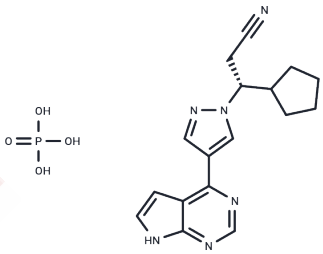
Data Sheet (Cat.No.T3043)

TargetMol

Ruxolitinib phosphate

Chemical Properties



CAS No. : 1092939-17-7

Formula: C17H21N6O4P

Molecular Weight: 404.36

Storage: Keep away from direct sunlight,Keep away from moisture,Store under nitrogen
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Ruxolitinib phosphate (INCB18424 phosphate) is a JAK1/2 inhibitor with IC50 of 3.3 nM/2.8 nM. Its selectivity for JAK1/2 is more than 130 times that of JAK3.
Targets(IC50)	Mitophagy,Autophagy,JAK
In vitro	**METHODS**: Mouse aortic vascular smooth muscle cells (VSMC), treated with ruxolitinib (0nM, 10nM, 50nM and 100nM) for 24 hours or 48 hours or pretreated with ruxolitinib (0nM, 10nM, 50nM and 100nM) or AG490 (50μM) 6 hours, and then treated with or without platelet-derived growth factor-BB (PDGF-BB) (20 ng/mL) for another 24 hours, and Western Blot blotting was performed to detect the levels of JAK2 and STAT3. **RESULTS** The cell viability of PDGF-BB-treated VSMCs was reduced when treated with Ruxolitinib. Ruxolitinib partially inhibited the growth of VSMC cells by targeting the JAK2/STAT3 signaling pathway. [3]
In vivo	**METHODS**: Mouse aortic vascular smooth muscle cells (VSMC), treated with ruxolitinib (0nM, 10nM, 50nM and 100nM) for 24 hours or 48 hours or pretreated with ruxolitinib (0nM, 10nM, 50nM and 100nM) or AG490 (50μM) 6 hours, and then treated with or without platelet-derived growth factor-BB (PDGF-BB) (20 ng/mL) for another 24 hours, and Western Blot blotting was performed to detect the levels of JAK2 and STAT3. **RESULTS** The cell viability of PDGF-BB-treated VSMCs was reduced when treated with Ruxolitinib. Ruxolitinib partially inhibited the growth of VSMC cells by targeting the JAK2/STAT3 signaling pathway. [3]
Cell Research	Ruxolitinib phosphate is dissolved in 0.2% DMSO. Cells are seeded at 2000/well of white bottom 96-well plates, treated with compounds from DMSO stocks (0.2% final DMSO concentration), and incubated for 48 hours at 37°C with 5% CO2. Viability is measured by cellular ATP determination using the Cell-Titer Glo luciferase reagent or viable cell counting. Values are transformed to percent inhibition relative to vehicle control, and IC50?curves are fitted according to nonlinear regression analysis of the data using PRISM GraphPad.

Solubility Information

Solubility	DMSO: 250 mg/mL (618.26 mM),Sonication is recommended. H2O: 8 mg/mL (19.78 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (12.37 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.473 mL	12.3652 mL	24.7304 mL
5 mM	0.4946 mL	2.473 mL	4.9461 mL
10 mM	0.2473 mL	1.2365 mL	2.473 mL
50 mM	0.0495 mL	0.2473 mL	0.4946 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Lin Y, et al. Ruxolitinib improves hematopoietic regeneration by restoring mesenchymal stromal cell function in acute graft-versus-host disease. J Clin Invest. 2023 Aug 1;133(15):e162201.
Zhang M, Yang W, Wang P, et al. CCL7 recruits cDC1 to promote antitumor immunity and facilitate checkpoint immunotherapy to non-small cell lung cancer. Nature communications. 2020, 11(1): 1-17
Gao C, Yan Y, Chen G, et al. Autophagy Activation Represses Pyroptosis through the IL-13 and JAK1/STAT1 Pathways in a Mouse Model of Moderate Traumatic Brain Injury. ACS Chemical Neuroscience. 2020
Zhu H, et al. Janus Kinase Inhibition Ameliorates Ischemic Stroke Injury and Neuroinflammation Through Reducing NLRP3 Inflammasome Activation via JAK2/STAT3 Pathway Inhibition. Front Immunol. 2021 Jul 22;12:714943.
Song HT,et al. Ruxolitinib attenuates intimal hyperplasia via inhibiting JAK2/STAT3 signaling pathway activation induced by PDGF-BB in vascular smooth muscle cells. Microvasc Res. 2020 Nov;132:104060.
Yang M, Bai M, Zhuang Y, et al.High-dose dexamethasone regulates microglial polarization via the GR/JAK1/STAT3 signaling pathway after traumatic brain injury.Neural Regeneration Research.2025: 10.4103.