Deucravacitinib, an Oral, Selective Tyrosine Kinase 2 Inhibitor, Compared With Placebo and Apremilast in Moderate to Severe Plaque Psoriasis: Efficacy and Safety Results From the POETYK PSO-1 and POETYK PSO-2 Trials
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Introduction

- Deucravacitinib—Novel, oral, selective tyrosine kinase 2 (TYK2) inhibitor with a unique mechanism of action distinct from a previously developed selective TYK2 inhibitor, POETYK PSO-1, which was a phase 2b/3 study in moderate to severe plaque psoriasis (PSO).
- Dose—6 mg once daily (QD) for 52 weeks in the primary phase.
- Treatment—Deucravacitinib 6 mg QD (n=305); Apremilast 30 mg BID (n=161); Placebo (n=842).
- Endpoint—Primary: PASI 90 response at week 16 for deucravacitinib vs placebo and apremilast arms. Secondary: Efficacy and safety in week 24 and all 52 weeks.

Objective

- The objective of this study was to evaluate the efficacy and safety of deucravacitinib in patients with moderate to severe plaque psoriasis.
- Patients were stratified by geographic region, body weight, and prior biologic use.

Methods

Study design—Randomized, double-blind, placebo-controlled, active comparator study.
- The POETYK PSO-1 and PSO-2 study designs are shown in Figure 3.

Efficacy

- The 2 studies are summarized in Table 2.
- Deucravacitinib showed a significantly greater improvement from baseline in Physician’s Global Assessment (PGA) compared with placebo at week 16 (ΔPASI 90 responders) and week 24 (ΔPASI 100 responders).
- Baseline demographics and clinical characteristics—Baseline demographics and adverse event rates were comparable across active treatment groups.
- Safety—The safety profile was consistent with the mechanisms of action of deucravacitinib.
- Overall AEs and SAEs, and AEs leading to discontinuation, were similar across all treatment groups.
- No clinically meaningful changes were observed in multiple laboratory parameters over 52 weeks.

Key secondary endpoints—Significantly greater improvements in PASI 75 response and sPGA 0/1 response rate at week 16 and week 24 for deucravacitinib compared with placebo and apremilast arms.

Table 2. Baseline demographics and adverse event rates

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N</th>
<th>Mean age (SD)</th>
<th>Male %</th>
<th>Psoriasis duration (SD)</th>
<th>BMI (SD)</th>
<th>Clinical overlap (SD)</th>
<th>Prior biologic use (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deucravacitinib</td>
<td>305</td>
<td>61.4 (13.4)</td>
<td>62.7%</td>
<td>12.3 (10.0)</td>
<td>26.8 (3.9)</td>
<td>5.6 (3.9)</td>
<td>5.8%</td>
</tr>
<tr>
<td>Apremilast</td>
<td>161</td>
<td>60.5 (13.4)</td>
<td>65.0%</td>
<td>11.9 (9.3)</td>
<td>25.9 (3.7)</td>
<td>4.8 (3.8)</td>
<td>5.6%</td>
</tr>
<tr>
<td>Placebo</td>
<td>842</td>
<td>61.3 (13.4)</td>
<td>62.2%</td>
<td>12.2 (10.3)</td>
<td>26.4 (4.0)</td>
<td>5.9 (3.9)</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

Table 3. Efficacy results

<table>
<thead>
<tr>
<th>Treatment</th>
<th>PASI 90 (%)</th>
<th>PASI 75 (%)</th>
<th>sPGA 0/1 (%)</th>
<th>Week 16</th>
<th>Week 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deucravacitinib</td>
<td>87.9 (21.8)</td>
<td>41.6 (11.6)</td>
<td>58.4%†</td>
<td>55.0 (%)</td>
<td>58.4 (%)</td>
</tr>
<tr>
<td>Apremilast</td>
<td>37.8%</td>
<td>22.9%</td>
<td>42.7%</td>
<td>37.8%</td>
<td>22.9%</td>
</tr>
<tr>
<td>Placebo</td>
<td>8.6%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.6%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Conclusions

- Deucravacitinib demonstrated superior efficacy compared with placebo and apremilast in the POETYK PSO-1 and PSO-2 trials.
- The safety profile was consistent with the mechanism of action of deucravacitinib.
- Deucravacitinib was well tolerated and had a favorable safety profile in both trials.
- No statistically significant differences were observed between deucravacitinib and placebo in laboratory parameters.

References


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Relationships and Activities

- Dr. Armstrong reports consulting fees from AbbVie, Galderma, Eli Lilly, and Galderma, speakers bureau from Janssen, Roche, and Galderma, speakers bureau, consultant, investigator/advisor from Galderma, and grants and personal fees from AbbVie, Janssen, and Galderma.
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Due to the nature of the relationships and activities, the authors disclose potential conflicts of interest.

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