Efficacy of the oral JAK1/JAK2 inhibitor CTP-543 (deuruxolitinib) in adult patients with alopecia areata: Results from the multinational, double-blind, placebo-controlled THRIVE-AA1 Phase 3 trial

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INTRODUCTION

- Alopecia areata (AA) is an autoimmune disorder causing partial or complete loss of hair, leading to reduced quality of life and considerable psychosocial impacts for patients[1]
- Janus kinase (JAK) inhibitors have been shown to reverse hair loss in patients with AA[2]
- 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)[3]

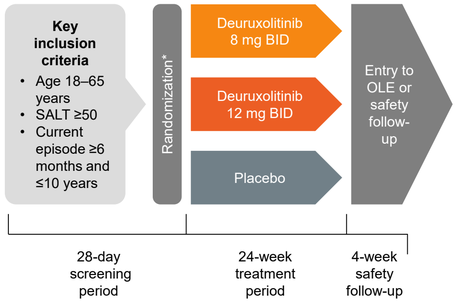
OBJECTIVE

- To present key efficacy outcomes from the randomized, controlled, Phase 3 THRIVE-AA1 trial in patients with AA (NCT04518995)

METHODS

- Eligible patients—adults (18–65 years of age) diagnosed with AA with ≥50% scalp hair loss—were randomized in a 3:5:2 ratio to receive deuruxolitinib 12 mg twice daily (BID), deuruxolitinib 8 mg BID, or placebo for 24 weeks (**Figure 1**)
- Hair loss was measured by Severity of Alopecia Tool (SALT)
- The primary efficacy endpoint was SALT score ≤20 at Week 24
- Secondary efficacy endpoints included
  - SALT score ≤20 at Weeks 8, 12, 16, and 20
  - 75% and 90% reduction in SALT score at Week 24
  - SALT score ≤10 at Week 24

Figure 1. Study design



*Randomization 3:5:2 to deuruxolitinib 12 mg BID, deuruxolitinib 8 mg BID, or placebo. BID, twice daily; OLE, open-label extension; SALT, Severity of Alopecia Tool.

RESULTS

Table 1. Baseline demographics and disease characteristics

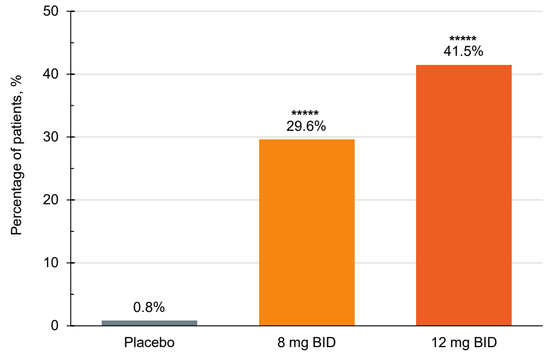
	Placebo (n = 140)	Deuruxolitinib 8 mg BID (n = 351)	Deuruxolitinib 12 mg BID (n = 215)	Total (N = 706)
Duration of current episode, years, mean ± SD	3.9 ± 2.88	3.6 ± 2.63	3.6 ± 2.86	3.7 ± 2.75
Total SALT score, mean ± SD	88.1 ± 15.10	85.5 ± 18.35	85.2 ± 18.41	85.9 ± 17.78
Partial scalp hair loss (SALT ≥50 and <95), n (%)	62 (44.3)	155 (44.2)	95 (44.2)	312 (44.2)
Complete or near-complete scalp hair loss (SALT ≥95), n (%)	78 (55.7)	196 (55.8)	120 (55.8)	394 (55.8)

BID, twice daily; SALT, Severity of Alopecia Tool; SD, standard deviation.

EFFICACY

- Both doses of deuruxolitinib met the primary efficacy endpoint (SALT score ≤20 at Week 24)
  - For deuruxolitinib 8 mg BID and 12 mg BID, 29.6% and 41.5% of patients, respectively, achieved a SALT score ≤20 at Week 24 compared with 0.8% of placebo-treated patients (**Figure 2**)

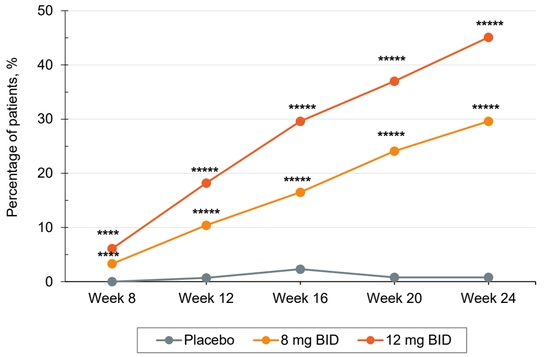
Figure 2. Percentage of patients achieving a SALT score ≤20 at Week 24



*****P <0.0001 vs placebo.
BID, twice daily; SALT, Severity of Alopecia Tool.

  - Significant differences from placebo were seen as early as Week 8 for both doses of deuruxolitinib (P <0.001; **Figure 3**)

