AAD Annual Meeting, New Orleans
S042 Late Breaking Research Session
Mar 18, 2023, 1:30 PM–1:40 PM CDT

RESULTS FROM THRIVE-AA2: A DOUBLE BLIND, PLACEBO-CONTROLLED PHASE 3 CLINICAL TRIAL OF DEURUXOLITINIB (CTP-543), AN ORAL JAK INHIBITOR, IN ADULT PATIENTS WITH MODERATE TO SEVERE ALOPECIA AREATA

Brett King, MD, PhD
Yale University School of Medicine

ClinicalTrials.gov Identifier: NCT04797650

Disclosures of Relationship With Industry

Brett King, MD, PhD

Disclosures:

- Dr King has served on advisory boards and/or is a consultant and/or is a clinical trial investigator for AbbVie, AltruBio Inc, Almirall, AnaptysBio, Arena Pharmaceuticals, Bioniz Therapeutics, Bristol Meyers Squibb, CoNCERT Pharmaceuticals Inc, Equillium, Horizon Therapeutics, Eli Lilly and Company, Incyte Corp, Janssen Pharmaceuticals, LEO Pharma, Otsuka/Visterra Inc, Pfizer Inc, Regeneron, Sanofi Genzyme, Sun Pharmaceutical, TWi Biotechnology Inc and Viela Bio. He has been on speaker bureaus for AbbVie, Incyte, Eli Lilly, Pfizer, Regeneron and Sanofi Genzyme. He is a scientific advisor for BiologicsMD.

Background and Trial Design

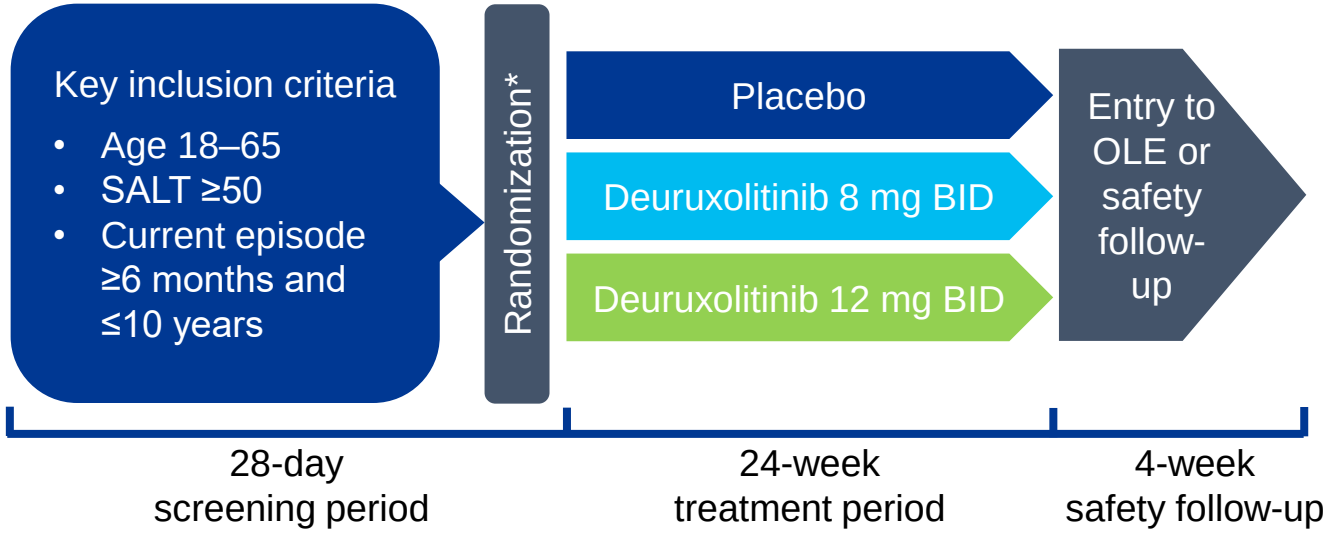
THRIVE-AA2
Phase 3 study of deuruxolitinib in adults with moderate to severe alopecia areata

Background

- Alopecia areata (AA) is a chronic autoimmune disease causing patchy or complete hair loss, leading to reduced quality of life and considerable psychosocial impact for patients[1]
- JAK inhibitors have been shown to reverse hair loss in AA patients[2]
- Deuruxolitinib is an inhibitor of JAK1 and JAK2 that resulted in significant improvements in hair regrowth compared with placebo in both the Phase 2 dose-ranging trial (NCT04797650)[3] and in the Phase 3 THRIVE-AA1 trial (NCT04518995)

Objective

- To present key efficacy and safety outcomes from the randomized, controlled, Phase 3 THRIVE-AA2 trial in patients with moderate to severe AA (NCT04797650)



Primary efficacy endpoint:

- SALT score ≤20 at Wk 24

Secondary efficacy endpoints:

- SALT score ≤20 at Wk 20, 16, 12 and 8
- SPROs (% responders) at Wk 24
- Relative change from baseline SALT score
- SALT score ≤10 at Wk 24
- BETA eyebrow score (change from baseline)
- BELA eyelash score (change from baseline)
- Safety: TEAEs and clinical laboratory results

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.

