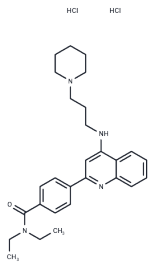
Data Sheet (Cat.No.T41298)

TargetMol

LMPTP INHIBITOR 1 dihydrochloride

Chemical Properties



CAS No. : 2310135-46-5

Formula: C28H38Cl2N4O

Molecular Weight: 517.53

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 Dihydrochloride is a compound selectively targeting low molecular weight protein tyrosine phosphatase (LMPTP), exhibiting potent inhibitory activity with an IC50 value of 0.8 μM for LMPTP-A.
Targets(IC50)	Phosphatase
In vitro	LMPTP INHIBITOR 1 dihydrochloride is a selective inhibitor of low molecular weight protein tyrosine phosphatase, with an IC50?of 0.8 μM LMPTP-A and shows more potent effect on LMPTP-A versus LMPTP-B. LMPTP inhibitor 1 dihydrochloride (10 μM) also enhances HepG2 IR phosphorylation after insulin stimulation in human HepG2 hepatocytes[1].
In vivo	LMPTP inhibitor 1 dihydrochloride, an orally bioavailable compound, achieves an approximate mean serum concentration of 680 nM following 0.03% w/w administration and exceeds 3 μM with 0.05% w/w dosage. Notably, it reverses diabetes in obese mice. At a concentration of 0.05% w/w, it effectively inhibits LMPTP activity, leading to a significant enhancement in glucose tolerance and a reduction in fasting insulin levels in diabetic DIO mice, with no impact on body weight[1].

Solubility Information

Solubility	H2O: 50 mg/mL (96.61 mM),Sonication is recommended. DMSO: 64 mg/mL (123.66 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: 2 mg/mL (3.86 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	1.9323 mL	9.6613 mL	19.3226 mL
5 mM	0.3865 mL	1.9323 mL	3.8645 mL
10 mM	0.1932 mL	0.9661 mL	1.9323 mL
50 mM	0.0386 mL	0.1932 mL	0.3865 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.