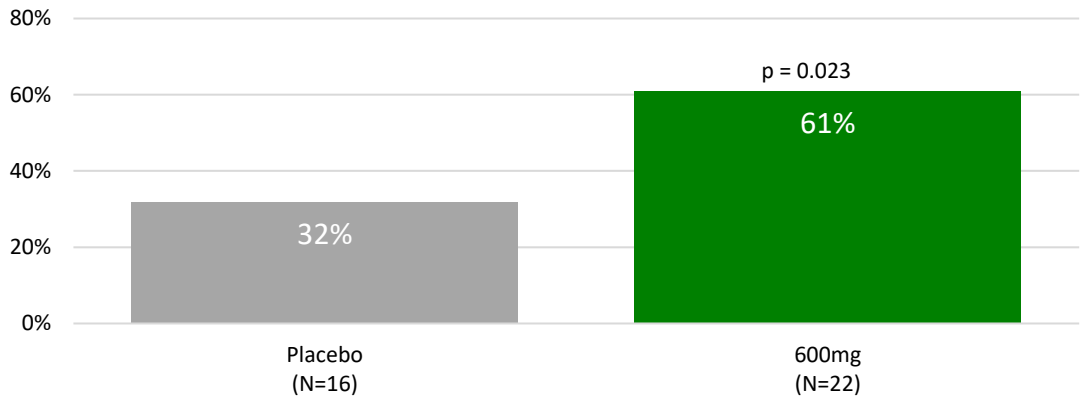
	ITT	
	600mg (N=22)	Placebo (N=16)
Age (years)	40.2	38.8
Mean EASI score	27.6	29.0
Mean BMI	25.5	26.7
Patients with IGA 3 / IGA 4	68% / 32%	63% / 38%
Mean BSA	41.0%	46.1%
Mean peak pruritus NRS score	7.9[2]	7.9

1 A sensitivity analysis was conducted that excluded one study site where all enrolled patients appeared atypical of moderate-to-severe AD patients based on biomarkers and patient history. For further information, refer to Company Presentation September 2021: https://ir.aslanpharma.com/

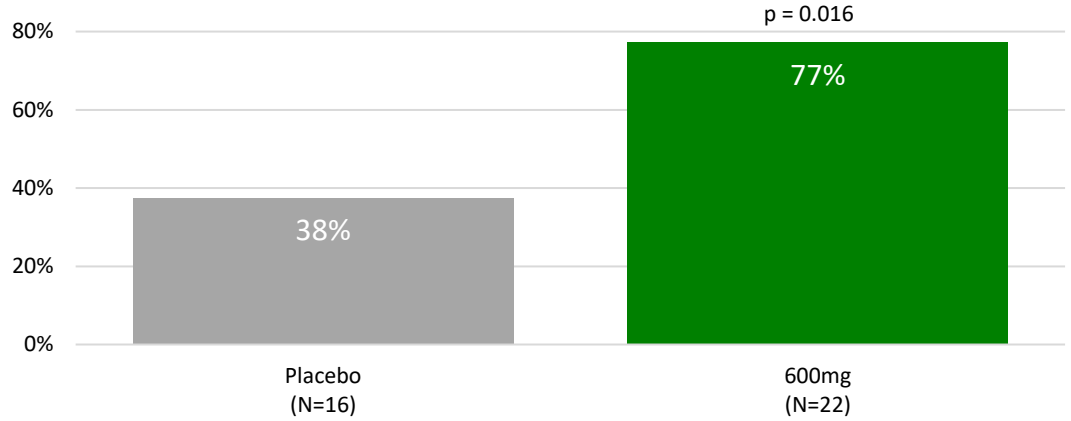
2 N=19 as 3 patients did not have a baseline value

