

Pyridone 6

Catalog No: tcsc1056



Available Sizes

Size: 2mg

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

457081-03-7

Formula:

$C_{18}H_{16}FN_3O$

Pathway:

Epigenetics; Stem Cell/Wnt; JAK/STAT Signaling

Target:

JAK; JAK; JAK

Purity / Grade:

>98%

Solubility:

DMSO : ≥ 31.25 mg/mL (101.02 mM)

Alternative Names:

CMP 6; JAK Inhibitor

Observed Molecular Weight:

309.34

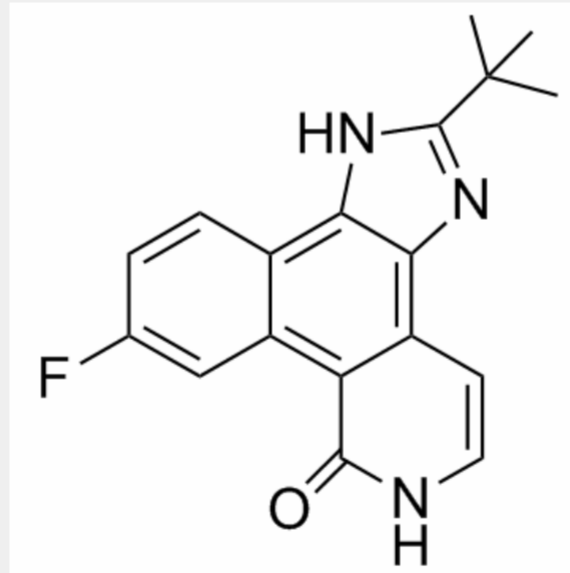
Product Description

Pyridone 6 is a **pan-JAK** inhibitor, which potently inhibits the JAK kinase family, with **IC₅₀**s of 1 nM for **JAK2** and **TYK2**, 5 nM for **JAK3**, and 15 nM for **JAK1**, while displaying significantly weaker affinities (130 nM to >10 mM) for other protein tyrosine kinases.

IC50 & Target: IC50: 1 nM (JAK2), 5 nM (JAK3), 15 nM (JAK1), 1 nM (TYK2)^{[1][2]}

In Vitro: Pyridone 6 is tested as an inhibitor of 21 other protein kinases; Pyridone 6 inhibits these kinases with IC₅₀s ranging from 130 nM to >10 μM. Pyridone 6 inhibits IL2 driven proliferation of CTLL cells with IC₅₀=0.1 μM and IL4 driven proliferation with IC₅₀=0.052 μM^[1]. Pyridone 6 (P6) is shown to inhibit kinase by interacting within the ATP-binding cleft of each JAK. The IC₅₀ of Pyridone 6 is 3 nM for all of these cytokines; this is comparable to the reported IC₅₀s of Pyridone 6 for JAK2, Tyk2, and JAK3. Pyridone 6 strongly inhibits Th2 and modestly inhibits Th1, whereas it enhances Th17 development when present within a certain range of concentrations. Pyridone 6 reduces IFN-γ and IL-13, whereas it enhances IL-17 and IL-22 expression. Pyridone 6 also inhibits both Th1 and Th2 development, whereas it promotes Th17 differentiation from naive T cells when present within a certain range of concentrations^[2].

In Vivo: Pyridone 6 (P6) delays the onset and reduced the magnitude of skin disease in an AD-like skin-disease model of NC/Nga mice. P6-nano strongly ameliorates atopic dermatitis (AD) in NC/Nga mice, exerting an effect comparable to that of betamethasone ointment, a commonly used drug, which also tested as a positive control. In contrast, empty polylactic acid with glycolic acid (PLGA) nanoparticles (C-nano) seemed to have no effect^[2].



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