Treatment With Dupilumab Resulted in Rapid Improvement in Pruritus in Adolescents With Moderate-to-Severe Atopic Dermatitis vs Placebo: A Post Hoc Analysis of a Phase 3 Trial

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BACKGROUND

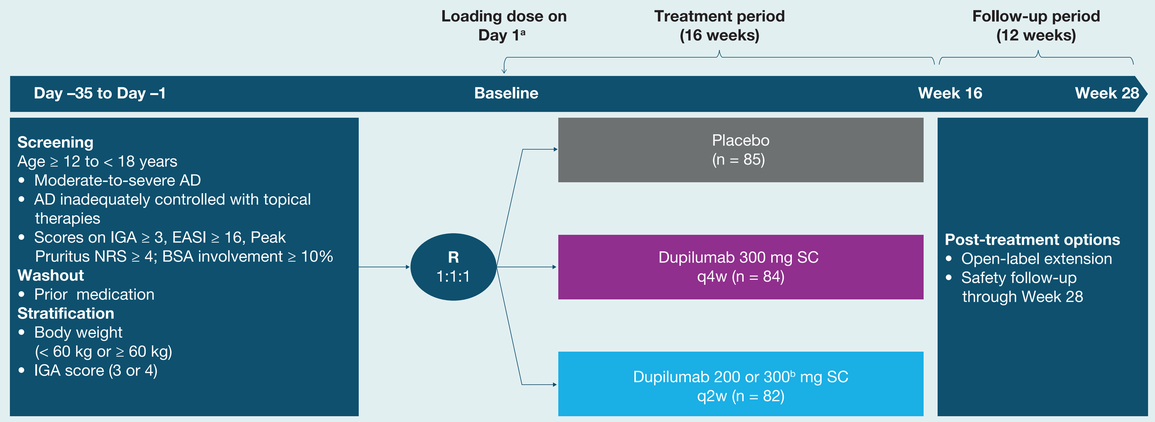
- Atopic dermatitis (AD), the most common chronic inflammatory skin disease, is driven by both terminal keratinocyte differentiation defects and strong type 2 immune responses[1]
- AD is characterized by pruritus, disruption of skin barrier function, and type 2 inflammation[2]
- AD affects an estimated 8–15%[2,3] of adolescents worldwide
- Dupilumab is a fully human monoclonal antibody that blocks the shared receptor component for interleukin (IL)-4 and IL-13, thus inhibiting signaling of both IL-4 and IL-13, which are key drivers of type 2 inflammation in multiple diseases[4,5]
- In a phase 3 trial in adolescents with moderate-to-severe AD, dupilumab vs placebo significantly improved measures of itch[6]

OBJECTIVE

- **To assess the time to onset of improvement in pruritus in adolescent patients with moderate-to-severe AD treated with dupilumab vs placebo in a randomized, placebo-controlled, double-blind, phase 3 trial (LIBERTY AD ADOL: NCT03054428)**

METHODS

Figure 1. Study design.



[a]For q2w, patients with body weight < 60 kg at baseline received a loading dose of 400 mg on Day 1, while patients with body weight ≥ 60 kg received a loading dose of 600 mg. All patients in q4w, regardless of weight, received a 600 mg loading dose. [b]In the q2w group, patients with body weight < 60 kg received 200 mg of the study drug; patients with body weight ≥ 60 kg received 300 mg.
BSA, body surface area; EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; q4w, every 4 weeks; R, randomization.