Key efficacy endpoints

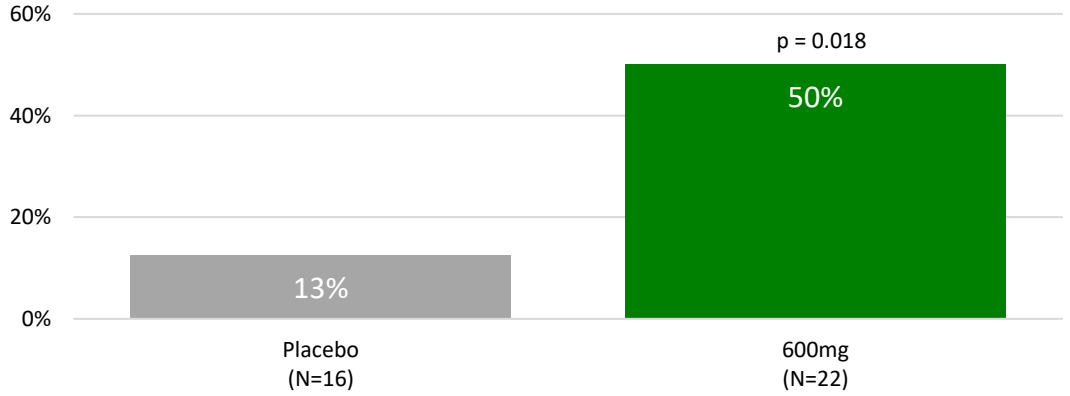
Mean reduction in EASI from baseline



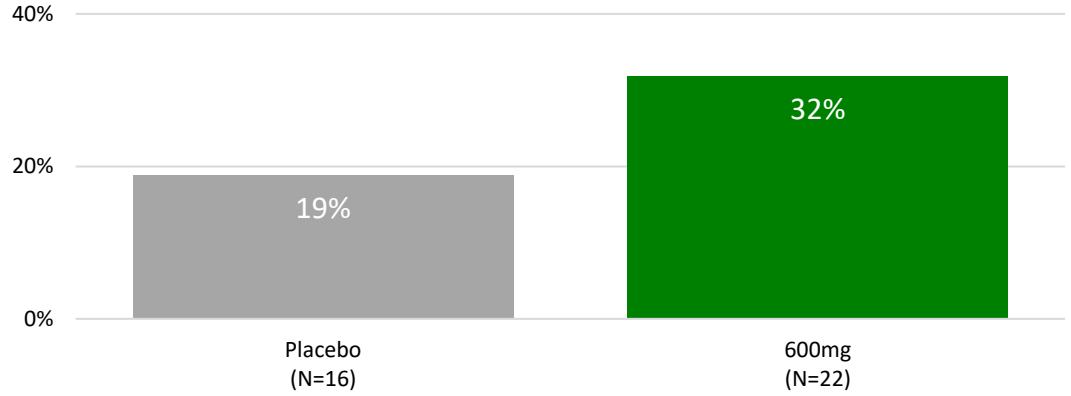
EASI-50



EASI-75