Patient Demographics and Baseline Characteristics

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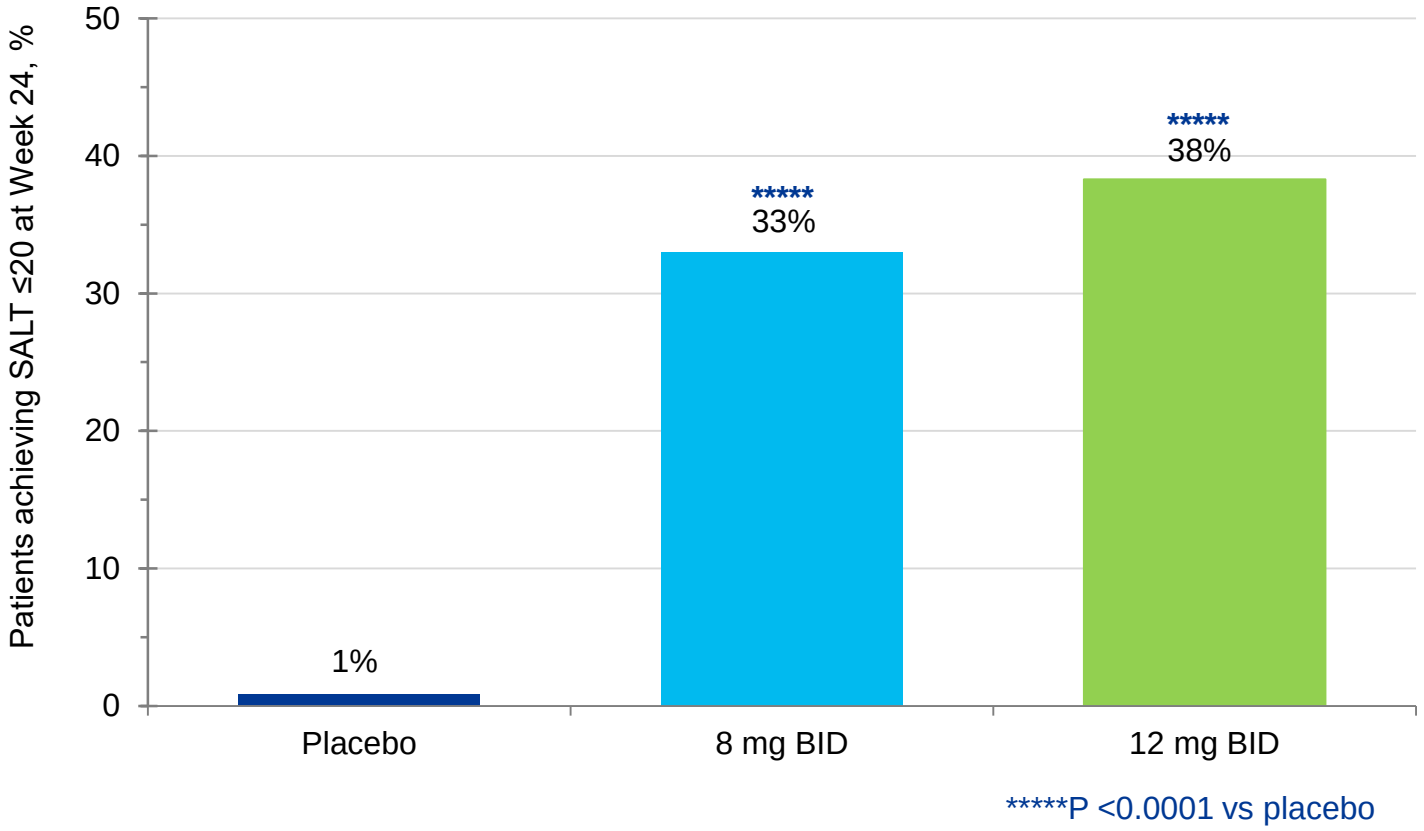
	Placebo (n = 130)	Deuruxolitinib 8 mg BID (n = 258)	Deuruxolitinib 12 mg BID (n = 129)	Total (n = 517)
Age (years), Mean (SD)	39.7 (12.49)	38.4 (12.30)	39.7 (12.90)	39.0 (12.49)
Gender, n (%)				
Male	42 (32.3)	81 (31.4)	45 (34.9)	168 (32.5)
Female	88 (67.7)	177 (68.6)	84 (65.1)	349 (67.5)
Race, n (%)				
White	100 (76.9)	203 (78.7)	109 (84.5)	412 (79.7)
Baseline Total SALT Score, Mean (SD)	88.9 (16.20)	88.1 (17.40)	86.7 (18.18)	87.9 (17.29)
Duration of Current Episode (years), Mean (SD)	3.8 (3.10)	3.8 (2.76)	4.0 (2.93)	3.8 (2.89)
Current Eyebrow Involvement, n (%)	102 (78.5)	190 (73.6)	98 (76.0)	390 (75.4)
Current Eyelash Involvement, n (%)	90 (69.2)	178 (69.0)	86 (66.7)	354 (68.5)
Alopecia Areata Classification, n(%)				
Partial scalp hair loss (SALT ≥50 and <95)	51 (39.2)	99 (38.4)	50 (38.8)	200 (38.7)
Complete or near-complete scalp hair loss (SALT ≥95)	79 (60.8)	159 (61.6)	79 (61.2)	317 (61.3)