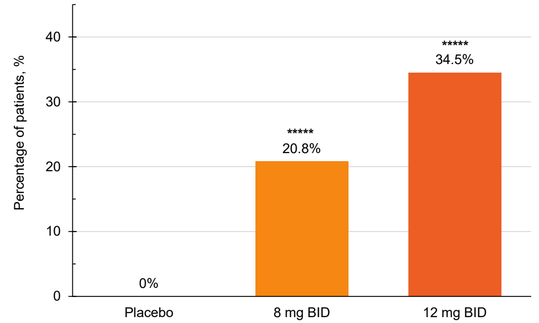
Figure 3. Percentage of patients achieving a SALT score ≤20 by weeks on treatment



****P <0.001 vs placebo; *****P <0.0001 vs placebo.
BID, twice daily; SALT, Severity of Alopecia Tool.

- A greater percentage of patients treated with either dose of deuruxolitinib achieved a SALT score ≤10 at Week 24 compared with placebo-treated patients (**Figure 4**)

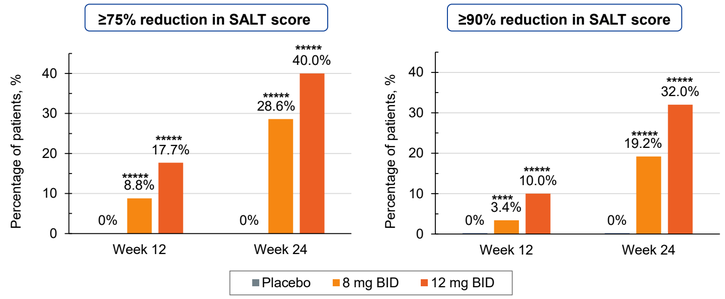
Figure 4. Percentage of patients achieving a SALT score ≤10 at Week 24



*****P <0.0001 vs placebo.
BID, twice daily; SALT, Severity of Alopecia Tool.

- Patients achieved a ≥75% and ≥90% relative improvement from baseline in SALT as early as Week 12 with both doses, with significant differences vs placebo-treated patients (**Figure 5**)

Figure 5. Percentage of patients achieving ≥75% or ≥90% relative reduction in SALT scores from baseline at Weeks 12 and 24



****P <0.001 vs placebo; *****P <0.0001 vs placebo.
BID, twice daily; SALT, Severity of Alopecia Tool.

CONCLUSIONS

- Both the 8-mg BID and 12-mg BID doses of deuruxolitinib met the primary efficacy endpoint (SALT score ≤20 at Week 24)
  - A SALT score ≤20 has been shown to be clinically meaningful for patients and hair experts[4]
- Both doses of deuruxolitinib resulted in significant regrowth of scalp hair, starting as early as 8 weeks and continuing throughout the 24-week study period
  - The deuruxolitinib 12-mg BID group was numerically superior to the deuruxolitinib 8-mg BID group
- The efficacy of deuruxolitinib in the treatment of AA is encouraging

REFERENCES

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DISCLOSURES

MS has served as a speaker for Eli Lilly and Pfizer; has been a principal investigator and has received research funding from CoNCERT Pharmaceuticals (acquired by Sun Pharma in March 2023), Eli Lilly, Follica, LEO Pharma, and Santiste Medical; and has been a consultant and/or scientific/medical adviser for American Hair Research Society, Eli Lilly, Follica, Kintor, L'Oreal, National Alopecia Areata Foundation, Pfizer, and Scarring Alopecia Foundation. **BK** has been a consultant and/or scientific adviser and/or has served as a principal investigator for AbbVie, AltruBio Inc, Almirall, AnaptysBio, Arena Pharmaceuticals, Bioniz Therapeutics, Bristol Myers Squibb, CoNCERT Pharmaceuticals (acquired by Sun Pharma in March 2023), Eli Lilly, Equillium, Horizon Therapeutics plc, Incyte, Janssen, LEO Pharma, Otsuka/Visterra Inc, Pfizer, Regeneron, Sanofi Genzyme, Sun Pharma, TWi Biotechnology Inc, and Viela Bio; and has served as a speaker for AbbVie, Eli Lilly, Incyte, Pfizer, Regeneron, and Sanofi Genzyme; and as a scientific adviser for BiologicsMD. **NAM** has served as an adviser for CoNCERT Pharmaceuticals (acquired by Sun Pharma in March 2023), Eli Lilly, and Pfizer; as a principal investigator for AbbVie, Arcutis Biotherapeutics, Bristol Myers Squibb, CoNCERT Pharmaceuticals (acquired by Sun Pharma in March 2023), Eli Lilly, and Pfizer; and as a speaker for Eli Lilly. **AM** has been a consultant for AbbVie, Boehringer Ingelheim, CoNCERT Pharmaceuticals (acquired by Sun Pharma in March 2023), Digital Diagnostics, Eli Lilly, Equillium, Hims, LEO Pharma, and Pfizer. **CH** and **JC** are employees of Sun Pharmaceutical Industries, Inc.