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# Evaluation of Eyebrow and Eyelash Regrowth and Patient Satisfaction in the Phase 3 THRIVE-AA1 Trial With CTP-543 (Deuruxolitinib) in Adult Patients With Moderate-to-Severe Alopecia

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# Background and Methods

## Background

- AA is an autoimmune disorder causing partial or complete loss of hair, leading to reduced quality of life and considerable psychosocial impact for patients<sup>1</sup>
- JAK inhibitors have been shown to reverse hair loss in AA patients<sup>2</sup>
- Deuruxolitinib is an inhibitor of JAK1 and JAK2 that resulted in significant improvements in hair regrowth compared with placebo in the Phase 2 dose-ranging trial (NCT03137381)<sup>3</sup>
- Key safety and efficacy data from the THRIVE-AA1 study will be shown in presentations 42736, 41701 and 42746

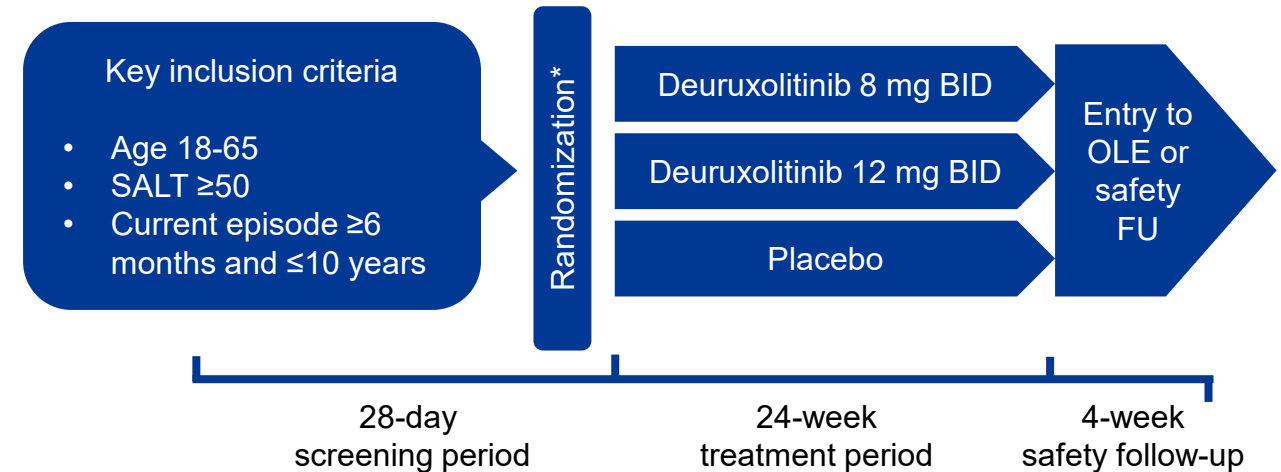
## Materials and methods

- The Brigham Eyebrow Tool for Alopecia (BETA) and Brigham Eyelash Tool for Alopecia (BELA) are quantitative assessments performed centrally by trained, board-certified dermatologists at baseline, Week 12 and Week 24
- A hair quality patient-reported outcome scale (QPRO) assessing satisfaction with eyebrows and eyelashes was also employed

## Objective

- To present the clinician and patient-reported assessments of eyebrow and eyelash hair improvements over time up to Week 24 from the Phase 3 THRIVE-AA1 trial (NCT04518995)

## THRIVE-AA1 Study Design



### Primary endpoint

- SALT score  $\leq 20$  at Wk 24

### Key secondary endpoints

- BETA eyebrow score (change from baseline)
- BELA eyelash score (change from baseline)
- QPRO (change from baseline)

\*Randomization 3:5:2 to deuruxolitinib 12 mg BID, 8 mg BID or placebo.

AA, alopecia areata; BELA, Brigham Eyelash Tool for Alopecia; BETA, Brigham Eyebrow Tool for Alopecia; BID, twice daily; FU, follow-up; OLE, open-label extension; QPRO, Quality of Hair Patient-Reported Outcome; SALT, severity of alopecia tool; wk, week.

