

# Impact of amltelimab (an anti-OX40 ligand antibody) on maintenance of itch response in atopic dermatitis: results from the 52-week STREAM-AD Phase 2b study

Brian S. Kim<sup>1</sup>; Yoko Kataoka<sup>2</sup>; Andrew Blauvelt<sup>3</sup>; Stephan Weidinger<sup>4</sup>; Gil Yosipovitch<sup>5</sup>; Delphine Staumont-Sallé<sup>6</sup>; Anne-Catherine Solente<sup>7</sup>; Kassim Rahawi<sup>8</sup>; Sonya Davey<sup>8</sup>

<sup>1</sup>Kimberly and Eric J. Waldman Department of Dermatology, Icahn School of Medicine at Mount Sinai, New York, NY, USA; <sup>2</sup>Osaka Habikino Medical Center, Habikino, Japan; <sup>3</sup>Blauvelt Consulting, Portland, OR, USA; <sup>4</sup>Department of Dermatology and Allergy, University Hospital Schleswig-Holstein, Kiel, Germany; <sup>5</sup>Dr Phillip Frost Department of Dermatology and Cutaneous Surgery, Miami Itch Center, University of Miami, Miami, FL, USA; <sup>6</sup>Department of Dermatology, Lille University Hospital Center, Lille, France; <sup>7</sup>Sanofi, Paris, France; <sup>8</sup>Sanofi, Cambridge, MA, USA



Copies of this poster obtained through Quick Response (QR) code are for personal use only

