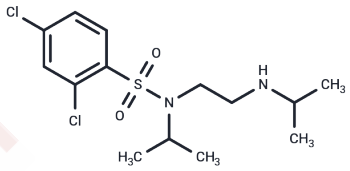
Data Sheet (Cat.No.T7572)

TargetMol

RN-1734

Chemical Properties



CAS No. : 946387-07-1

Formula: C14H22Cl2N2O2S

Molecular Weight: 353.31

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	RN-1734 is selective TRPV4 channel antagonist(IC50 of 2.3 μM,5.9 μM,3.2 μM for hTRPV4, mTRPV4 and rTRPV4,respectively)
Targets(IC50)	TRP/TRPV Channel
In vitro	In vitro, RN-1734 treatment clearly inhibited the influx of calcium and decreased the levels of IL-1β and TNF-α in lipopolysaccharide (LPS)-activated microglial cells by suppressing NF-κB P65 phosphorylation.?Apoptosis of oligodendrocyte induced by LPS-activated microglia was also alleviated by RN-1734.?Activation of TRPV4 in microglia is involved in oligodendrocyte apoptosis through the activation of the NF-κB signaling pathway, thus revealing a new mechanism of CNS demyelination[1].
Cell Research	LPS-treated microglial cells were further divided into a LPS group, a vehicle (DMSO treatment) group and a RN-1734 group.?The cells were treated with 1 μg/ml LPS (Sigma) or RN-1734 (10 μM) for 3 h .?Next, the cells were triple-washed with DMEM medium to remove LPS, and then incubated in DMEM with or without RN1734 for 24 h. Finally, the cells were collected for TRPV4 immunocytostaining, and the supernatant was collected separately for enzyme-linked immunosorbent assay (ELISA) or for the oligodendrocyte apoptosis experiment.?The supernatant of the microglial cells was mixed with DMEM/F12 at a ratio of 1:1.?The mixed medium without LPS was used for the control (Ctrl) group, the medium with LPS only was used for the conditional medium (CM) group, and the media with LPS and DMSO or RN-1734 were used for the CM-vehicle group and the CM-RN1734 group, respectively.?After oligodendrocytes grew for 2 days in 6-well plates in DMEM/F12 containing 10% FBS, the differentiation medium was replaced with the described Ctrl or different CM media for 24 h. Then, the cells were harvested for apoptosis analysis and western blot analysis separately[1].

Solubility Information

Solubility	DMSO: 10 mg/mL (28.3 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 (2.83 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	2.8304 mL	14.1519 mL	28.3038 mL
5 mM	0.5661 mL	2.8304 mL	5.6608 mL
10 mM	0.283 mL	1.4152 mL	2.8304 mL
50 mM	0.0566 mL	0.283 mL	0.5661 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

Meiying, Liu, Xuan, et al. TRPV4 Inhibition Improved Myelination and Reduced Glia Reactivity and Inflammation in a Cuprizone-Induced Mouse Model of Demyelination.[J]. Frontiers in cellular neuroscience, 2018.

Kato K , Morita I . Acidosis environment promotes osteoclast formation by acting on the last phase of preosteoclast differentiation: A study to elucidate the action points of acidosis and search for putative target molecules[J]. European Journal of Pharmacology, 2011, 663(1-3):27-39.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481