1. Lintzeri DA, et al. *J Dtsch Dermatol Ges.* 2022;20(1):59-90; 2. Dillon KL, et al. *Clin Cosmet Investig Dermatol.* 2021;14:691-714; 3. King B, et al. *J Am Acad Dermatol.* 2022;87(2):306-313.

# Baseline Characteristics

## Patient Demographics and Baseline Characteristics

Characteristic	Placebo (n = 140)	Deuruxolitinib 8 mg BID (n = 351)	Deuruxolitinib 12 mg BID (n = 215)	Total (n = 706)
Age, mean (SD), years	38.7 (13.81)	38.9 (13.32)	38.2 (12.80)	38.6 (13.25)
Female, n (%)	89 (63.6)	217 (61.8)	131 (60.9)	437 (61.9)
White, n (%)	98 (70.0)	241 (68.7)	145 (67.4)	484 (68.6)
Baseline SALT score, mean (SD)	88.1 (15.10)	85.5 (18.35)	85.2 (18.41)	85.9 (17.78)
Duration of current episode (years), mean (SD)	3.9 (2.88)	3.6 (2.63)	3.6 (2.86)	3.7 (2.75)
Alopecia areata classification, n (%)				
Partial scalp hair loss (SALT ≥50 and <95)	62 (44.3)	155 (44.2)	95 (44.2)	312 (44.2)
Complete or near-complete scalp hair loss (SALT ≥95)	78 (55.7)	196 (55.8)	120 (55.8)	394 (55.8)
Current eyebrow involvement, n (%)	97 (69.3)	245 (69.8)	151 (70.2)	493 (69.8)
Current eyelash involvement, n (%)	92 (65.7)	246 (70.1)	158 (73.5)	496 (70.3)

**BETA total eyebrow score = left eyebrow + right eyebrow**

**right/left eyebrow total score =**  
density (D) x surface area (SA)

**Total eyebrow hair score** =  $(D_R \times SA_R) + (D_L \times SA_L)$   
= Right eyebrow + left eyebrow

**BELA total eyelash score = left eyelash + right eyelash**

**right/Left eyelash total score =**  
(% distribution of top lid present) x (grade of patient's eyelashes)

**BELA total eyelash score =** (right eyelash total) +  
(left eyelash total)

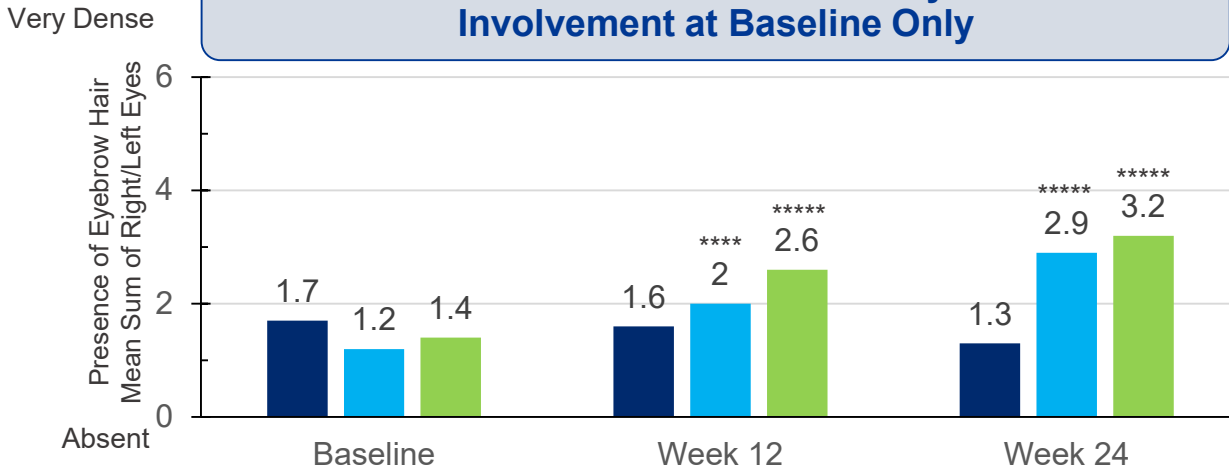
**BELA and BETA range of score: 0 - 6**

Data are mean (SD) unless stated otherwise.