Both Doses of Deuruxolitinib Achieve Primary Efficacy Endpoint

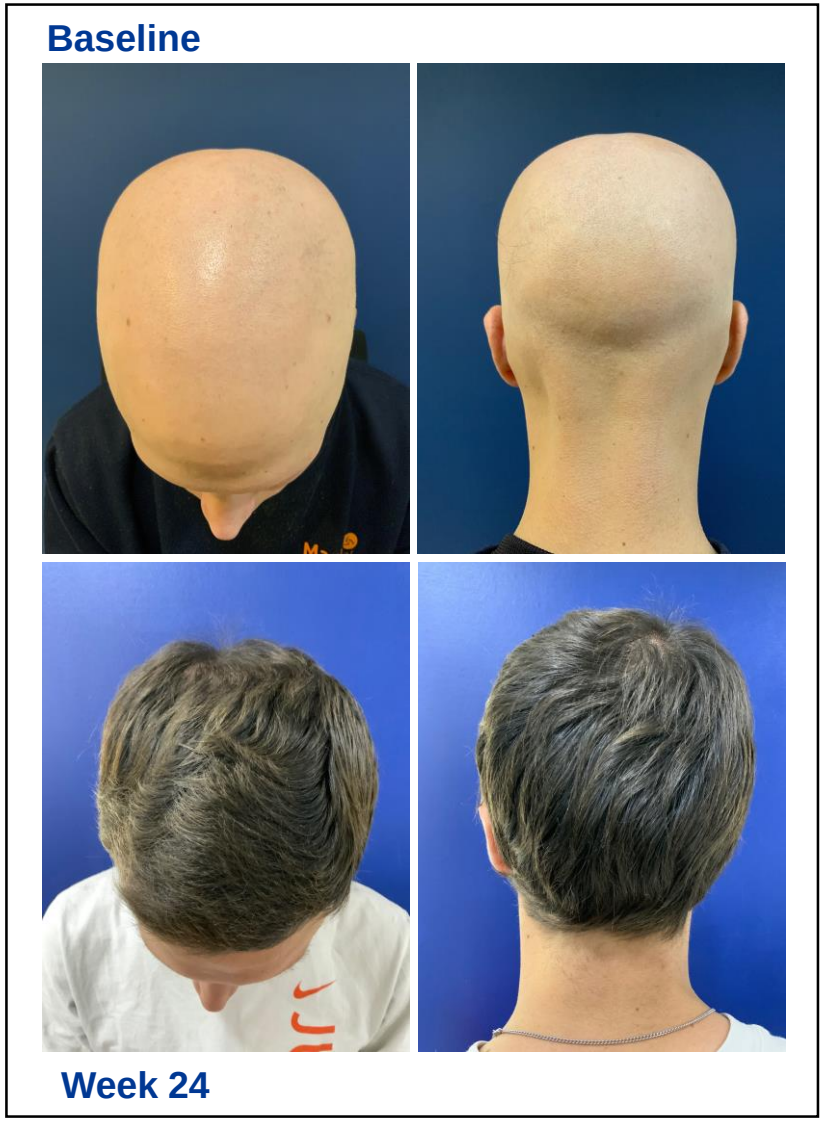
THRIVE-AA2

Phase 3 study of deuruxolitinib in adults with moderate to severe alopecia areata