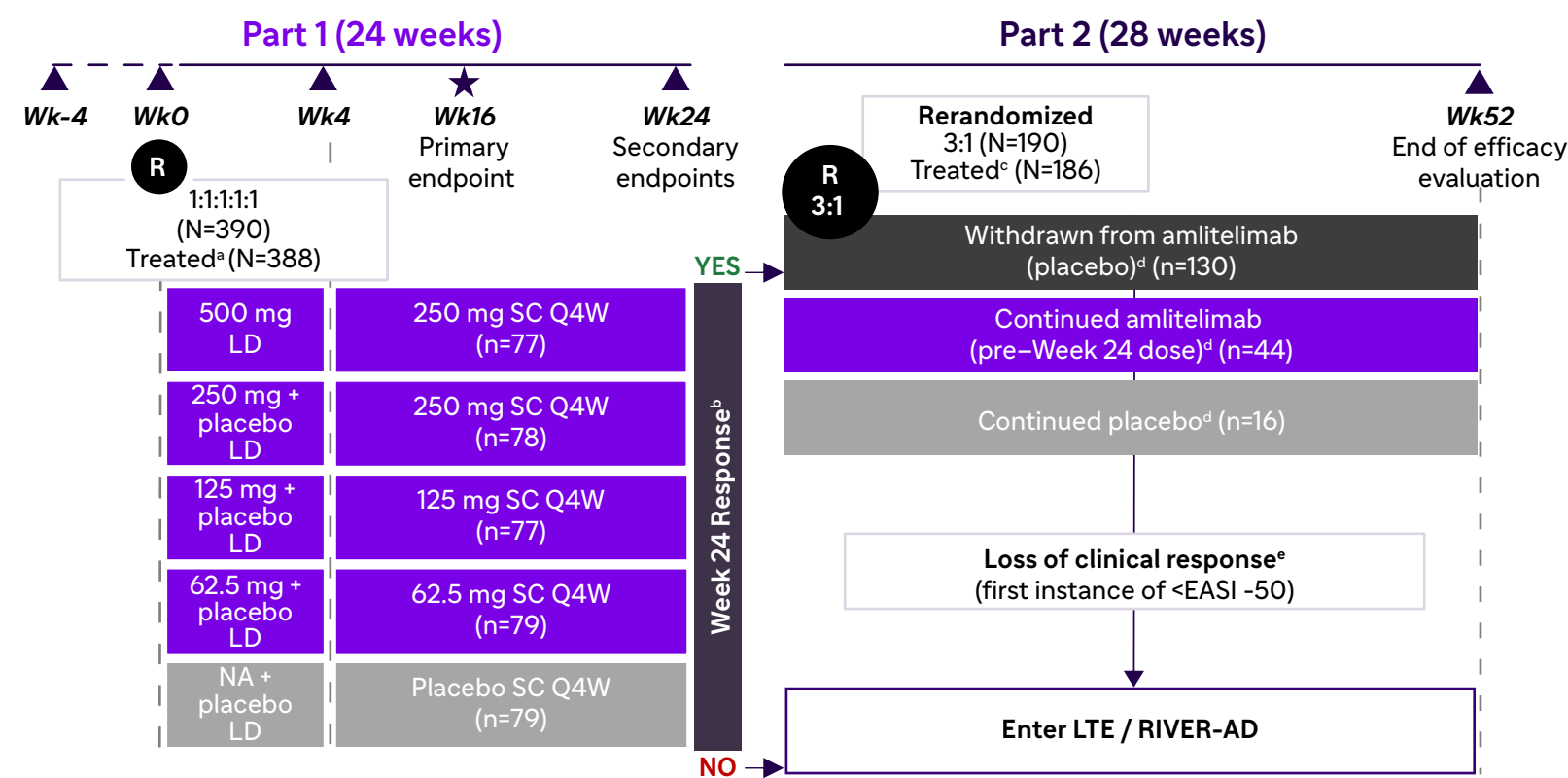
## Key Conclusions

- 1 Durable maintenance of PP-NRS<sub>≥4</sub> response from Week 24 to Week 52 in patients continuing amltelimab in Part 2**
- 2 Durable off-therapy maintenance of PP-NRS<sub>≥4</sub> response from Week 24 to Week 52 in patients who withdrew from amltelimab in Part 2**
- 3 Ongoing OCEANA Phase 3 program in adults and adolescents will further evaluate efficacy and safety of amltelimab and enable additional itch-responder analyses**

## Introduction

- Atopic dermatitis (AD) is a chronic heterogenous inflammatory disease characterized by intense itch and recurrent eczematous lesions, significantly affecting patients' quality of life<sup>1</sup>
- Amltelimab** is a fully human, nondepleting, anti-OX40 ligand (OX40L) monoclonal antibody<sup>2,3</sup>
- In the **STREAM-AD Phase 2b study**, amltelimab demonstrated clinically meaningful improvements in adults with moderate-to-severe AD (**Figure 1**)<sup>3</sup>
  - Part 1 (24 weeks)** demonstrated efficacy and safety of amltelimab
  - Part 2 (28 weeks)** demonstrated durability of response in clinical responders (defined as EASI-75 and/or IGA 0/1) and safety on and off therapy
- In Part 1 of STREAM-AD, all the amltelimab groups met the primary endpoint (Week 16)<sup>3</sup>
  - Percentage change in EASI score from baseline at Week 16 (primary endpoint) and Week 24 (key secondary endpoint; **Figure 2**)
- At Week 16 and Week 24, higher percentages of patients had EASI-75, IGA 0/1, and a reduction in PP-NRS score of 4 or more from baseline with all doses of amltelimab versus placebo (**Table 1**)<sup>3</sup>

**Figure 1: STREAM-AD (NCT05131477)<sup>3</sup>**



<sup>1</sup>Two patients found to be ineligible after randomization; <sup>2</sup>Met IGA 0/1 and/or EASI-75 randomized to withdrawal (placebo) or pre-Week 24 dose groups; did not meet EASI-75 or IGA 0/1 entered into long-term extension (LTE/RIVER) or safety follow-up; <sup>3</sup>Four patients were rerandomized but not treated; <sup>4</sup>Patients demonstrating loss of clinical response during Part 2 were entered into LTE/RIVER or safety follow-up; <sup>5</sup>Loss of clinical response was defined as the first instance of <EASI-50 during Part 2 where rescue therapy was no longer permitted. EASI, Eczema Area and Severity Index; IGA, Investigator Global Assessment; LD, loading dose; LTE, long-term extension; NA, not applicable; OX40L, OX40 ligand; Q4W, every 4 weeks; SC, subcutaneous.