RESULTS

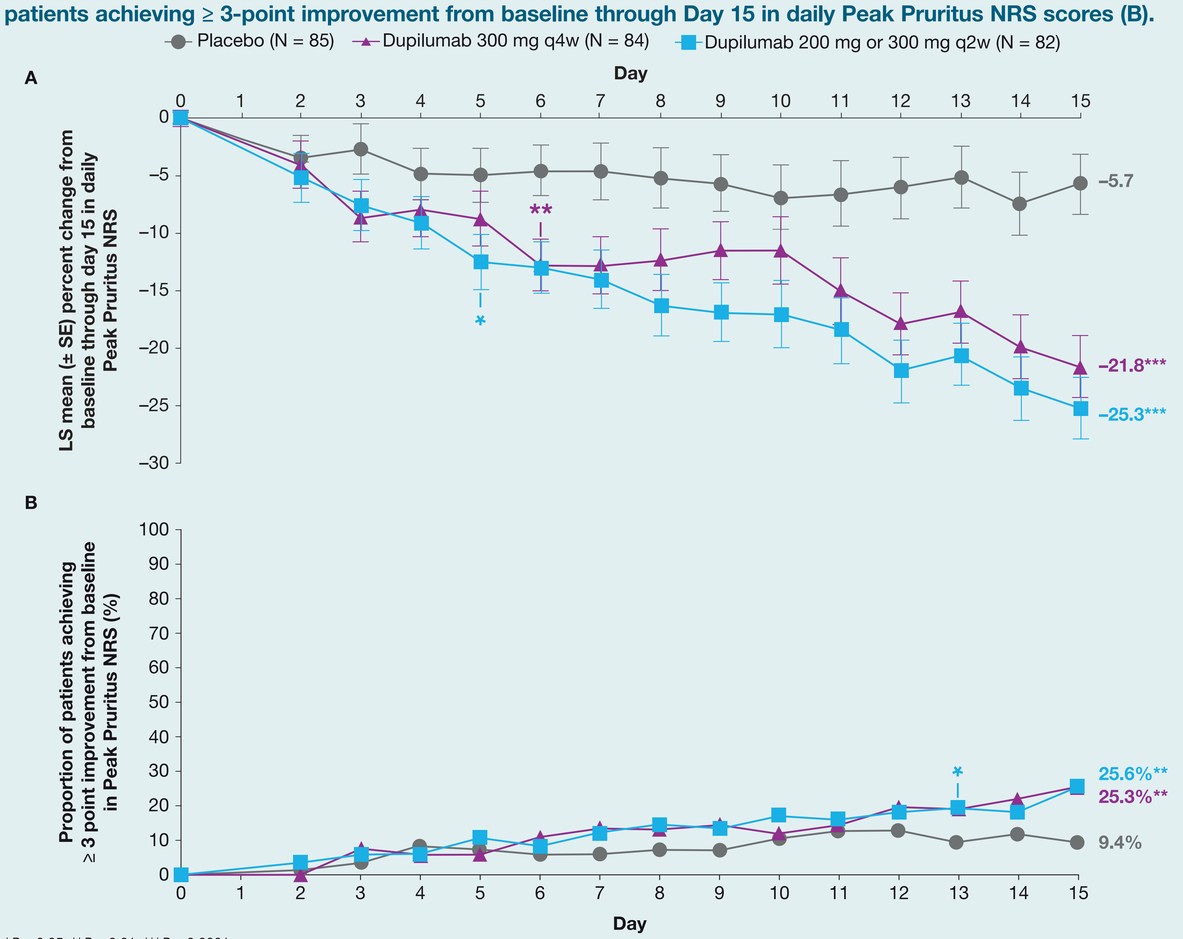
Table 1. Baseline demographics and disease characteristics.

	Placebo (N = 85)	Dupilumab 300 mg q4w (N = 84)	Dupilumab 200 mg or 300 mg q2w (N = 82)
Age, years, mean (SD)	14.5 (1.8)	14.4 (1.6)	14.5 (1.7)
Male, n (%)	53 (62.4)	52 (61.9)	43 (52.4)
Disease duration, years, mean (SD)	12.3 (3.4)	11.9 (3.2)	12.5 (3.0)
IGA score = 4, n (%)	46 (54.1)	46 (54.8)	43 (52.4)
EASI score, mean (SD)	35.5 (14.0)	35.8 (14.8)	35.3 (13.8)
BSA involvement, % (SD)	56.4 (24.1)	56.9 (23.5)	56.0 (21.4)
SCORAD score, mean (SD)	70.4 (13.3)	69.8 (14.1)	70.6 (13.9)
Peak Pruritus NRS score, mean (SD)	7.7 (1.6)	7.5 (1.8)	7.5 (1.5)
POEM score, mean (SD)	21.1 (5.4)	21.1 (5.5)	21.0 (5.0)
CDLQI score, mean (SD)	13.1 (6.7)	14.8 (7.4)	13.0 (6.2)
HADS score, mean (SD)	11.6 (7.8)	13.3 (8.2)	12.6 (8.0)

CDLQI, Children's Dermatology Life Quality Index; HADS, Hospital Anxiety and Depression Scale; POEM, Patient-Oriented Eczema Measure; NRS, Numerical Rating Scale; SCORAD, SCORing Atopic Dermatitis; SD, standard deviation.

RESULTS (CONT.)

Figure 2. Percent change from baseline through Day 15 in daily Peak Pruritus NRS scores (A) and proportion of patients achieving ≥ 3-point improvement from baseline through Day 15 in daily Peak Pruritus NRS scores (B).



*$P < 0.05$, **$P < 0.01$, ***$P < 0.0001$.
LS, least squares; SE, standard error

Table 2. Adverse events reported through Week 16.

	Placebo (N = 85)	Dupilumab 300 mg q4w (N = 83)	Dupilumab 200 mg or 300 mg q2w (N = 82)
Any TEAE, n (%)	59 (69.4)	53 (63.9)	59 (72.0)
TEAE leading to discontinuation of study drug, n (%)	1 (1.2)	0	0
Serious TEAE, n (%)	1 (1.2)	0	0
Death, n (%)	0	0	0

One patient randomized to the dupilumab q4w group did not receive treatment, and was included in the efficacy, but not the safety, analysis
TEAE, treatment-emergent adverse event.

CONCLUSIONS

- **Treatment with dupilumab resulted in rapid and significant improvement in itch in adolescent patients with moderate-to-severe AD as early as Day 5 (q2w dose group) or Day 6 (q4w dose group), and clinically meaningful improvement as early as Day 13 (q2w dose group)**
- **Dupilumab was generally well tolerated and had an acceptable safety profile**

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