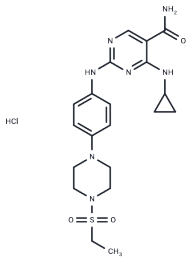
Data Sheet (Cat.No.T6104)

TargetMol

Cerdulatinib hydrochloride

Chemical Properties



CAS No. : 1369761-01-2

Formula: C20H28ClN7O3S

Molecular Weight: 482

Storage: 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	Cerdulatinib hydrochloride (PRT2070 hydrochloride) is an oral active, multi-targeted tyrosine kinase inhibitor with IC50 of 12 nM/6 nM/8 nM/0.5 nM and 32 nM for JAK1/JAK2/JAK3/TYK2 and Syk, respectively. Also inhibits 19 other tested kinases with IC50 less than 200 nM.
Targets(IC50)	MLK,c-Fms,Hippo pathway,Syk,JAK,Tyrosine Kinases
In vitro	In human whole blood from normal donors, Cerdulatinib affects BCR-mediated B-cell activation by dual inhibition of SYK and JAK. As a dual SYK/JAK inhibitor, Cerdulatinib significantly reduces cell viability in a subset of NHL cell lines, and induces apoptosis in BCR-signaling competent NHL cell lines. [1]
In vivo	In a rat collagen-induced arthritis model, Cerdulatinib (5 mg/kg p.o.) significantly improves inflammatory infiltrate within the synovium and the integrity of the articular cartilage. In addition, Cerdulatinib also blocks BCR-induced B-cell activation and splenomegaly in mice. [1]
Kinase Assay	Purified Kinase Assays: Potency against purified SYK is determined by fluorescence resonance energy transfer. A broader panel of 270 purified kinases is surveyed in which PRT062070 is tested at a fixed concentration of 300 nM. [33P]-labeled substrate is measured after incubation of purified kinase with peptide substrate and [33P]ATP at the Km concentration for the kinase.
Cell Research	Cell lines (Ramos RA-1, Daudi, Toledo, SU-DHL4 and SU-DHL6) are cultured in RPMI media supplemented with 10% fetal bovine serum. Cells are treated with the indicated concentrations of PRT062070, the SYK-selective inhibitor PRT060318, the pan-JAK inhibitor 1, a 1:1 combination of PRT060318 and JAK inhibitor 1, or vehicle control (0.5% dimethylsulfoxide) for 72 hours. Cell viability assays are performed using CellTiter Glo in 384-well plates. Cells are seeded at a density of 5000 cells per well. (Only for Reference)

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 4.82 mg/mL (10 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: 1 mg/mL (2.07 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	2.0747 mL	10.3734 mL	20.7469 mL
5 mM	0.4149 mL	2.0747 mL	4.1494 mL
10 mM	0.2075 mL	1.0373 mL	2.0747 mL
50 mM	0.0415 mL	0.2075 mL	0.4149 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

Coffey G, J Pharmacol Exp Ther. 2014, 351(3), 538-548.