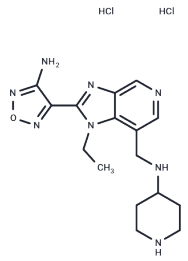
Data Sheet (Cat.No.T9652)

TargetMol

SB-747651A Dihydrochloride

Chemical Properties



CAS No. : 1781882-72-1

Formula: C16H24Cl2N8O

Molecular Weight: 415.32

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	SB-747651A dihydrochloride is a chemical compound that serves as an ATP-competitive inhibitor for mitogen- and stress-activated kinase 1 (MSK1), featuring an IC50 of 11 nM. Additionally, this compound effectively inhibits PRK2, RSK1, p70S6K, and ROCK-II, showcasing its potential in inflammation research [1].
Targets(IC50)	p38 MAPK,ROCK
In vitro	SB-747651A dihydrochloride (5 μM; neutrophils) modulates neutrophil behavior in response to the CXCL2 chemotactic gradient by influencing CXCL2-induced intraluminal crawling in a Mac-1-dependent manner, obstructing the movement of adherent neutrophils to optimal emigration sites. It significantly prolongs the transmigration and detachment times of neutrophils, affecting their transendothelial migration. Additionally, it slows the migration velocity of extravascular chemotaxing neutrophils without altering their directionality towards CXCL2 signals.
In vivo	SB747651A (3 mg/kg; intrascrotal injection) dihydrochloride significantly increases neutrophil adhesion between 3.5 and 4.5 hours after CXCL2 stimulation [3]. Additionally, the same compound administered intraperitoneally (i.p.) at the same dosage enhances neutrophil extravasation by augmenting neutrophil emigration at the 3 and 4-hour marks in a mouse peritonitis model of acute inflammation [3]. Experiments were conducted on male C57BL/6N mice aged 8 to 16 weeks, confirming that a 3 mg/kg intrascrotal injection results in heightened neutrophil adhesion following CXCL2 stimulation.

Solubility Information

Solubility	DMSO: 6.4 mg/mL (15.41 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4078 mL	12.0389 mL	24.0778 mL
5 mM	0.4816 mL	2.4078 mL	4.8156 mL
10 mM	0.2408 mL	1.2039 mL	2.4078 mL
50 mM	0.0482 mL	0.2408 mL	0.4816 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

Shaista Naqvi, et al. Characterization of the cellular action of the MSK inhibitor SB-747651A. Biochem J. 2012 Jan 1; 441(1):347-57.
Feiner B, et al. Risperidone effects on heterochromatin: the role of kinase signaling. Clin Exp Immunol. 2019;196 (1):67-75.
Hossain M, et al. The Specific Mitogen- and Stress-Activated Protein Kinase MSK1 Inhibitor SB-747651A Modulates Chemokine-Induced Neutrophil Recruitment. Int J Mol Sci. 2017;18(10):2163. Published 2017 Oct 17.