# Patient-Reported Outcomes With Roflumilast Foam 0.3% in Patients With Psoriasis of the Scalp and Body in the Phase 3 ARRECTOR trial

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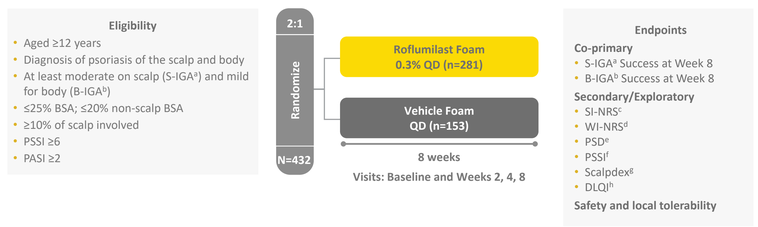
## INTRODUCTION

- Plaque psoriasis is a chronic inflammatory skin condition that negatively impacts quality of life, including in patients in which the disease is not extensive[1]
  - Up to 80% of patients with psoriasis experience scalp psoriasis[2-4]
  - Disease severity scores may underestimate the impact of disease on overall quality of life[1]
- Roflumilast is a potent phosphodiesterase 4 (PDE4) inhibitor formulated as a water-based cream and foam
  - Roflumilast potency is ~25- to >300-fold higher than apremilast and crisaborole, with roflumilast more closely mimicking cyclic adenosine monophosphate (cAMP) binding to PDE4[5,6]
  - Formulations do not contain ethanol, propylene glycol, or fragrances that can irritate skin

## METHODS

- ARRECTOR was a Phase 3, parallel-group, double-blind, vehicle-controlled trial (NCT05028582) enrolling patients ≥12 years of age with diagnosis of psoriasis of the scalp and body of at least moderate on the Scalp-Investigator Global Assessment (S-IGA) and mild on the Body-Investigator Global Assessment (B-IGA; Figure 1)
  - The co-primary efficacy endpoints were S-IGA Success and B-IGA Success at Week 8, which were defined as achievement of Clear or Almost Clear plus ≥2-grade improvement from baseline
  - Patient-reported outcomes included Worst Itch-Numeric Rating Scale (WI-NRS), Scalp Itch-Numeric Rating Scale (SI-NRS), Psoriasis Symptom Diary (PSD), Psoriasis Scalp Severity Index (PSSI), Scalpdex, and Dermatology Life Quality Index (DLQI)
  - Safety and local tolerability were also assessed

**Figure 1. Study Design**




S-IGA Success = Clear or Almost Clear plus ≥2-grade improvement from baseline
B-IGA Success = Clear or Almost Clear plus ≥2-grade improvement from baseline

[a]A 5-point scale (ranging from 0 [Clear] to 4 [Severe]) assessing severity of psoriasis on the scalp. [b]A 5-point scale (ranging from 0 [Clear] to 4 [Severe]) assessing severity of psoriasis on the body. [c]An 11-point scale assessing scalp itch, ranging from 0 (no itch) to 10 (worst itch imaginable). [d]An 11-point scale assessing itch of non-scalp body regions, ranging from 0 (no itch) to 10 (worst itch imaginable). [e]A 161-point scale assessing various psoriasis symptoms, including itch, pain, and scaling. [f]A 73-point scale based on psoriasis disease intensity and total affected body area. [g]A 23-item survey assessing quality of life in patients with scalp psoriasis. [h]A 30-point scale assessing patients' quality of life.
B-IGA: Body-Investigator Global Assessment; BSA: body surface area; DLQI: Dermatology Life Quality Index; PASI: Psoriasis Area and Severity Index; PSD: Psoriasis Symptom Diary; PSSI: Psoriasis Scalp Severity Index; QD: once daily; S-IGA: Scalp-Investigator Global Assessment; SI-NRS: Scalp Itch-Numeric Rating Scale; WI-NRS: Worst Itch-Numeric Rating Scale.

