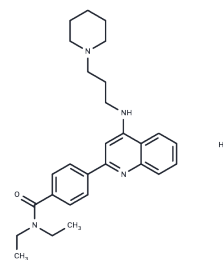


LMPTP INHIBITOR 1 hydrochloride

Chemical Properties

CAS No. : 2310135-38-5
 Formula: C₂₈H₃₇ClN₄O
 Molecular Weight: 481.07
 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	LMPTP INHIBITOR 1 hydrochloride is a selective inhibitor of low molecular weight protein tyrosine phosphatase (LMPTP), with an IC ₅₀ of 0.8 μM for LMPTP-A.
Targets(IC ₅₀)	Phosphatase
In vitro	LMPTP INHIBITOR 1 (hydrochloride) is a selective inhibitor of low molecular weight protein tyrosine phosphatase, with an IC ₅₀ of 0.8 μM for LMPTP-A. LMPTP INHIBITOR 1 shows more potent effect on LMPTP-A versus LMPTP-B. LMPTP inhibitor 1 (Compound 23; 10 μM) also enhances HepG2 IR phosphorylation after insulin stimulation in human HepG2 hepatocytes [1].
In vivo	LMPTP inhibitor 1, an orally bioavailable compound, achieves approximately 680 nM mean serum concentration at 0.03% w/w dosage and surpasses 3 μM at 0.05% w/w dosage, effectively reversing diabetes in obese mice. At 0.05% w/w, it inhibits LMPTP activity, markedly enhances glucose tolerance, and lowers fasting insulin levels in diabetic DIO mice without impacting body weight [1].

Solubility Information

Solubility	DMSO: 9 mg/mL (18.71 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0787 mL	10.3935 mL	20.787 mL
5 mM	0.4157 mL	2.0787 mL	4.1574 mL
10 mM	0.2079 mL	1.0393 mL	2.0787 mL
50 mM	0.0416 mL	0.2079 mL	0.4157 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

Stanford SM1, et al. Diabetes reversal by inhibition of the low-molecular-weight tyrosine phosphatase. Nat Chem Biol. 2017 Jun;13(6):624-632.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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