**RESULTS**

### Demographic and Disease Characteristics

- **Demographics and baseline disease characteristics were similar across trials and groups.**

- **Patient-Reported Local Tolerability**
  - Investigator- and patient-reported local tolerability report different aspects of irritation, with only patient-reported local tolerability assessing sensation (stinging and burning) of a topically applied treatment. **Figure 4.**

### Investigator-Rated Local Tolerability

- Investigator-rated and patient-reported local tolerability reports different aspects of irritation, with only patient-reported local tolerability assessing sensation (stinging and burning) of a topically applied treatment. **Figure 3.**

- **Local tolerability was favorable across timepoints and improved with treatment, regardless of disease.**

### Treatment-Emergent Adverse Events

- **Application site reactions were dropout across trials (Table 5).**

- **Roflumilast cream and foam formulations demonstrated favorable local tolerability based on investigator-rated and patient reported assessments in patients with psoriasis, seborrheic dermatitis, and atopi dermatitis, including in patients with involvement in sensitive areas such as the face, genital, and intertriginous areas.**

### Conclusions

- **Local tolerability was favorable across timepoints and improved with treatment, regardless of disease.**

- **Rates of application site AEs were low and consistent with vehicle across trials.**

- **Roflumilast cream and foam formulations demonstrated favorable local tolerability based on investigator-rated and patient reported assessments in patients with psoriasis, seborrheic dermatitis, and atopi dermatitis, including in patients with involvement in sensitive areas such as the face, genital, and intertriginous areas.**

### References


### Acknowledgements

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### Disclosures

- The authors declare no conflicts of interest. The study was conducted by [Name of institution] and funded by [Funding agency]. The authors received [Funding type] from [Name of institution] for the trial.

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**Table 1.** Investigator-Rated Local Tolerability

<table>
<thead>
<tr>
<th>Disease</th>
<th>Patient-Reported Local Tolerability</th>
<th>AEs</th>
<th>TEAEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psoriasis</td>
<td>Strong reaction spreading beyond application site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seborrheic Dermatitis</td>
<td>Strong reaction spreading beyond application site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atopic Dermatitis</td>
<td>Strong reaction spreading beyond application site</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2.** Local Tolerability Scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No sensation or minimal erythema, barely perceptible</td>
</tr>
<tr>
<td>1</td>
<td>Slight warm, tingling sensation; not really bothersome</td>
</tr>
<tr>
<td>2</td>
<td>Minimal erythema, barely perceptible</td>
</tr>
<tr>
<td>3</td>
<td>Slight warm, tingling sensation; not really bothersome</td>
</tr>
<tr>
<td>4</td>
<td>Moderate erythema, barely perceptible</td>
</tr>
<tr>
<td>5</td>
<td>Slight warm, tingling sensation; not really bothersome</td>
</tr>
<tr>
<td>6</td>
<td>Strong reaction spreading beyond application site</td>
</tr>
</tbody>
</table>

**Table 3.** Facial and Genital Involvement at Baseline

<table>
<thead>
<tr>
<th>Disease</th>
<th>Face, n (%)</th>
<th>Genitalia, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psoriasis</td>
<td>567 (42.4)</td>
<td>Data not collected</td>
</tr>
<tr>
<td>Seborrheic Dermatitis</td>
<td>157 (36.3)</td>
<td>75 (17.4)</td>
</tr>
<tr>
<td>Atopic Dermatitis</td>
<td>432</td>
<td>200</td>
</tr>
</tbody>
</table>

**Table 4. Investigator- and Patient-Rated Local Tolerability in Phase 3 Trials of Topical Roflumilast in Patients With Psoriasis, Seborrheic Dermatitis, and Atopic Dermatitis**

- **Table 5.** Treatment-Emergent Adverse Events Reported at the Site of Application, by Preferred Term, in ≥2% in the Roflumilast-Treated Patients in Any Trial

- **Figure 1.** Patient-Reported Local Tolerability: Postural

- **Figure 2.** Patient-Reported Local Tolerability: Scalp and Body Postures

- **Figure 3.** Patient-Reported Local Tolerability: Seborrhoeic Dermatitis

- **Figure 4.** Patient-Reported Local Tolerability: Atopic Dermatitis

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**INTRODUCTION**

- The formulations of a topical product and the occurrence of local skin reactions are both important factors contributing to patient treatment adherence and satisfaction.

- Sucralfate such as propylene glycol, polyethylene glycol, and ethanol are in almost all topical preparations and are the most common ulcerated retinoids to weaken barrier properties of the skin.

- These reactions may irritate the skin, causing local tolerability reactions such as burning or stinging, which can reduce patient adherence.

- Topical roflumilast contains a highly potent (Kd ~0.7 nM) phosphodiesterase 4 inhibitor formulated as a water-based foam and a cream with no sensitizers, penetration enhancers, or fragrances. **Table 3.**

- Excipients such as propylene glycol, polyethylene glycol, and ethanol are in almost all topical preparations and are the most common ulcerated retinoids to weaken barrier properties of the skin.

- Rates of application site AEs were low and consistent with vehicle across trials. **Figure 4.**

- Roflumilast cream and foam formulations demonstrated favorable local tolerability based on investigator-rated and patient reported assessments in patients with psoriasis, seborrheic dermatitis, and atopi dermatitis, including in patients with involvement in sensitive areas such as the face, genital, and intertriginous areas. **Figure 1.**

- Local tolerability was favorable across timepoints and improved with treatment, regardless of disease. **Figure 3.**

- Rates of application site AEs were low and consistent with vehicle across trials. **Table 5.**

- Roflumilast cream and foam formulations demonstrated favorable local tolerability based on investigator-rated and patient reported assessments in patients with psoriasis, seborrheic dermatitis, and atopi dermatitis, including in patients with involvement in sensitive areas such as the face, genital, and intertriginous areas. **Figure 3.**

- Local tolerability was favorable across timepoints and improved with treatment, regardless of disease. **Figure 1.**