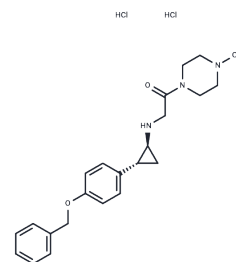


RN-1 dihydrochloride

Chemical Properties

CAS No. :	1781835-13-9
Formula:	C ₂₃ H ₃₁ Cl ₂ N ₃ O ₂
Molecular Weight:	452.42
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	RN-1 dihydrochloride is an effective and selective irreversible inhibitor of lysine-specific demethylase 1 (LSD1, IC ₅₀ = 70 nM).
Targets(IC ₅₀)	Histone Demethylase, MAO
In vitro	RN-1 dihydrochloride exhibits selectivity for LSD1 over MAO-A and MAO-B with IC ₅₀ values of 0.51 μM and 2.785 μM respectively[3].
In vivo	In sickle cell disease (SCD) mice, RN-1 dihydrochloride (3-10 mg/kg; i.p.) effectively induces fetal hemoglobin (HbF) levels in red blood cells and reduces disease pathology [1]. In C57BL/6 male mice, after administration of RN-1 dihydrochloride (10 mg/kg, i.p.), concentrations are detectable up to 24 h post dose in both plasma and brain tissues. RN-1 dihydrochloride significantly impairs long-term memory, but not short-term memory. The brain/plasma exposure ratio is 88.9[3].

Solubility Information

Solubility	H ₂ O: 18 mg/mL (39.79 mM), Sonication and heating to 60°C are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2103 mL	11.0517 mL	22.1034 mL
5 mM	0.4421 mL	2.2103 mL	4.4207 mL
10 mM	0.221 mL	1.1052 mL	2.2103 mL
50 mM	0.0442 mL	0.221 mL	0.4421 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

Shuaiying Cui, et al. The LSD1 inhibitor RN-1 induces fetal hemoglobin synthesis and reduces disease pathology in sickle cell mice. *Blood*. 2015 Jul 16;126(3):386-96.

Sergiy Konovalov, et al. Analysis of the levels of lysine-specific demethylase 1 (LSD1) mRNA in human ovarian tumors and the effects of chemical LSD1 inhibitors in ovarian cancer cell lines. *J Ovarian Res*. 2013 Oct 29;6(1):75.

Ramesh Neelamegam, et al. Brain-penetrant LSD1 inhibitors can block memory consolidation. *ACS Chem Neurosci*. 2012 Feb 15;3(2):120-128.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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