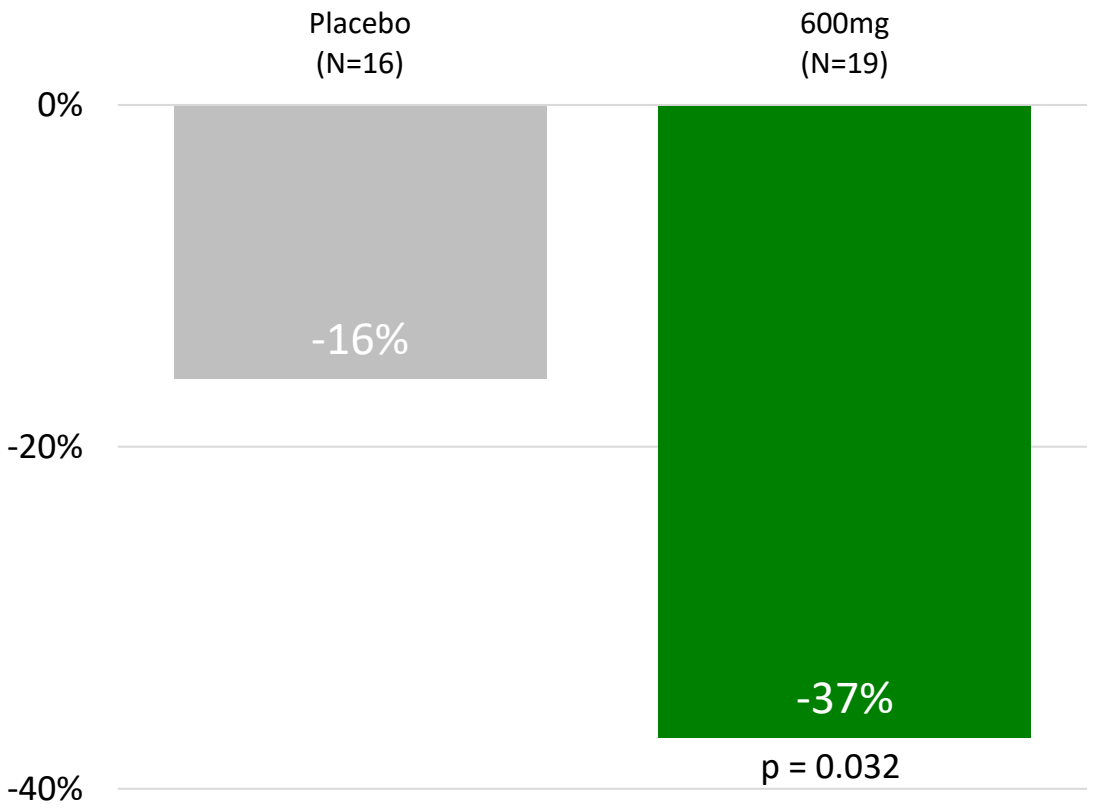
Patients achieving IGA 0/1



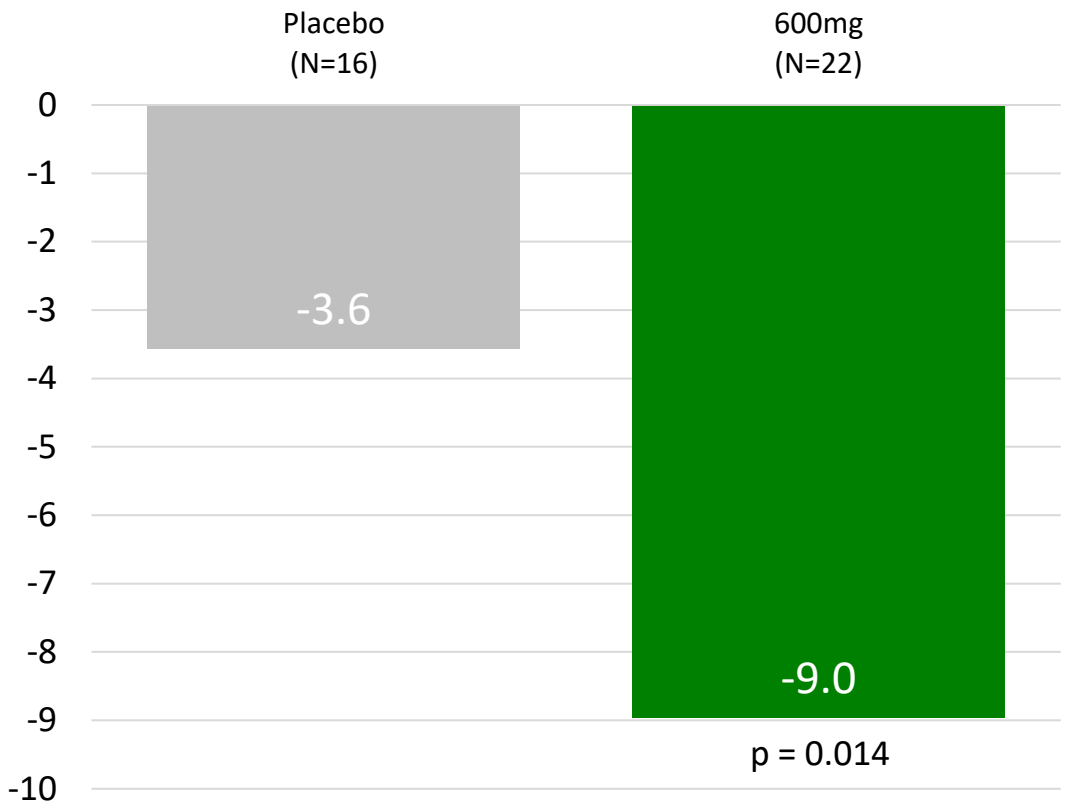
Data from ITT population
p-values are one-sided