## RESULTS

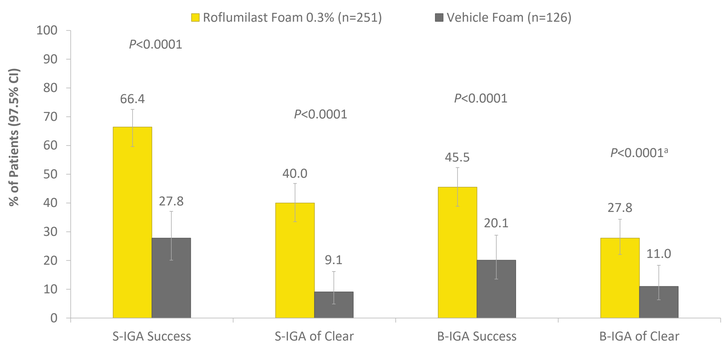
- Baseline disease characteristics were consistent between treatment groups (Table 1)
- Roflumilast provided significant improvement in psoriasis of the scalp and body, as indicated by improvements in S-IGA and B-IGA (Figure 2)

**Table 1. Baseline Disease Characteristics**

| | Roflumilast Foam 0.3% (n=281) | Vehicle Foam (n=151) |
|---|---|---|
| **Baseline S-IGA, mean (SD)** | 3.1 (0.4) | 3.1 (0.3) |
| 3 (Moderate), n (%) | 239 (85.1) | 131 (86.8) |
| 4 (Severe), n (%) | 42 (14.9) | 20 (13.2) |
| **Baseline B-IGA, mean (SD)** | 2.8 (0.5) | 2.8 (0.5) |
| 2 (Mild), n (%) | 76 (27.0) | 43 (28.5) |
| 3 (Moderate), n (%) | 191 (68.0) | 99 (65.6) |
| 4 (Severe), n (%) | 14 (5.0) | 9 (6.0) |
| **SI-NRS, mean (SD)** | 5.8 (2.6) | 6.1 (2.3) |
| **WI-NRS, mean (SD)** | 5.7 (2.6) | 5.5 (2.6) |
| **PSD total score, mean (SD)** | 73.4 (40.2) | 75.2 (36.9) |
| **PSD aggregate score (itch/pain/scaling), mean (SD)** | 15.7 (7.3) | 16.2 (6.7) |
| **PSSI, mean (SD)** | 21.4 (11.1) | 22.2 (11.0) |
| **Scalpdex, mean (SD)** | 47.2 (22.9) | 50.5 (20.4) |
| **DLQI, mean (SD)** | 7.1 (5.3) | 7.3 (4.8) |
| **BSA (%), mean (SD)** | 6.1 (4.3) | 6.0 (4.3) |
| **Extent of scalp involvement (%), mean (SD)** | 34.4 (25.0) | 36.0 (25.8) |

SD: standard deviation.

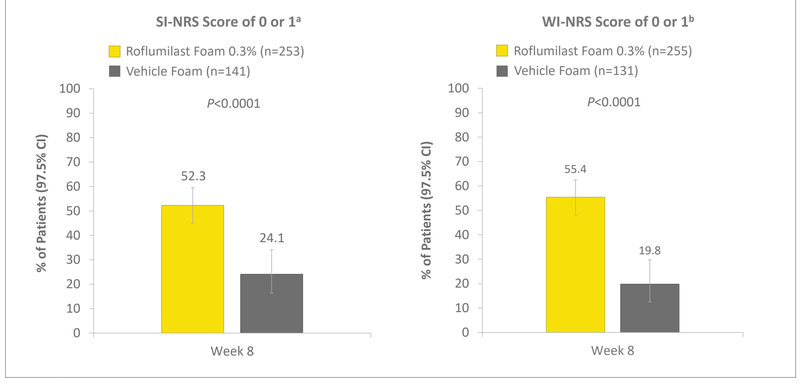
**Figure 2. Percent of Patients Achieving S-IGA Success, S-IGA of Clear, B-IGA Success, and B-IGA of Clear at Week 8**




Multiple imputation of missing data.
[a]Nominal *P* value.
CI: confidence interval.

- Once-daily treatment with roflumilast foam 0.3% also resulted in significant improvement in patient-reported outcomes
- In patients with SI-NRS and WI-NRS ≥2 at baseline, more roflumilast-treated than vehicle-treated patients achieved a score of 0 or 1 at Week 8 (Figure 3)
- At Week 8, significantly more roflumilast-treated than vehicle-treated patients achieved a PSD total score of 0 (19.6% vs 7.1%; *P*=0.0002)
  - Least squares (LS) mean change from baseline (CfB) in PSD items related to itching/pain/scaling was significantly greater with roflumilast than with vehicle at Week 8 (LS mean CfB: −10.87 vs −5.75; *P*<0.0001)