Proportion of Patients Achieving SALT Score ≤20 at Week 24



*****P <0.0001 vs placebo

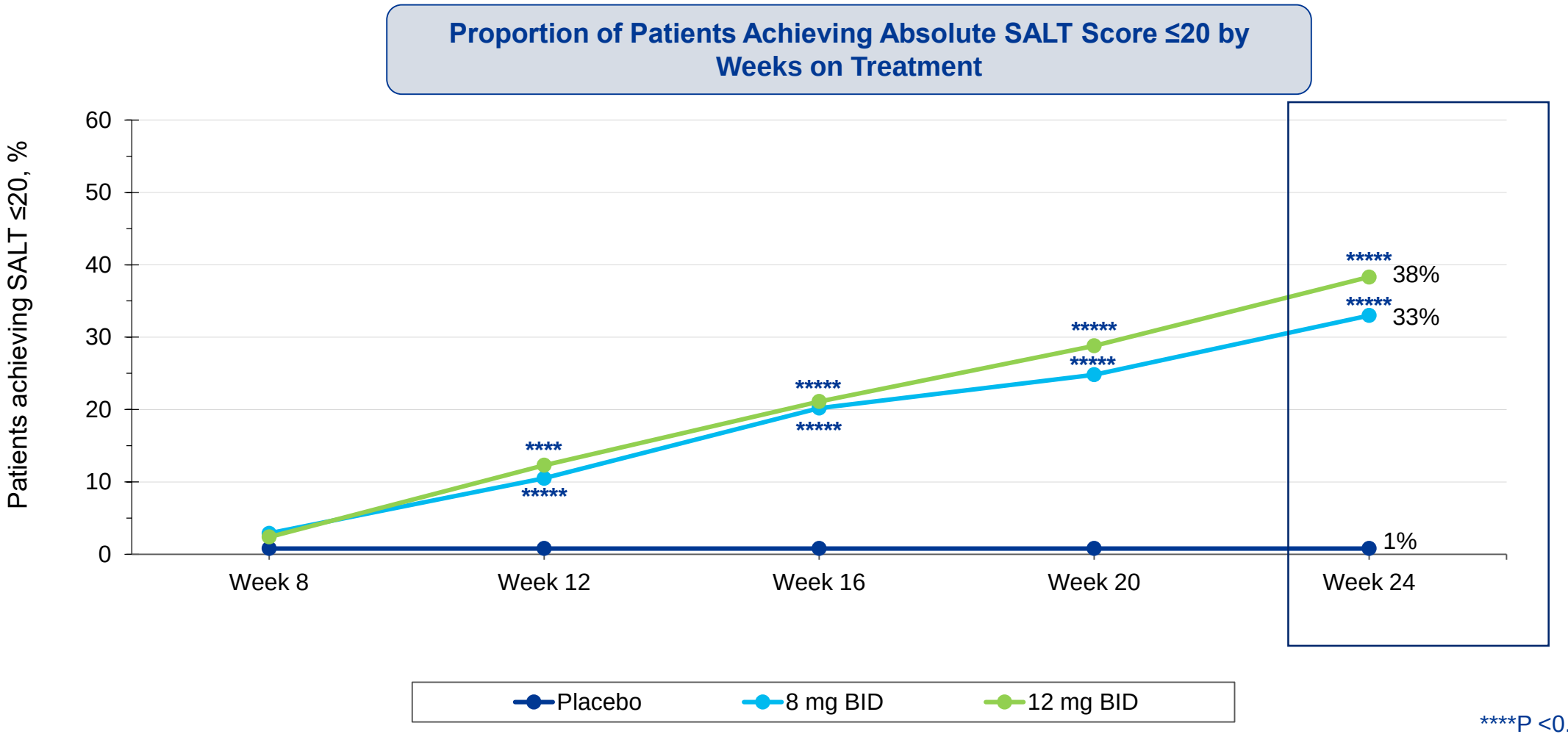


Proportion of patients achieving SALT score ≤20 at Week 24 from the THRIVE-AA1 trial: placebo = 1%; 8 mg BID = 30%; 12 mg BID = 42%

Proportion of Patients Achieving SALT Score ≤20 Over 24 Weeks of Deuruxolitinib Treatment

THRIVE-AA2

Phase 3 study of deuruxolitinib in adults with moderate to severe alopecia areata



****P <0.001 vs placebo
*****P <0.0001 vs placebo

Significant Effects on SALT Score ≤10

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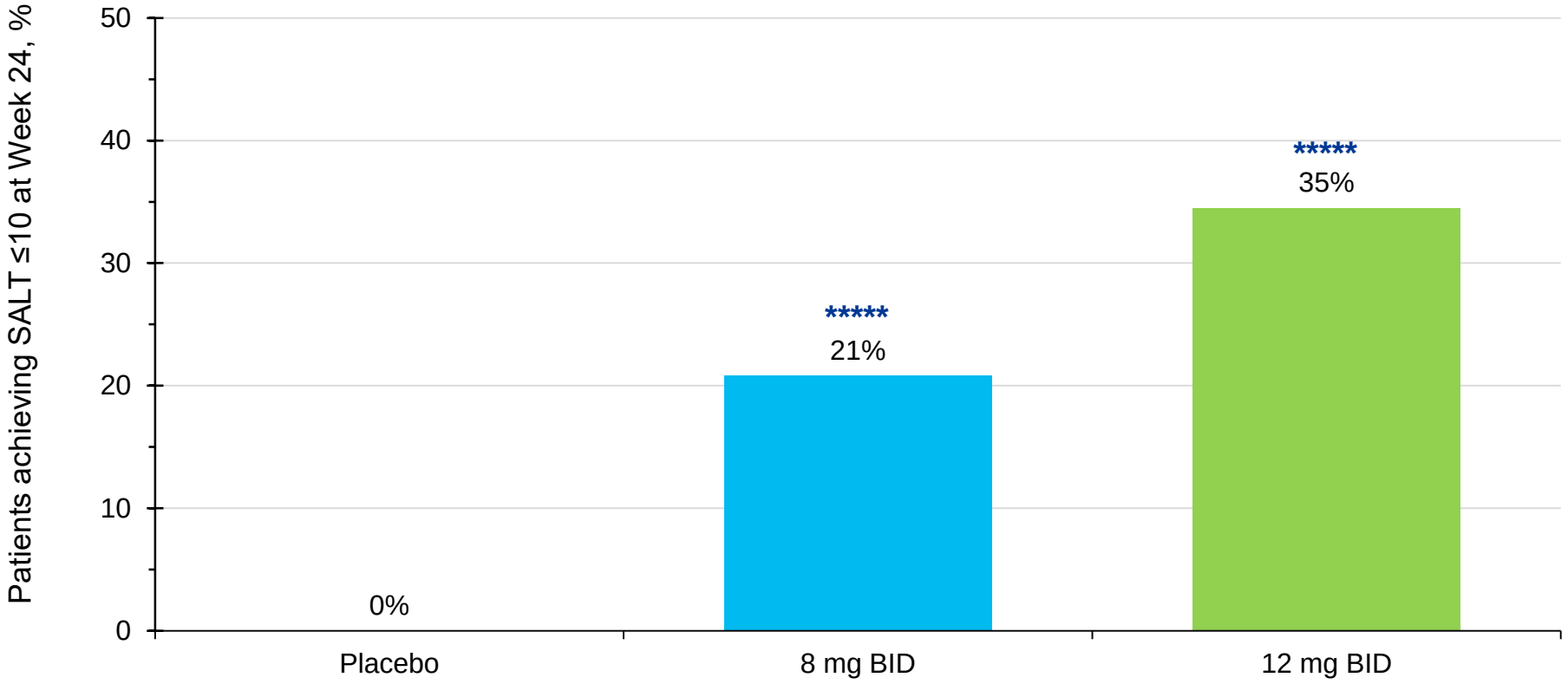
Proportion of Patients Achieving SALT Score ≤10 at Week 24



