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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
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- Expressversand

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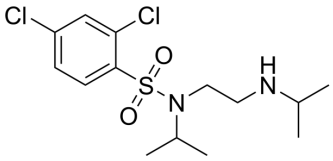
RN-1734

Cat. No.:	HY-19975
CAS No.:	946387-07-1
Molecular Formula:	$C_{14}H_{22}Cl_2N_2O_2S$
Molecular Weight:	353.31
Target:	TRP Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (70.76 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8304 mL	14.1519 mL	28.3038 mL
	5 mM	0.5661 mL	2.8304 mL	5.6608 mL
	10 mM	0.2830 mL	1.4152 mL	2.8304 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 3.25 mg/mL (9.20 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 3.25 mg/mL (9.20 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3.25 mg/mL (9.20 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

RN-1734 is selective antagonist of the TRPV4 channel, completely antagonizes 4αPDD-mediated activation of TRPV4 with comparable, low micromolar IC_{50}s for all three species (hTRPV4: 2.3 μM, mTRPV4: 5.9 μM, rTRPV4: 3.2 μM)[1]. RN-1734 clearly decreases the production of tumor necrosis factor α (TNF-α) and interleukin 1β (IL-1β) without altering the number of olig2-positive cells[2].

IC_{50} & Target

IC50: 2.3 μM (hTRPV4), 5.9 μM (mTRPV4), 3.2 μM (rTRPV4)[1]

In Vitro

RN-1734 (27 hours; 10 μM) reverses the increase in the apoptotic rate of oligodendrocytes induced by CM (LPS-activated microglia group) apoptosis[2].

RN-1734 (27 hours; 10 μM) alleviates CM-induced decreases in CNP[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[2]

Cell Line:	Microglial cells
Concentration:	27 hours
Incubation Time:	10μM
Result:	Significantly decreased the percentage of cleaved-caspase 3 positive cells.

Western Blot Analysis[2]

Cell Line:	Microglial cells
Concentration:	27 hours
Incubation Time:	10 μM
Result:	Alleviated CM (with LPS only)-induced decreases in CNP.

In Vivo

RN-1734 (0.5 μL; microinjector pump; daily for 5 weeks) significantly reverses the decrease in CNP protein and improves myelination in CPZ-induced demyelination mouse[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	CPZ-induced demyelination mouse model (C57BL/6 male mice)[2]
Dosage:	0.5 μl (10 μM in 5% DMSO and 0.9% NaCl)
Administration:	Microinjector pump for 5 weeks
Result:	Significantly reversed the decrease in CNP protein and improved myelination in CPZ-induced demyelination mouse.

CUSTOMER VALIDATION

- Life Sci. 2023 Dec 4, 122326.
- Acs Biomater Sci Eng. 2019 Dec 9;5(12):6520-6529.
- J Biol Chem. 2022 May;298(5):101847.
- Cell Calcium. 2023 Mar 11;111:102715.
- PLoS One. 2019 Jun 10;14(6):e0217511.

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REFERENCES

[1]. Kato K, et al. 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. Eur J Pharmacol. 2011 Aug 1;663(1-3):27-39.

[2]. Vincent F, et al. Identification and characterization of novel TRPV4 modulators. Biochem Biophys Res Commun. 2009 Nov 20;389(3):490-4.

[3]. Liu M, et al. TRPV4 Inhibition Improved Myelination and Reduced Glia Reactivity and Inflammation in a Cuprizone-Induced Mouse Model of Demyelination. Front Cell Neurosci. 2018 Nov 5;12:392.

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