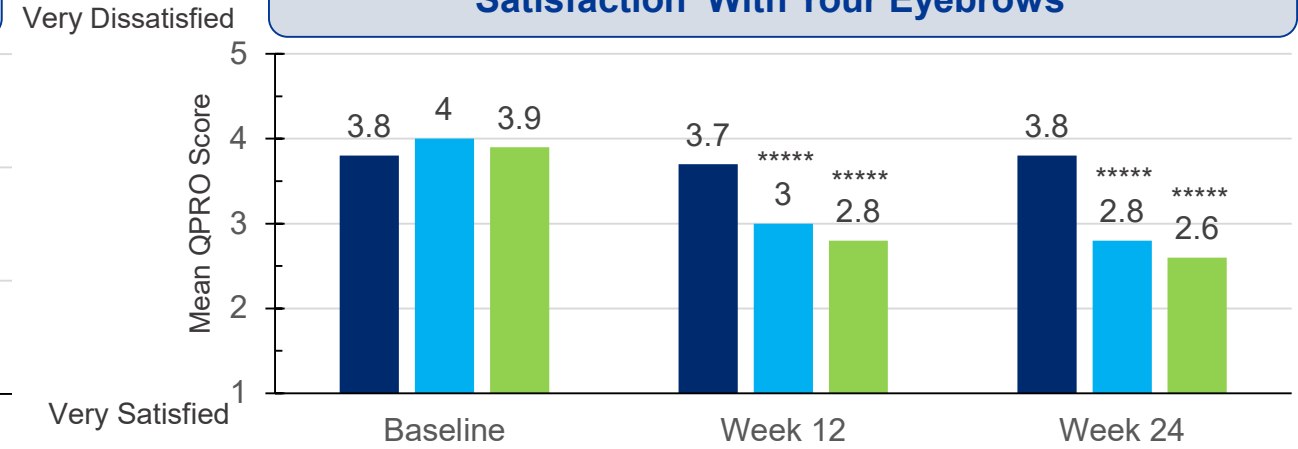
BELA, Brigham Eyelash Tool for Alopecia; BETA, Brigham Eyebrow Tool for Alopecia; BID, twice daily;  $D_L$ , density left;  $D_R$ , density right;  $SA_L$ , surface area left;  $SA_R$ , surface area right; SALT, severity of alopecia tool; SD, standard deviation.

# Results

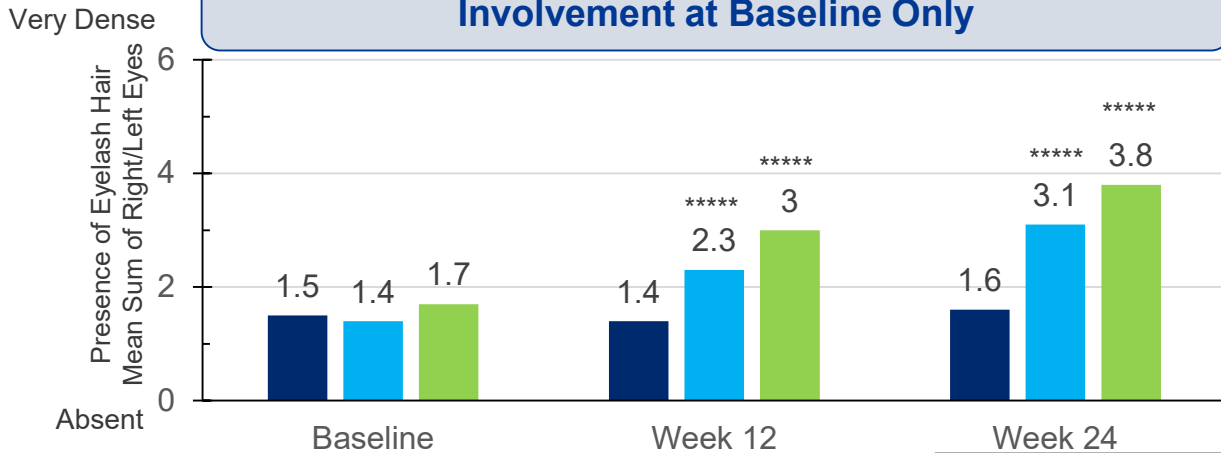
**BETA Score for Patients With Eyebrow Involvement at Baseline Only**