*****P <0.0001 vs placebo

Significant Changes in SALT Score as Early as Four Weeks

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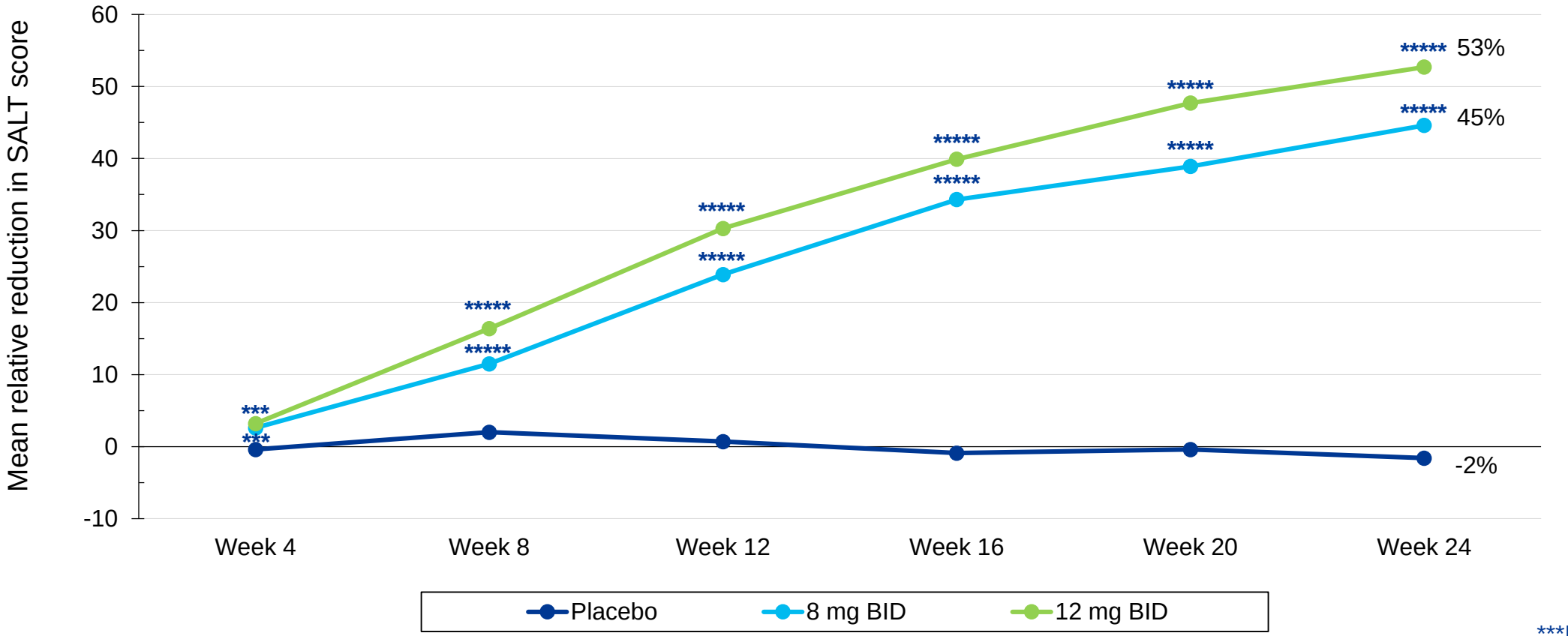
Relative Change From Baseline SALT Score Over 24 Weeks



***P <0.01 vs placebo
***** P <0.0001 vs placebo

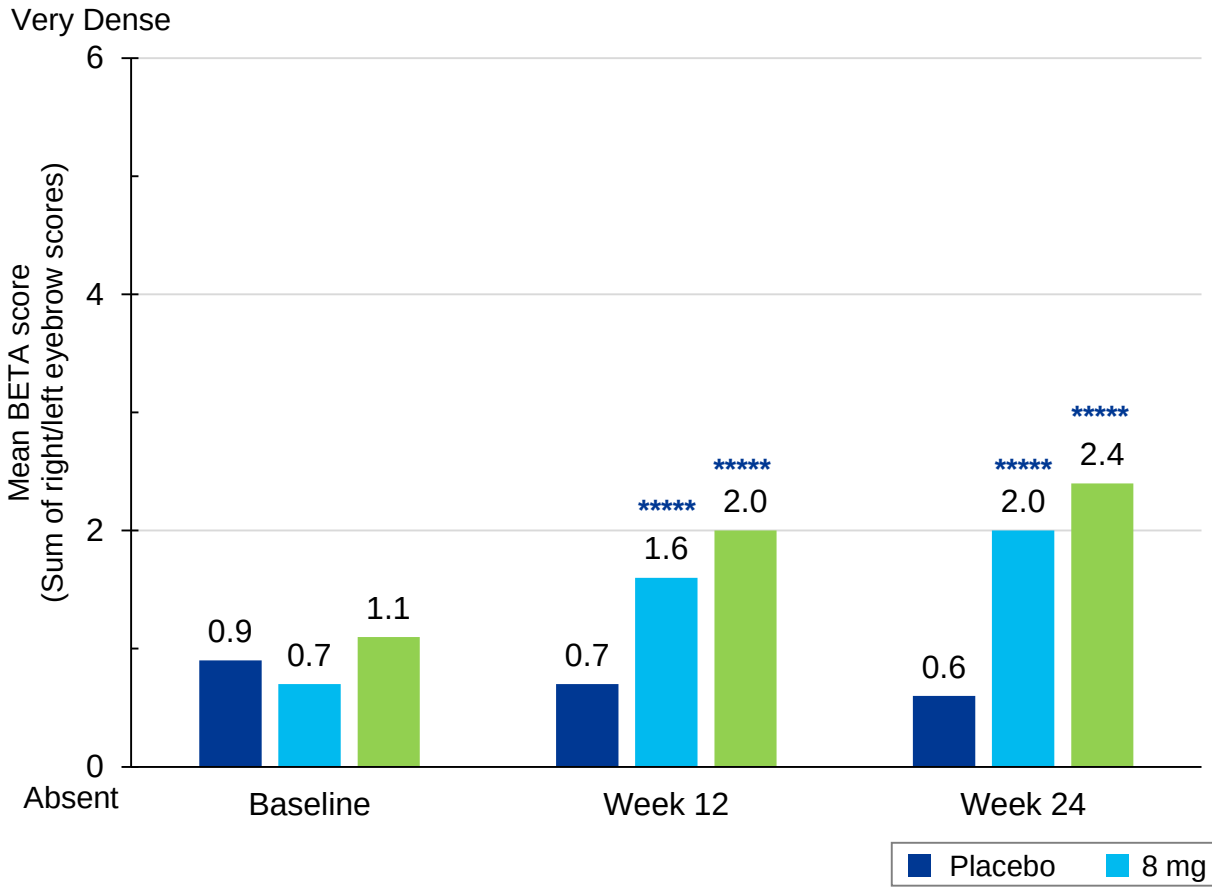
This graph represents a decrease (improvement) in SALT score relative to baseline

