Taiclone®
Quality Guarantee

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# Ruxolitinib (sulfate)

## Catalog No: tcsc0327

### Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg

### Specifications

**CAS No:**
1092939-16-6

**Formula:**
$C_{17}H_{20}N_6O_4S$

**Pathway:**
Epigenetics;Stem Cell/Wnt;JAK/STAT Signaling;Autophagy

**Target:**
JAK;JAK;JAK;Autophagy

**Purity / Grade:**
>98%

**Solubility:**
10 mM in DMSO

**Alternative Names:**
INCB018424 sulfate

**Observed Molecular Weight:**
404.44

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## Product Description

Ruxolitinib sulfate is the first potent, selective **JAK1/2** inhibitor to enter the clinic with **$IC_{50}$**s of 3.3 nM/2.8 nM, and has > 130-fold selectivity for JAK1/2 versus JAK3.

IC50 & Target: IC50: 3.3 nM (JAK1), 2.8 nM (JAK2)[1]

***In Vitro:*** Ruxolitinib sulfate is the first potent, selective JAK1/2 inhibitor to enter the clinic with $IC_{50}$s of 3.3 nM/2.8 nM, and has > 130-fold selectivity for JAK1/2 versus JAK3. 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 $IC_{50}$ of 67 nM, and inhibits proliferating of erythroid progenitors from normal donors and polycythemia vera patients with $IC_{50}$ values of 407 nM and 223 nM, respectively[1].

***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[1]. 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[2]. 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[3].