Patient reported endpoints

Mean change in peak P-NRS from baseline

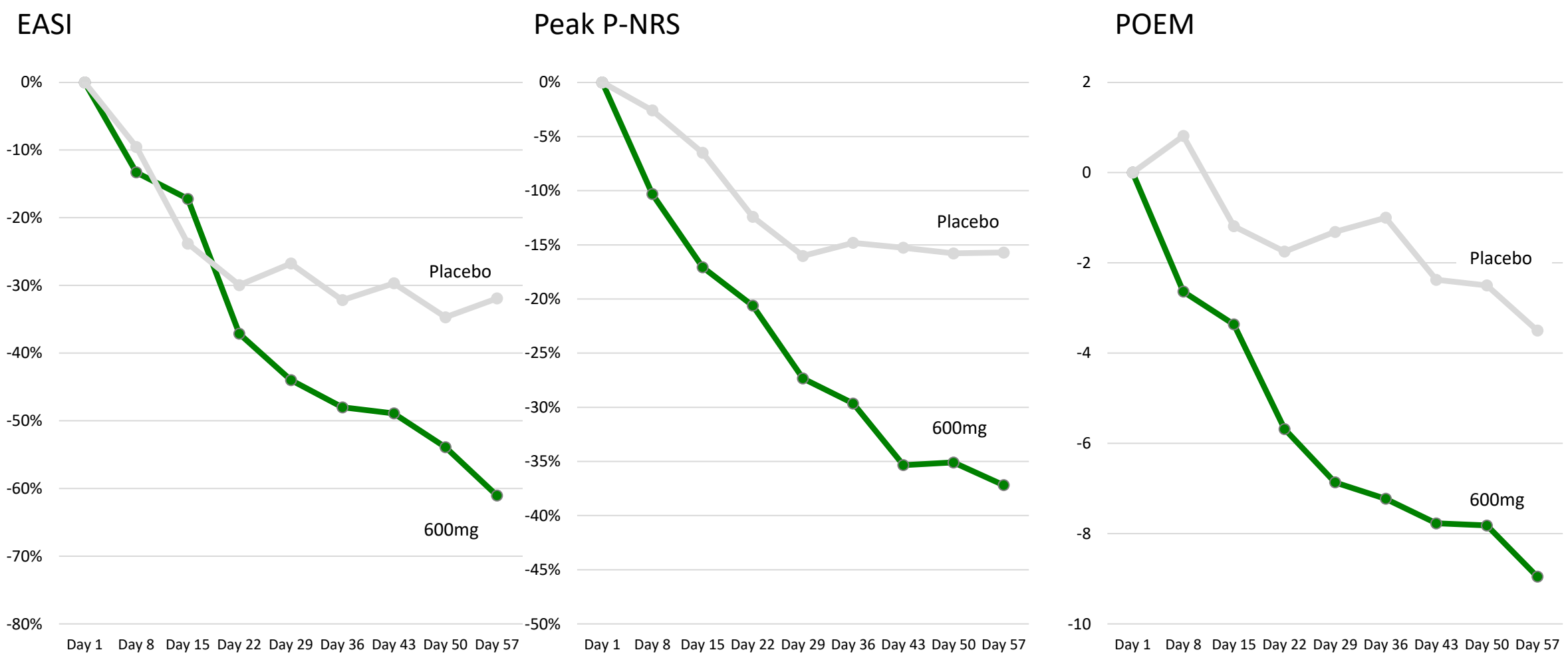


Mean change in POEM from baseline



Data from ITT population
p-values are one-sided

Time course (mean change from baseline)



Data from ITT population

ASLAN004 well-tolerated with low incidence of conjunctivitis

Treatment Emergent Adverse Event (TEAE) by category[1]	All patients dosed (N=52)		
	600mg (N=22)	200-600mg (N=35)	Placebo (N=17)
Any	12 (55%)	25 (71%)	8 (47%)
Related	8 (36%)	19 (54%)	7 (41%)
Moderate/severe	6 (27%)	11 (31%)	5 (29%)
Serious adverse event (SAE)	0 (0%)	1 (3%)	0 (0%)
Drug-related AEs of interest[3]:			
• Injection site reaction	5 (23%)	9 (26%)	2 (12%)
• Conjunctivitis	1 (5%)	2 (6%)	0 (0%)

- Conjunctivitis was classified as mild. Patients had prior history of allergy or allergic conjunctivitis.
- Rescue medication use: 3 patients on placebo arm, 1 patient on 600mg arm

1 Safety data cutoff as of September 1, 2021, at which time all patients had completed at least 4 weeks of safety monitoring period.
2 All patients in 600mg and placebo arms that were dosed excluding site X patients
3 Drug-related defined as definitely related, probably related or possibly related

Topline data demonstrate a potential best-in-class profile in terms of efficacy and safety