Significant Improvement in Eyebrow and Eyelash Regrowth

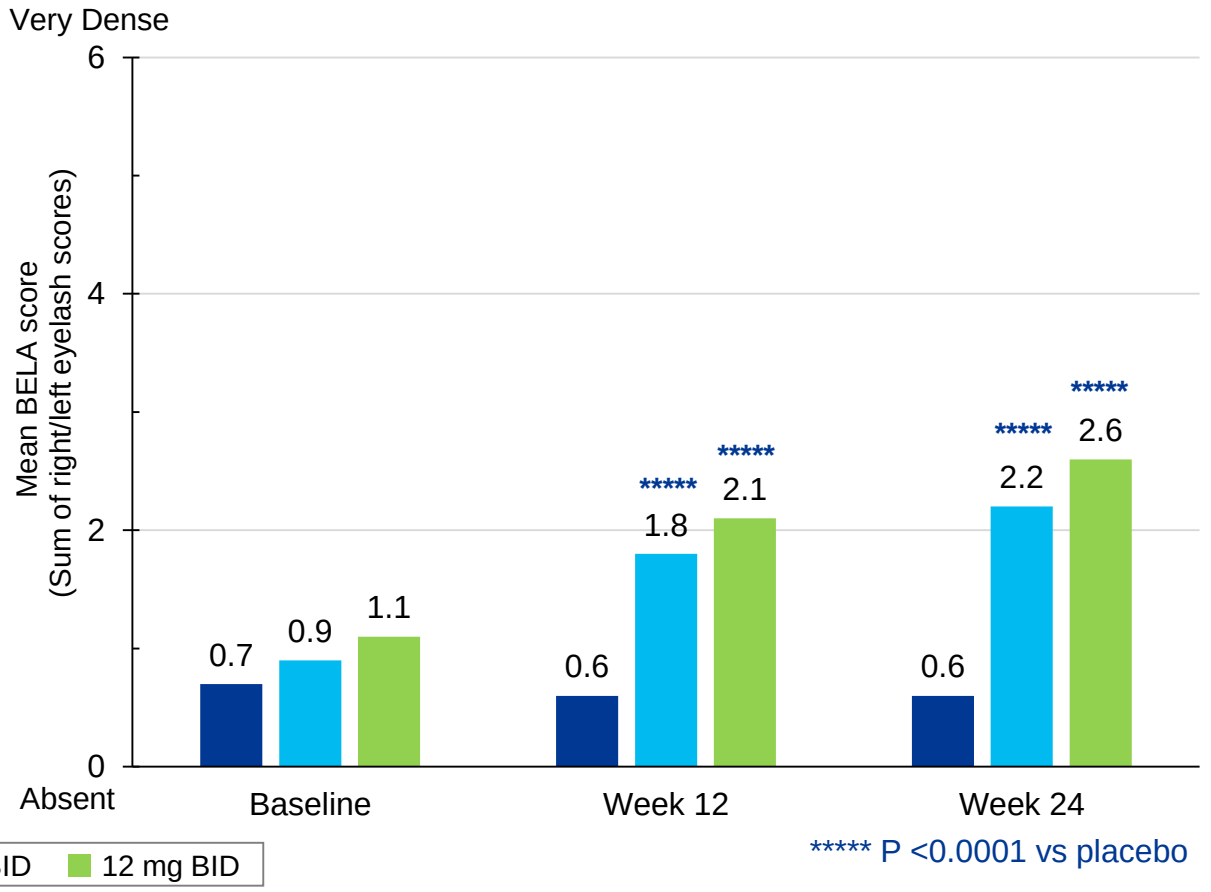
THRIVE-AA2

Phase 3 study of deuruxolitinib in adults with moderate to severe alopecia areata

BETA Score for Patients With Eyebrow Involvement at Baseline Only



BELA Score for Patients With Eyelash Involvement at Baseline Only



Placebo | 8 mg BID | 12 mg BID

***** P <0.0001 vs placebo

Approximately 75% and 69% of patients had eyebrow and eyelash involvement at Baseline, respectively