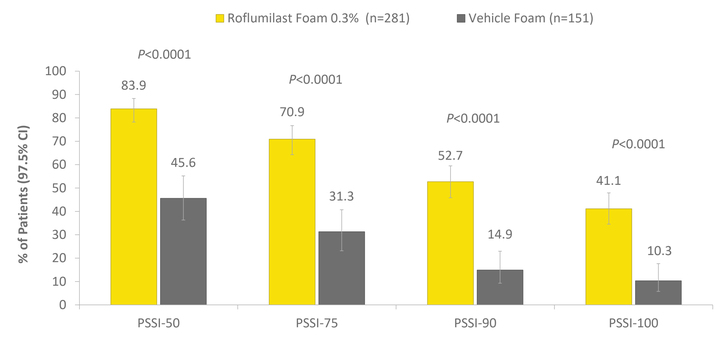
**Figure 3. Improvement in Scalp and Body Pruritus at Week 8**




[a]SI-NRS score of 0 or 1 evaluated in patients with baseline SI-NRS ≥2.
[b]WI-NRS score of 0 or 1 evaluated in patients with baseline WI-NRS ≥2.
CI: confidence interval.

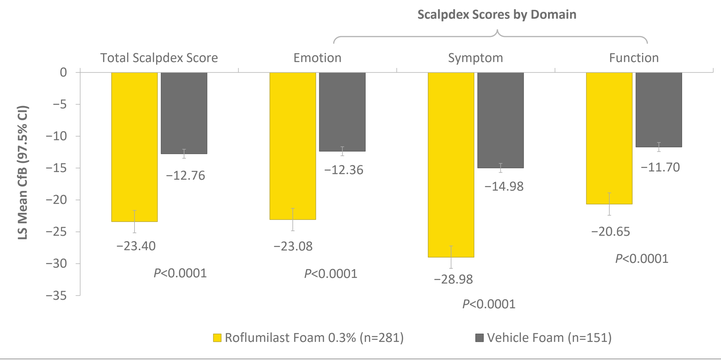
- Significantly more roflumilast-treated than vehicle-treated patients achieved ≥50%, ≥75%, ≥90%, and 100% reductions in PSSI scores (Figure 4)
- At Week 8, LS mean CfB in Scalpdex total score was also significantly greater with roflumilast than with vehicle (Figure 5)
- Roflumilast treatment also resulted in a significantly greater LS mean CfB in DLQI score at Week 8 (roflumilast: −4.37, n=276; vehicle: −2.44, n=149; *P*<0.0001)

**Figure 4. Percentage of Patients Achieving PSSI Responses at Week 8**




Multiple imputation of missing data. PSSI-50/75/90/100: ≥50%/≥75%/≥90%/100% reduction in PSSI from baseline.
CI: confidence interval.

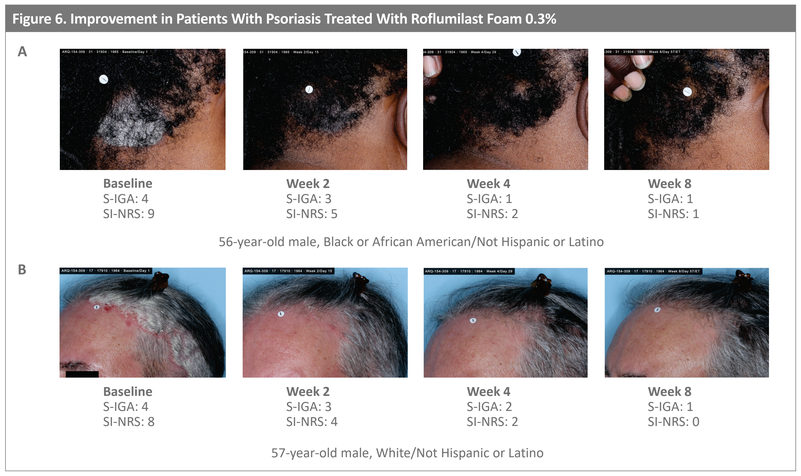
**Figure 5. Improvement in Scalpdex Score at Week 8**




Missing data were not imputed.
CfB: change from baseline; CI: confidence interval; LS: least squares.

- A series of photographs of patients with improvement in psoriasis following roflumilast treatment is shown in Figure 6

**Figure 6. Improvement in Patients With Psoriasis Treated With Roflumilast Foam 0.3%**




S-IGA and SI-NRS are global assessments.