References: 1. Weidinger S, et al. *Nat Rev Dis Primers*. 2018;4(1):1; 2. Weidinger S, et al. *Br J Dermatol*. 2023;189(5):531-539; 3. Weidinger S, et al. *J Allergy Clin Immunol*. Preprint posted online 2024. doi:10.1016/j.jaci.2024.10.031.

### Abbreviations:

EASI, Eczema Area and Severity Index; IGA, Investigator Global Assessment; LD, loading dose; LTE, long-term extension; NA, not applicable; NRI, nonresponder imputation; OX40L, OX40 ligand; PP-NRS, Peak Pruritus Numerical Rating Scale; Q4W, every 4 weeks; SC, subcutaneous; SD, standard deviation; SE, standard error.

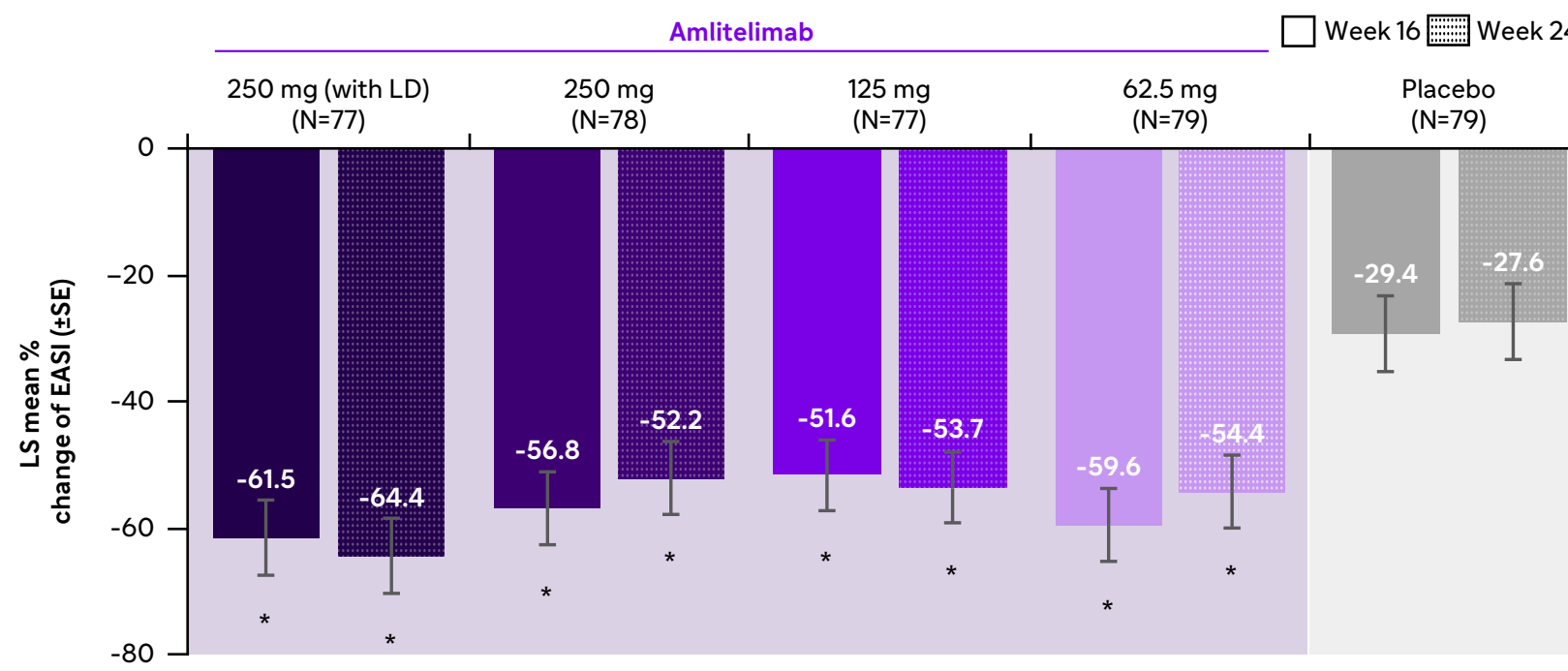
**Disclosures:** Brian S. Kim is a cofounder of Alys Pharmaceuticals; a consultant for 23andMe, Abbraxa, AbbVie, Almirall, Amgen, AstraZeneca, Bristol Myers Squibb, Cara Therapeutics, Cleo Biosciences, Eli Lilly, Escient Pharmaceuticals, Evomune, Galderma, Genentech, Granular Therapeutics, GSK, LEO Pharma, Microcos, Novartis, Pfizer, RecensMedical, Regeneron Pharmaceuticals, Sanofi, Septerna, Teva Pharmaceuticals, Trevi Therapeutics, Triveni Bio, and Vial; a stockholder in Abbraxa Japan, Alys, Locus Biosciences, RecensMedical; and a patent holder for the use of JAK1 inhibitors for chronic pruritus. Yoko Kataoka has received honoraria from AbbVie, Maruho, Pfizer, and Sanofi, and serves as a clinical investigator for AbbVie, Eli Lilly, LEO Pharma, Maruho, Novartis, Otsuka Pharmaceutical, Pfizer, Sanofi, and Taiho Pharmaceutical. Andrew Blauvelt has served as a speaker (received honoraria) for Eli Lilly and UCB; has served as a scientific adviser (received honoraria) for AbbVie, Abcentra, Aclaris Therapeutics, Affibody, Aligos Therapeutics, Almirall, Alumis, Amgen, AnaptysBio, Apogee Therapeutics, Arcutis Biotherapeutics, Arena Pharmaceuticals, Aslan Pharmaceuticals, Athenex, Bluefin Biomedicine, Boehringer Ingelheim, Bristol Myers Squibb, Cara Therapeutics, Cellnex Therapeutics, CTI BioPharma, Dermavant Sciences, EcoR1 Capital, Eli Lilly, Escient, Evelo Biosciences, Evomune, Forte