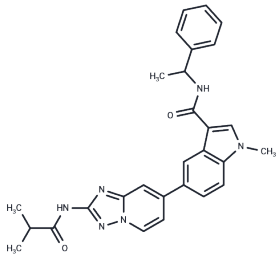
Data Sheet (Cat.No.T73493)

TargetMol

RI-962

Chemical Properties



CAS No. : 2763831-53-2

Formula: C28H28N6O2

Molecular Weight: 480.56

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	RI-962 is a potent and selective inhibitor of RIPK1 that dose-dependently protects cells from necrotic apoptosis induced by TNFα, Smac mimics, and Z-VAD-FMK by inhibiting RIPK1, RIPK3, and MLKL phosphorylation with EC50=10.0 nM~17.8 nM, and improves survival in mice in two models of inflammation.
Targets(IC50)	RIP kinase
In vitro	RI-962 exhibits a strong inhibitory activity against RIPK1, demonstrated by an IC50 of 35.0 nM [1]. Furthermore, RI-962 offers a protective effect against necroptotic cell death, with EC50 values of 10.0 nM for HT29 cells, 4.2 nM for L929 cells, 11.4 nM for J774A.1 cells, and 17.8 nM for U937 cells [1]. At concentrations ranging from 0-100 μM over 24 hours, RI-962 safeguards cells from TSZ-induced necroptosis by impeding RIPK1's kinase activity [1].
In vivo	RI-962, administered intraperitoneally (i.p.) at a dosage of 40 mg/kg once daily for 10 days, alleviates TNFα-induced systemic inflammatory response syndrome (SIRS) and mitigates inflammation in acute DSS-induced colitis [1]. The pharmacokinetic profile of RI-962 in rats, following intravenous (i.v.), intraperitoneal (i.p.), and oral (p.o.) administration at doses of 5 and 20 mg/kg, includes a half-life (T1/2) of 2.1±0.2 hours (i.v., 5 mg/kg), 1.3±0.2 hours (p.o., 20 mg/kg), and 8.5±1.6 hours (i.p., 20 mg/kg). The peak plasma concentration (Cmax) reached 12170.4±1198.5 ng/mL (i.v.), 674.2±424.7 ng/mL (p.o.), and 3603.3±693.3 ng/mL (i.p.). The area under the concentration-time curve from zero to the last observed time point (AUC 0-t) and to infinity (AUC 0-∞) showed comparable values. The volume of distribution at steady-state (Vss) was recorded for i.v. administration at 0.4±0.1 L/kg, and the mean residence time (MRT 0-∞) varied across administration routes [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0809 mL	10.4045 mL	20.8091 mL
5 mM	0.4162 mL	2.0809 mL	4.1618 mL
10 mM	0.2081 mL	1.0405 mL	2.0809 mL
50 mM	0.0416 mL	0.2081 mL	0.4162 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

Li Y, Zhang L, Wang Y, Zou J, Yang R, Luo X, Wu C, Yang W, Tian C, Xu H, Wang F, Yang X, Li L, Yang S. Generative deep learning enables the discovery of a potent and selective RIPK1 inhibitor. Nat Commun. 2022 Nov 12;13(1): 6891.