High Degree of Patient Satisfaction With Scalp Hair

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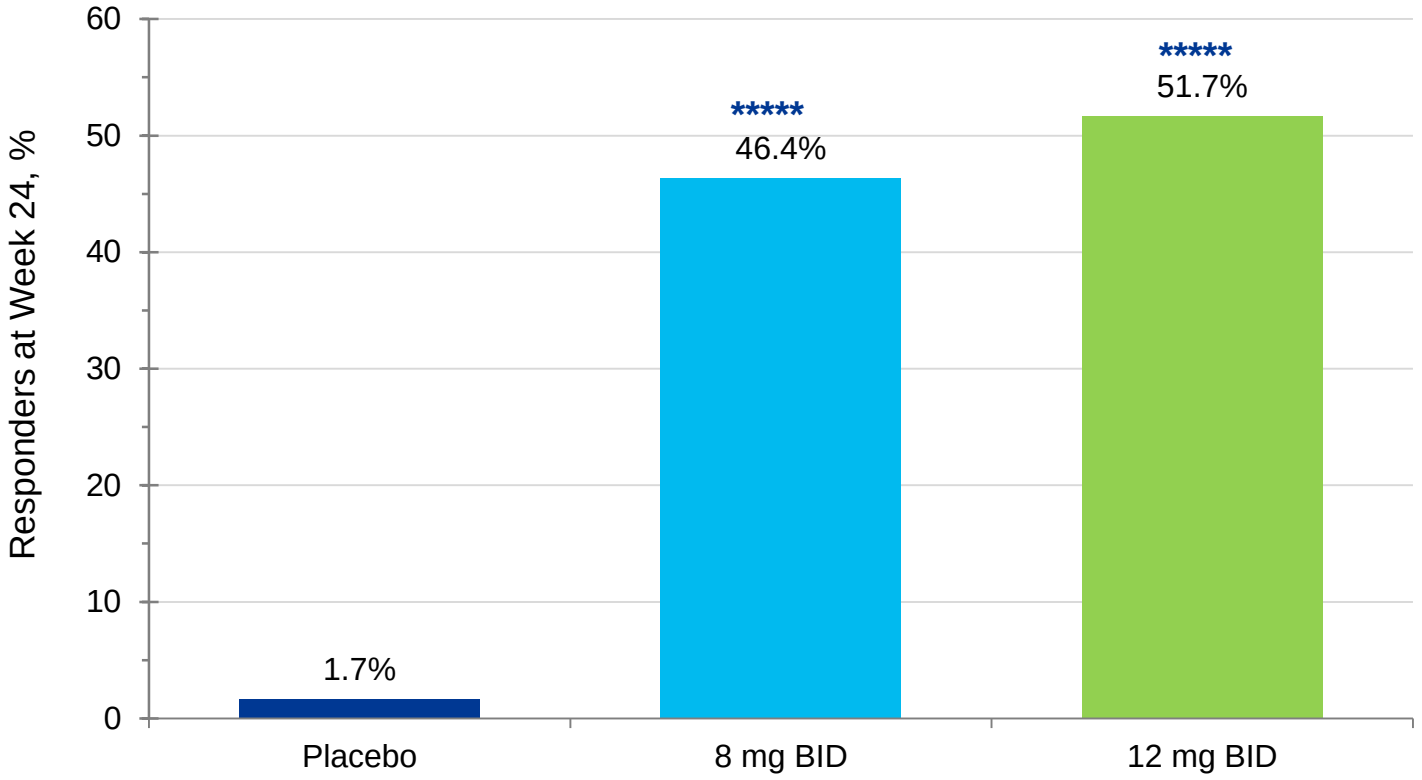
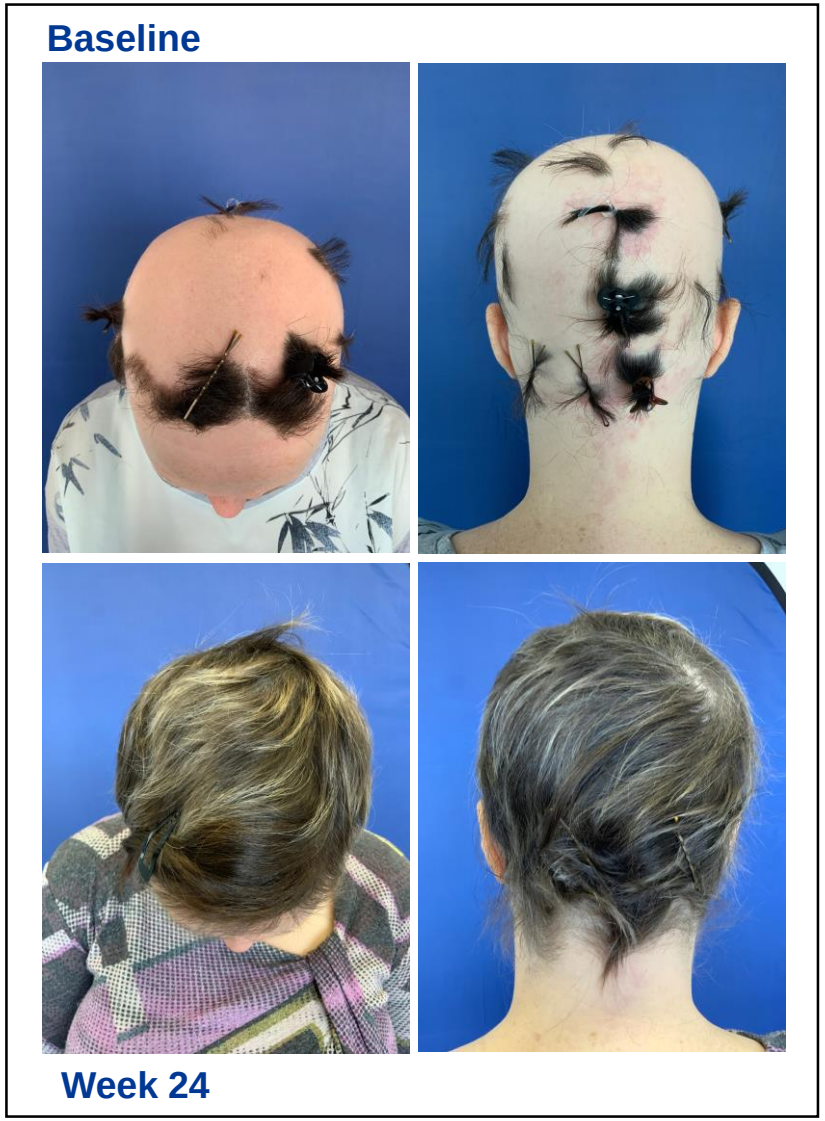
Patient Response of 'Very Satisfied' or 'Satisfied' on SPRO at Week 24