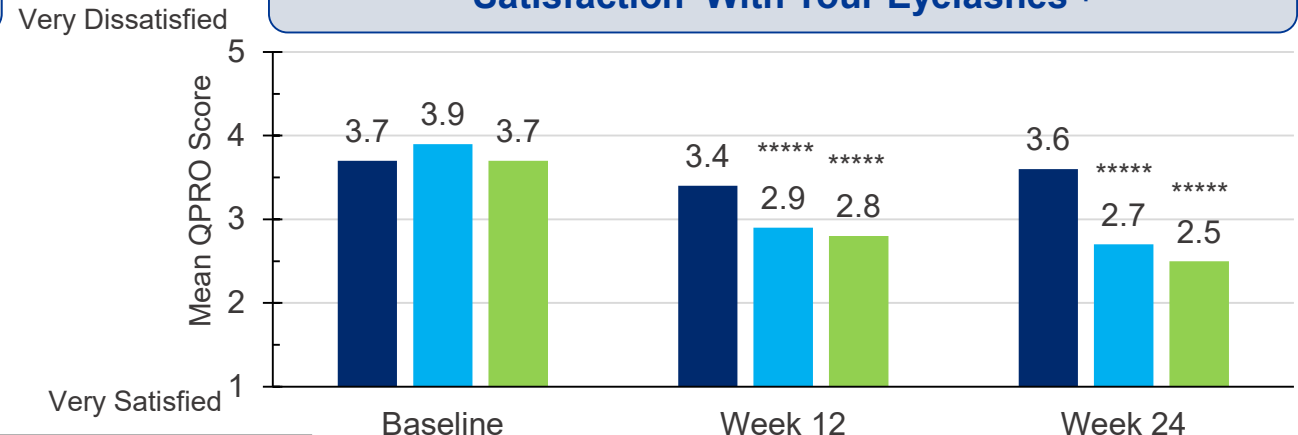
**Quality of Hair Patient-Reported Outcome (QPRO): Satisfaction 'With Your Eyebrows'\***



**BELA Score for Patients With Eyelash Involvement at Baseline Only**



**Quality of Hair Patient-Reported Outcome (QPRO): Satisfaction 'With Your Eyelashes'†**



■ Placebo ■ 8 mg BID ■ 12 mg BID

BELA, Brigham Eyelash Tool for Alopecia; BETA, Brigham Eyebrow Tool for Alopecia; BID, twice daily; QPRO, Quality of Hair Patient-Reported Outcome. \*Includes only patients with eyebrow involvement at baseline; †Includes only patients with eyelash involvement at baseline; \*\*\*\*p < 0.001 vs placebo; \*\*\*\*\*p < 0.0001 placebo based on treatment differences.

# Conclusions

**Patient satisfaction and clinician-rated assessment of eyebrow and eyelash hair were significantly higher for both the 8 mg BID and 12 mg BID doses of deuruxolitinib compared with placebo, starting at 12 weeks and extending through 24 weeks of treatment**

- For the BELA and BETA assessments, significant differences from placebo were found with both doses of deuruxolitinib starting at 12 weeks and increasing through 24 weeks of treatment
- Compared with placebo, patients on either dose of deuruxolitinib reported increased satisfaction with their eyelashes or eyebrows beginning at Week 12 as assessed using the QPRO scale
- Further evaluation of the durability, association with overall response and psychosocial impact of eyebrow and eyelash growth for patients is warranted

THRIVE-AA1 8 mg BID



THRIVE-AA1 12 mg BID

