Baricitinib (LY3009104, INCB028050)

Cat. No.: A4141
CAS No.: 1187594-09-7
Formula: C16H17N7O2S
M.Wt: 371.42
Synonyms: INCB 028050, INCB-028050, LY3009104, LY3009104
Target: Chromatin/Epigenetics
Pathway: JAK
Storage: Store at -20°C

**Solvent & Solubility**

<table>
<thead>
<tr>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1 mM</td>
<td>2.6924 mL</td>
<td>13.4618 mL</td>
<td>26.9237 mL</td>
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<tr>
<td>5 mM</td>
<td>0.5385 mL</td>
<td>2.6924 mL</td>
<td>5.3847 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2692 mL</td>
<td>1.3462 mL</td>
<td>2.6924 mL</td>
</tr>
</tbody>
</table>

Insoluble in EtOH; insoluble in H2O; ≥18.57 mg/mL in DMSO.

Please refer to the solubility information to select the appropriate solvent.

**Biological Activity**

**Short Summary**

JAK1/JAK2 inhibitor, selective orally bioavailable

**IC50 & Target**

5.7 nM (JAK2), 5.9 nM (JAK1), 53 nM (TYK2), >400 nM (JAK3), >1 μM (Chk2), >10 μM (c-Met)

**Cell Viability Assay**

**Cell Line:** Human PBMCs; PHA-stimulated T cells.

**Preparation method:** Soluble in DMSO > 10 mM. General tips for obtaining a higher concentration:
Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Reacting conditions:** 10, 100, 1000, 10000 nM; 48 h.
Applications: In PBMCs, INCB028050 inhibits STAT3 phosphorylation stimulated by IL-6 and the production of chemokine MCP-1 with IC50 values of 44 and 40 nM, respectively. In isolated naive T-cells, INCB028050 inhibits STAT3 phosphorylation with IC50 value of 20 nM and inhibits the production of IL-17 and IL-22 with IC50 value of 50 nM.

Animal experiment

<table>
<thead>
<tr>
<th>Animal models:</th>
<th>Female rats; adjuvant-induced arthritis rats; DBA/1J arthritis mice induced by bovine type II collagen.</th>
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</thead>
<tbody>
<tr>
<td>Dosage form:</td>
<td>Female rats: 10 mg/kg; 24 h; oral gavage. Adjuvant-induced arthritis rats: 1, 3, or 10 mg/kg; once daily for 2 wk; administrated orally. Collagen-induced arthritis (CIA) model: 1, 3, or 10 mg/kg; twice daily for 15 d; administrated orally.</td>
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<tr>
<td>Applications:</td>
<td>In female rats, INCB028050 (10 mg/kg) inhibits JAK1/2 signaling by ≥50% for 8 h. In rat adjuvant-induced arthritis, INCB028050 (1, 3, or 10 mg/kg) reduces disease scores by 24%, 57% and 81% respectively and inhibits the increase of hind paw volumes by 50%, &gt;95% and &gt;95%, respectively. Also, INCB028050 reduced bone resorption. In CIA mice model, INCB028050 (1, 3, or 10 mg/kg) reduces clinical scores by 19%, 67% and 61% respectively and inhibits IL-6 and IL-23 signaling and function.</td>
</tr>
<tr>
<td>Preparation method:</td>
<td>Suspended in 0.5% methylcellulose and given by oral gavage at 10 ml/kg.</td>
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<tr>
<td>Other notes:</td>
<td>Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.</td>
</tr>
</tbody>
</table>

**Product Citations**


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**References**


**Caution**

FOR RESEARCH PURPOSES ONLY.
NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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