Biosciences, Galderma, HighLight Pharmaceuticals, Incyte, Innovet, Janssen, Landos Biopharma, LEO, Lipilio Pharma, Microbiome Biosciences, Merck, Monte Rosa Therapeutics, Nektar, Novartis, Ouka Therapeutics, Overtone Therapeutics, Paragon, Pfizer, Q32 Bio, Rati Therapeutics, Regeneron, Sanofi Genzyme, Spherix Global Insights, Sun Pharmaceutical, Takeda, TLL Pharmaceutical, TrialSpark, UCB, UNION Therapeutics, Ventyx Biosciences, Vtilone Therapeutics, and Xencor; has acted as a clinical study investigator (institution has received clinical study funds) for AbbVie, Aceyrin, Alkermes, Almirall, Alumis, Amgen, Arcutis, Athenex, Boehringer Ingelheim, Bristol Myers Squibb, Concerto Biosciences, Dermavant, DermBion, Eli Lilly, Evelo, Evomune, Galderma, Incyte, Janssen, LEO, Merck, Novartis, Pfizer, Regeneron, Sanofi, Sun Pharma, Takeda, UCB Pharma, and Ventyx; and owns stock in Lipilio Pharma and Ouka Therapeutics. Stephan Weidinger has received institutional research grants from LEO, Pfizer, and Sanofi Deutschland GmbH; has been a consultant for AbbVie, Almirall, Galderma, LEO, Novartis, Pfizer, Regeneron, and Sanofi Genzyme; and is involved in performing clinical trials with many pharmaceutical industries that manufacture drugs used for the treatment of psoriasis and atopic dermatitis. Gil Yosipovitch is an advisory board member or consultant for AbbVie, Arcutis, Bellus Health, Cellnex Therapeutics, Eli Lilly, Escient, Galderma, GSK, Kiniksa Pharmaceuticals, LEO, Novartis, Pfizer, Pierre Fabre, Regeneron, Sanofi, and Trevi Therapeutics; has received grants and research funding from Eli Lilly, Kiniksa, LEO, Novartis, Pfizer, Regeneron, Sanofi; and has been an investigator for Regeneron and Sanofi. Delphine Staumont-Sallé is a speaker, advisory board member, or investigator for AbbVie, Almirall, Amgen, AstraZeneca, Eli Lilly, Galderma, Janssen, LEO, Novartis, Pfizer, Sanofi-Regeneron, and UCB. Anne-Catherine Solente, Kassim Rahawi, and Sonya Davey are employees of Sanofi and may hold stock or stock options in the company.