*****P <0.0001 vs placebo



Responder: Patient responding as 'very satisfied' or 'satisfied' on SPRO

Patient Disposition

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	Placebo (n = 130)	Deuruxolitinib 8mg BID (n = 258)	Deuruxolitinib 12mg BID (n = 129)	Total (n = 517)
Randomized, n	130	258	129	517
Study Status, n (%)				
Completed	119 (91.5)	232 (89.9)	117 (90.7)	468 (90.5)
Entered OLE	115 (88.5)	222 (86.0)	115 (89.1)	452 (87.4)
Discontinued	11 (8.5)	26 (10.1)	12 (9.3)	49 (9.5)
Reason for study discontinuation, n				
TEAE or worsening AE	1 (9.1)	7 (28.0)	0	8 (17.8)
Lack of efficacy	1 (9.1)	0	1 (11.1)	2 (4.4)
Noncompliance with study drug	0	0	2 (22.2)	2 (4.4)
Other	2 (18.2)	4 (16.0)	3 (33.3)	9 (20.0)
Lost to follow-up	4 (36.4)	6 (24.0)	1 (11.1)	11 (24.4)

Treatment-Emergent Adverse Events

THRIVE-AA2
Phase 3 study of deuruxolitinib in adults with moderate to severe alopecia areata

	Placebo (n = 130)	Deuruxolitinib 8 mg BID (n = 256)	Deuruxolitinib 12 mg BID (n = 129)	Total (n = 515)
Total TEAEs, n	279	605	301	1185
Patients With ≥1: n (%)				
TEAE	91 (70.0)	206 (80.5)	105 (81.4)	402 (78.1)
Serious TEAE	0	3 (1.2)	2 (1.6)	5 (1.0)
TEAE leading to study drug interruption	23 (17.7)	53 (20.7)	24 (18.6)	100 (19.4)
TEAE leading to study drug discontinuation	1 (0.8)	8 (3.1)	3 (2.3)	12 (2.3)
Common TEAEs (≥5%), n (%)				
COVID-19	22 (16.9)	60 (23.4)	24 (18.6)	106 (20.6)
Asymptomatic COVID-19	22 (16.9)	33 (12.9)	21 (16.3)	76 (14.8)
Nasopharyngitis	16 (12.3)	33 (12.9)	16 (12.4)	65 (12.6)
Blood creatine phosphokinase increase	4 (3.1)	13 (5.1)	15 (11.6)	32 (6.2)
Headache	19 (14.6)	32 (12.5)	13 (10.1)	64 (12.4)
Acne	3 (2.3)	23 (9.0)	13 (10.1)	39 (7.6)

Serious Adverse Events

THRIVE-AA2
Phase 3 study of deuruxolitinib in adults with moderate to severe alopecia areata

	Placebo (n = 130)	Deuruxolitinib 8 mg BID (n = 256)	Deuruxolitinib 12 mg BID (n = 129)	Total (n = 515)
Total Serious TEAEs, n	0	3	2	5
Number of patients with any serious TEAEs, n %	0	3 (1.2)	2 (1.6)	5 (1.0)
Number of patients with related serious TEAEs, n %	0	1 (0.4)	0	1 (0.2)
Number of patients with not related serious TEAEs, n %	0	2 (0.8)	2 (1.6)	4 (0.8)

Summary of treatment-related SAEs

Placebo (n = 130)	Deuruxolitinib 8 mg BID (n = 256)	Deuruxolitinib 12 mg BID (n = 129)
	Influenzal pneumonia	

Summary of unrelated SAEs by preferred term

Placebo (n = 130)	Deuruxolitinib 8 mg BID (n = 256)	Deuruxolitinib 12 mg BID (n = 129)
	Appendicitis	Radius fracture
	Migraine with aura	Osteoarthritis

There were no deaths or thromboembolic events reported in THRIVE-AA2.

Conclusions

THRIVE-AA2
Phase 3 study of deuruxolitinib in adults with moderate to severe alopecia areata

- 38% and 33% of patients achieved a SALT score ≤20 with deuruxolitinib 12 mg BID and 8 mg BID, respectively, over 24 weeks of treatment
  - Consistent high level of efficacy with deuruxolitinib in the treatment of moderate to severe alopecia areata (42% and 30% of patients in the THRIVE-AA1 trial achieved a SALT score ≤20 with deuruxolitinib 12 mg BID and 8 mg BID, respectively, over the same time period)
- Patient satisfaction was significantly higher for both doses at Week 24 vs placebo
- Both doses of deuruxolitinib resulted in significant regrowth of scalp hair, starting as early as 4 weeks and continuing throughout the 24-week study period
- 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
- Deuruxolitinib was generally well tolerated at both the 8 mg and 12 mg BID doses
  - No thromboembolic events (DVT/PE) or deaths were observed