

# Ruxolitinib

**Catalog No: tcsc0864**



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg

**Size:** 200mg

**Size:** 500mg

**Size:** 1g



## Specifications

**CAS No:**

941678-49-5

**Formula:**

$C_{17}H_{18}N_6$

**Pathway:**

Epigenetics;Stem Cell/Wnt;JAK/STAT Signaling;Autophagy;Autophagy

**Target:**

JAK;JAK;JAK;Autophagy;Mitophagy

**Purity / Grade:**

>98%

**Solubility:**

H2O :

#### Alternative Names:

INCB018424

#### Observed Molecular Weight:

306.37

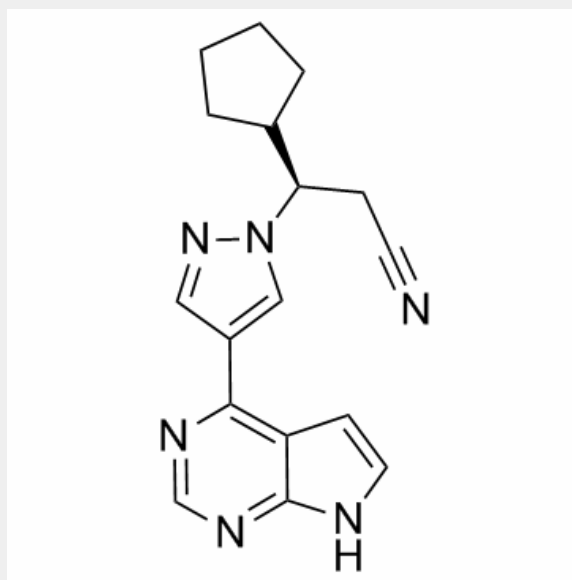
### Product Description

Ruxolitinib is the first potent, selective **JAK1/2** inhibitor to enter the clinic with **IC<sub>50</sub>** of 3.3 nM/2.8 nM in cell-free assays, and has > 130-fold selectivity for JAK1/2 versus JAK3.

IC<sub>50</sub> & Target: IC<sub>50</sub>: 3.3 nM (JAK1), 2.8 nM (JAK2)

**In Vitro:** Ruxolitinib potently and selectively inhibits JAK2V617F-mediated signaling and proliferation, markedly increases apoptosis in a dose dependent manner, and at 64 nM results in a doubling of cells with depolarized mitochondria in Ba/F3 cells. Ruxolitinib demonstrates remarkable potency against erythroid colony formation with IC<sub>50</sub> of 67 nM, and inhibits proliferating of erythroid progenitors from normal donors and polycythemia vera patients with IC<sub>50</sub> values of 407 nM and 223 nM, respectively<sup>[1]</sup>.

**In Vivo:** Ruxolitinib (180 mg/kg, orally, twice a day) results in survive rate of greater than 90% by day 22 and markedly reduces splenomegaly and circulating levels of inflammatory cytokines, and preferentially eliminated neoplastic cells, resulting in significantly prolonged survival without myelosuppressive or immunosuppressive effects in a JAK2V617F-driven mouse model<sup>[1]</sup>. In the Ruxolitinib group, the primary end point is reached in 41.9% of patients, as compared with 0.7% in the placebo group in the double-blind trial of myelofibrosis. Ruxolitinib results in maintaining of reduction in spleen volume and improvement of 50% or more in the total symptom score<sup>[2]</sup>. Ruxolitinib (15 mg twice daily) treatment leads a total of 28% of the patients to have at least a 35% reduction in spleen volume at week 48 in patients with myelofibrosis, as compared with 0% in the group receiving the best available therapy. The mean palpable spleen length has decreased by 56% with Ruxolitinib but has increased by 4% with the best available therapy at week 48. Patients in the ruxolitinib group has an improvement in overall quality-of-life measures and a reduction in symptoms associated with myelofibrosis<sup>[3]</sup>.



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