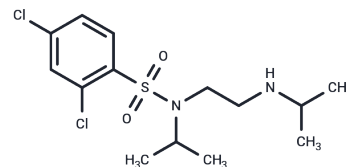


RN-1734

Chemical Properties

CAS No. : 946387-07-1
 Formula: C₁₄H₂₂Cl₂N₂O₂S
 Molecular Weight: 353.31
 Appearance: no data available
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	RN-1734 is selective TRPV4 channel antagonist (IC ₅₀ of 2.3 μM, 5.9 μM, 3.2 μM for hTRPV4, mTRPV4 and rTRPV4, respectively)
Targets (IC ₅₀)	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 immunocyto staining, 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: 50 mg/mL (141.52 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)
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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.

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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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