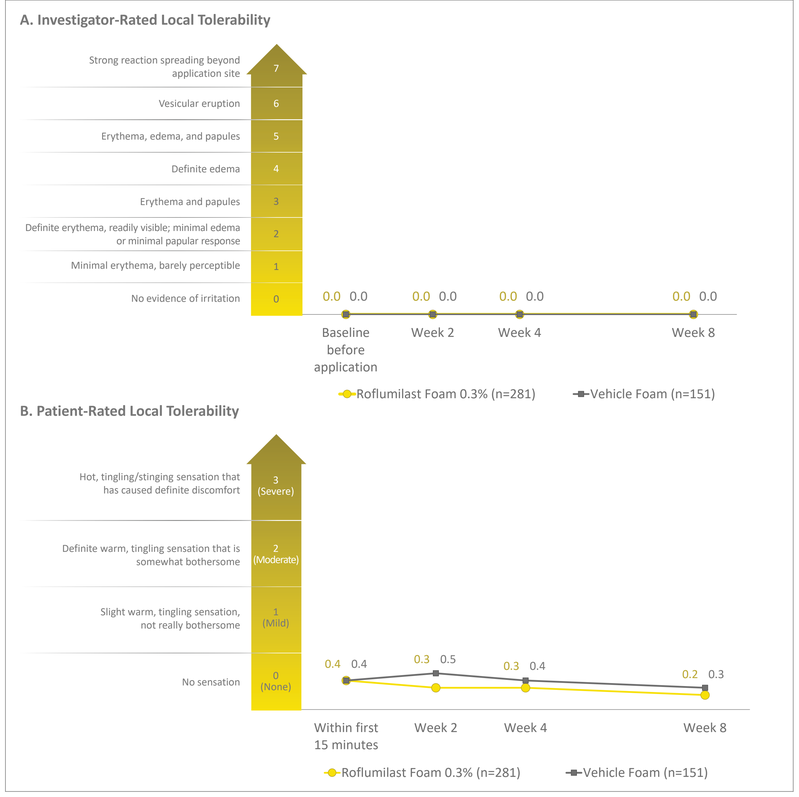
- Incidence of treatment-emergent adverse events was low in both treatment groups (Table 2)
- Investigator- and patient-rated local tolerability was similar to that observed with vehicle (Figure 7)

**Table 2. Safety**

| n (%) | Roflumilast Foam 0.3% (n=281) | Vehicle Foam (n=151) |
|---|---|---|
| **Patients with any TEAE** | 75 (26.7) | 25 (16.6) |
| **Patients with any treatment-related TEAE** | 16 (5.7) | 3 (2.0) |
| **Patients with any treatment-emergent SAE[a]** | 2 (0.7) | 1 (0.7) |
| **Patients with any treatment-related SAE** | 1 (0.4) | 0 |
| **Patients who discontinued trial drug due to an AE** | 7 (2.5) | 2 (1.3) |
| **Patients who discontinued trial due to AE** | 5 (1.8) | 2 (1.3) |
| **Most common TEAEs by Preferred Term, ≥1% in any group** | | |
| Headache | 13 (4.6) | 3 (2.0) |
| Diarrhea | 9 (3.2) | 4 (2.6) |
| COVID-19 | 8 (2.8) | 4 (2.6) |
| Nasopharyngitis | 4 (1.4) | 2 (1.3) |
| Nausea | 6 (2.1) | 0 |
| Hypertension | 3 (1.1) | 2 (1.3) |
| Urinary tract infection | 2 (0.7) | 2 (1.3) |
| Upper respiratory tract infection | 3 (1.1) | 0 |

[a]SAEs include bipolar disorder (roflumilast; unrelated); gastritis (roflumilast; possibly related); joint dislocation, peripheral artery occlusion, and radius fracture (vehicle; all unrelated).
AE: adverse event; COVID-19: coronavirus disease 2019; SAE: serious adverse event; TEAE: treatment-emergent adverse event.

**Figure 7. (A) Investigator- and (B) Patient-Rated Local Tolerability**




## CONCLUSIONS

- In patients with psoriasis of the scalp and body, treatment with once-daily roflumilast foam 0.3% demonstrated greater improvement compared with vehicle across multiple patient-reported efficacy endpoints
  - Significant improvement in psoriasis of the scalp and body occurred as early as 2 weeks after treatment initiation, the first time point measured
  - Significant improvement in patient-reported outcomes occurred, indicating relief from itching, pain, and scaling that was associated with improved quality of life
- Treatment with roflumilast foam 0.3% was associated with low rates of adverse events, few discontinuations because of adverse events, and local tolerability that was similar to vehicle

## REFERENCES

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## DISCLOSURES

MJG, JB, SBF, LHK, MW, BL, and JS are investigators and/or consultants for Arcutis Biotherapeutics, Inc. and received grants/research funding and/or honoraria; DK, SK, DRB, and DHC are employees of Arcutis Biotherapeutics, Inc. Additional disclosures provided on request.