**Funding / Acknowledgments:** The data was originally presented at American Academy of Dermatology Annual Meeting, 7-11 March 2025, Orlando, Florida. This study was funded by Sanofi. Medical writing support was provided by Sierra Swords, PhD, of IMPRINT Science (New York, NY, USA) and was funded by Sanofi.

## Objective

- Evaluate the maintenance of itch response with continued or withdrawn amltelimab at Week 52 in adults with moderate-to-severe AD who entered STREAM-AD Part 2

**Figure 2: STREAM-AD Part 1: Percentage change in EASI score from baseline at Week 16 (primary) and Week 24 (key secondary)—worst observation carried forward<sup>3,a</sup>**



<sup>a</sup>P<0.002 compared with placebo.

<sup>b</sup>Any data on or after treatment discontinuation or use of rescue medication or prohibited medications/procedures affecting efficacy, whichever is earlier, are set to missing and imputed by worst observation carried forward.

**Table 1: STREAM-AD Part 1: Proportion of patients achieving EASI-75, IGA 0/1, and PP-NRS<sub>≥4</sub> responders with amltelimab at Week 24 vs placebo (NRI)<sup>3,b</sup>**

Proportion of Patients, n(%)	Amltelimab					Placebo (N=79)
	250 mg LD (N=77)	250 mg (N=78)	125 mg (N=77)	62.5 mg (N=79)	250 mg (+LD) (N=77)	
EASI-75	42 (54.5%)**	30 (38.5%)*	38 (49.4%)**	32 (40.5%)*	32 (40.5%)*	14 (17.7%)
IGA 0/1	35 (45.5%)**	26 (33.3%)**	31 (40.3%)**	23 (29.1%)*	23 (29.1%)*	9 (11.4%)
PP-NRS <sub>≥4</sub>	24 (31.2%)**	19 (24.4%)*	22 (28.6%)**	22 (27.8%)**	22 (27.8%)**	6 (7.6%)

<sup>a</sup>P<0.01; <sup>b</sup>P<0.001

<sup>c</sup>Data collected after early treatment discontinuation due to reasons other than lack of efficacy before endpoint timepoint are included. Data on or after rescue medication or prohibited medications/procedures affecting efficacy start date or after the date of treatment discontinuation due to lack of efficacy before endpoint timepoint, were considered as nonresponders. Any other unobserved values or other missing data are considered as nonresponders at Weeks 24.

## Results

### Baseline Demographics and Disease Characteristics

- Study baseline demographics and disease characteristics were similar between amltelimab arms, the overall population, and clinical responder population
  - Overall population** (n=386): PP-NRS mean (SD): 7.32 (1.33); **Clinical responder population** (n=189)<sup>a</sup>: PP-NRS, mean (SD): 7.18 (1.33)

