

# Baricitinib

**Catalog No: tcsc0724**



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg

**Size:** 200mg

**Size:** 500mg



## Specifications

**CAS No:**

1187594-09-7

**Formula:**

$C_{16}H_{17}N_7O_2S$

**Pathway:**

Epigenetics; Stem Cell/Wnt; JAK/STAT Signaling

**Target:**

JAK; JAK; JAK

**Purity / Grade:**

>98%

**Solubility:**

DMSO : 25 mg/mL (67.31 mM; Need ultrasonic and warming)

**Alternative Names:**

INCB028050; LY3009104

**Observed Molecular Weight:**

371.42

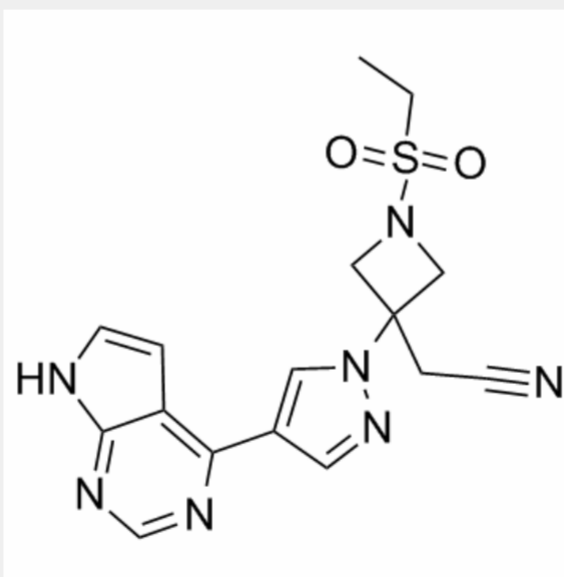
**Product Description**

Baricitinib is a selective orally bioavailable **JAK1/JAK2** inhibitor with **IC<sub>50</sub>** of 5.9 nM and 5.7 nM, respectively.

IC50 & Target: IC50: 5.9 nM (JAK1), 5.7 nM (JAK2), >400 (JAK3), 53 nM (Tyk2)<sup>[1]</sup>

**In Vitro:** In cell-based assays, Baricitinib (INCB028050) proves to be a potent inhibitor of JAK signaling and function. In PBMCs, Baricitinib inhibits IL-6-stimulated phosphorylation of the canonical substrate STAT3 (pSTAT3) and subsequent production of the chemokine MCP-1 with IC<sub>50</sub> values of 44 nM and 40 nM, respectively. In isolated naive T-cells, INCB028050 also inhibits pSTAT3 stimulated by IL-23 (IC<sub>50</sub>=20 nM). Importantly, this inhibition prevented the production of two pathogenic cytokines (IL-17 and IL-22) produced by Th17 cells-a subtype of helper T cells with demonstrable inflammatory and pathogenic properties-with an IC<sub>50</sub> value of 50 nM. In stark contrast, the structurally similar but ineffective JAK1/2 inhibitors INCB027753 and INCB029843 has no significant effect in any of these assays systems when tested at concentrations up to 10 μM<sup>[1]</sup>.

**In Vivo:** Baricitinib (INCB028050) treatment, compares with vehicle, inhibits the increase in hind paw volumes during the 2 wk of treatment by 50% at a dose of 1 mg/kg and >95% at doses of 3 or 10 mg/kg. Because baseline paw volume measurements are taken on treatment day 0-in animals with significant signs of disease-it is possible to have >100% inhibition in animals showing marked improvement in swelling<sup>[1]</sup>. Baricitinib (0.7 mg/day) treated mice exhibits substantially reduced inflammation as assessed by H&E staining, reduced CD8 infiltration, and reduced MHC class I and class II expression when compared with vehicle-control treated mice. CD8<sup>+</sup>NKG2D<sup>+</sup> cells, critical effectors of disease in murine and human alopecia areata (AA), are greatly diminished in Baricitinib treated mice compare with vehicle control treated mice<sup>[2]</sup>.



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