- Topline data from recently completed MAD study conclusively establishes proof of concept for ASLAN004 in AD, and supports a potentially differentiated safety and efficacy profile
- ASLAN004 demonstrated a statistically significant improvement versus placebo in the primary efficacy endpoint of percent change from baseline in EASI
- ASLAN004 also showed statistically significant improvements in other key efficacy endpoints: EASI-50, EASI-75, peak pruritus, POEM
- Well-tolerated with no emerging safety concerns
- Phase 2B expected to initiate in 4Q21

Heterogeneity of Atopic Dermatitis*

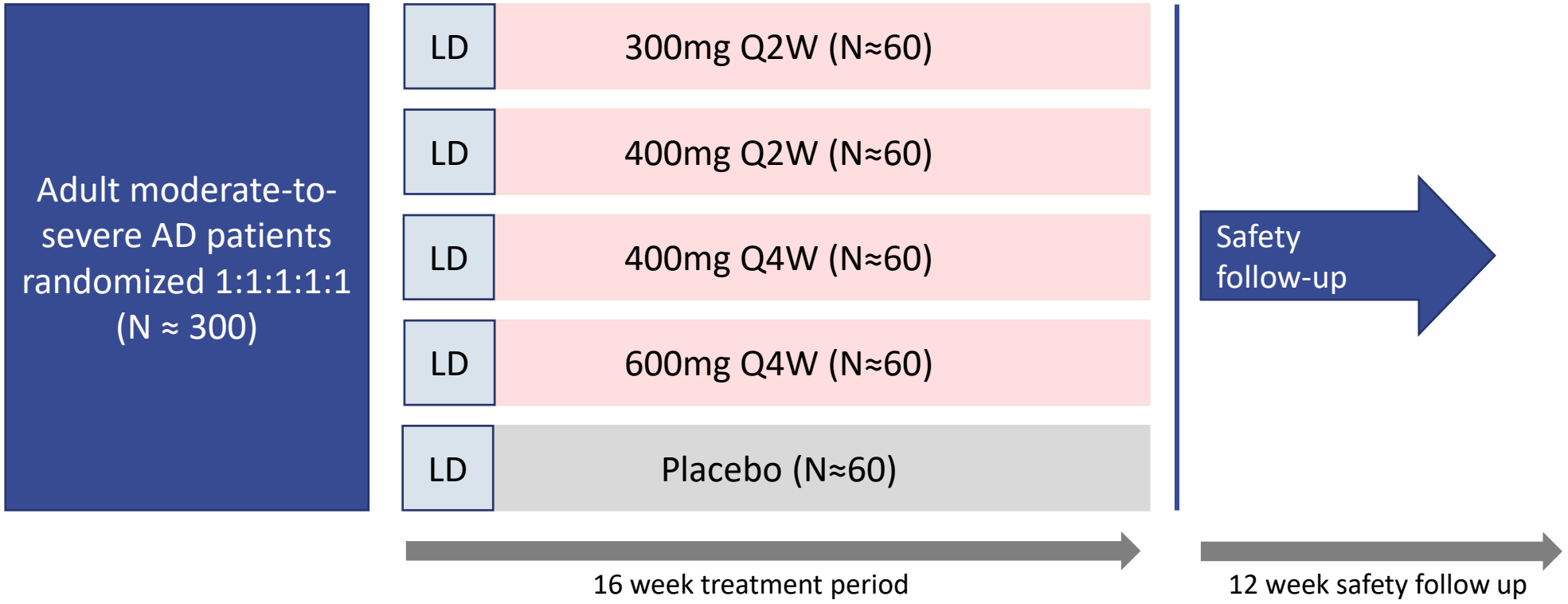
Dr Jonathan Silverberg

* Click here to access the webcast recording

Summary

Dr Carl Firth
CEO

Phase 2B expected to initiate in 4Q 2021



- Loading dose of 600mg for the Q2W dose groups at week 1 and week 2
- Loading dose of 600mg for the Q4W dose groups at week 1, week 2 and week 3

Comparison of proof of concept studies in atopic dermatitis

Drug	Study	Target	Patients	Efficacy assessment at	Reached statistical significance?		
					ΔEASI score (%)	EASI-75	IGA 0/1
ASLAN004	Phase 1B[1]	IL-13R	38	8 weeks	✓	✓	
Dupilumab	Phase 1B (M4A+ M4B)[2]	IL-4R	67	4 weeks	✓		
	Phase 2A (M12)[2]	IL-4R	109	4 weeks			
				12 weeks	✓		✓
CBP201	Phase 1B[3]	IL-4R	31	4 weeks			
KHK4083	Phase 1[4]	OX-40	20	6 weeks			