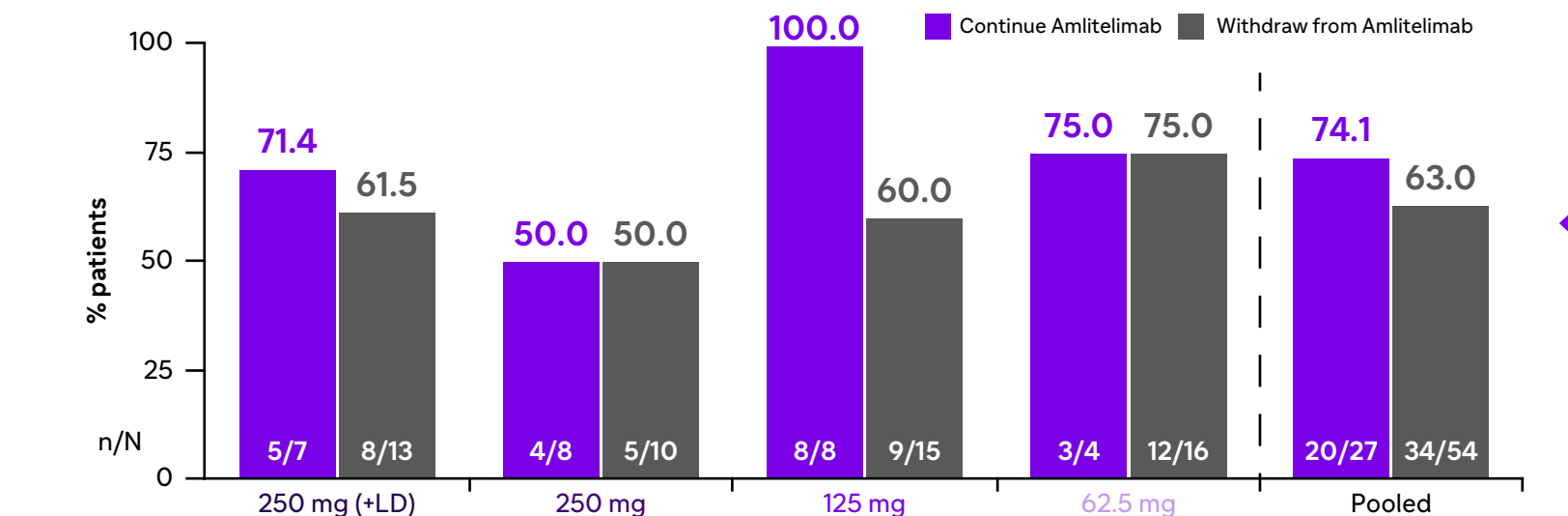
### PP-NRS<sub>≥4</sub> Response in Clinical Responders

- Among clinical responders (those achieving EASI-75 and/or IGA 0/1 at Week 24) who were rerandomized into Part 2 (n=174)<sup>b</sup>, 81 (46.6%) achieved PP-NRS<sub>≥4</sub> response at Week 24
- Clinical responders were rerandomized 3:1 to withdraw from amltelimab or continue pre-Week 24 dose
- Among Week 24 PP-NRS<sub>≥4</sub> responders who **continued amltelimab** (N=27; pooled) in Part 2, 20 (74.1%) maintained PP-NRS<sub>≥4</sub> response at Week 52
- Among Week 24 PP-NRS<sub>≥4</sub> responders who **withdrew from amltelimab** (N=54; pooled) in Part 2, 34 (63.0%) maintained PP-NRS<sub>≥4</sub> response at Week 52

**Table 2: Week 24: PP-NRS<sub>≥4</sub> response among clinical responders (NRI)<sup>b,c,d</sup>**

Proportion of Patients, n(%)	250 mg LD	250 mg	125 mg	62.5 mg	Pooled
PP-NRS <sub>≥4</sub>	20/47 (42.6%)	18/40 (45.0%)	23/45 (51.1%)	20/42 (47.6%)	81/174 (46.6%)

**Figure 3: Week 52: Maintenance of PP-NRS<sub>≥4</sub> Response Among Week 24 PP-NRS<sub>≥4</sub> Responders (NRI)<sup>b,c,d</sup>**



<sup>a</sup>Total clinical responders (defined as EASI-75 and/or IGA 0/1) includes amltelimab and placebo treated patients from Part 1. <sup>b</sup>Includes participants who received amltelimab in Part 1 (excludes participants who received placebo in Part 1). <sup>c</sup>Percentage is based on the total number of responders and nonresponders, including imputed nonresponders. <sup>d</sup>Patients who discontinued treatment due to lack of efficacy or use of rescue medications or prohibited medications/procedures affecting efficacy on or after the randomization date or first-dose date and before the corresponding timepoint in Part 2 were considered as nonresponders. Patients who received rescue medications or prohibited medications/procedures affecting efficacy in Part 1 are not considered as nonresponders. Patients with missing data were considered as nonresponders. EASI, Eczema Area and Severity Index; IGA, Investigator Global Assessment; LD, loading dose; PP-NRS, Peak Pruritus Numerical Rating Scale; SD, standard deviation.