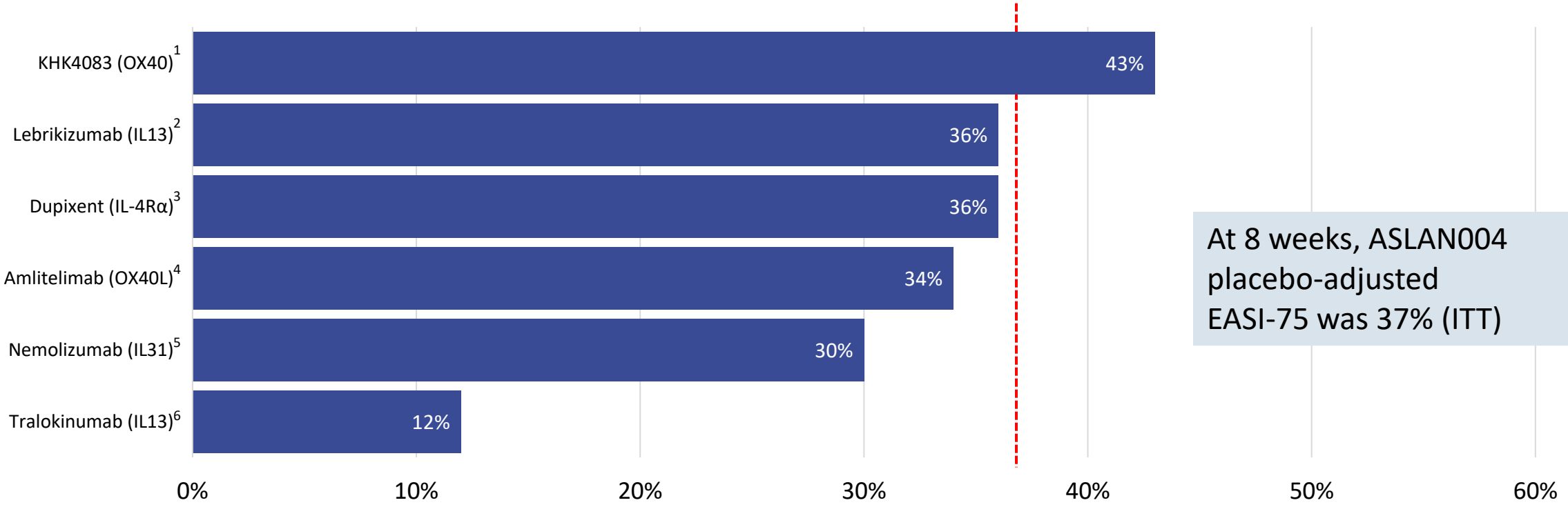
Data from Phase 1 studies of *lebrikizumab* and *tralokinumab* were not published

✓ represents two-sided p-value <0.05

1. Refers to ITT
2. Beck et al (2014) NEJM 371(2):130-139
3. Wang et al (2020), 29th EADV Congress, Oct 28- Nov 1, 2020, p-value not disclosed
4. Nakagawa et al (2020) J Derm Sci 99:82-89, p-value not applicable (single-arm study)

The evolving landscape in AD

Efficacy of selected drugs in atopic dermatitis (placebo-adjusted EASI-75) at 16 weeks:



For illustrative purposes only. Not a head-to-head comparison. Caution should be exercised when comparing data across trials of different products and product candidates. Differences exist between trial designs and patient populations and characteristics. The results across such trials may not have interpretative value on our existing or future results.

1. Phase 2: Guttman-Yassky et al (2021), 30th EADV Congress, Sep 29- Oct 2, 2021
2. Phase 2b: Guttman et al (2020) JAMA Derm 156(4):411-420
3. Phase 3: Simpson et al (2016) NEJM 375(24):2335
4. Phase 2a: Weidinger et al (2021), 30th EADV Congress, Sep 29- Oct 2, 2021
5. Phase 2b: Silverberg et al (2020) JACI 145:173-182
6. Phase 3: Wollenberg et al (2021) Br J Derm 184(3):437-449

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