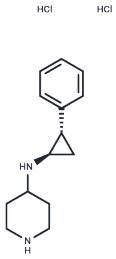
Data Sheet (Cat.No.T2315)

TargetMol

GSK-LSD1 dihydrochloride

Chemical Properties



CAS No. : 2102933-95-7

Formula: C14H22Cl2N2

Molecular Weight: 289.24

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	GSK-LSD1 dihydrochloride (GSK-LSD1 2HCl) is a highly potent, specific, and irreversible LSD1 inhibitor (IC50 = 16 nM). By inhibiting LSD1-mediated epigenetic modifications, GSK-LSD1 dihydrochloride promotes differentiation and inhibits proliferation in cancer cells, demonstrating antitumor activity in various hematologic malignancies and certain solid tumor models. GSK-LSD1 dihydrochloride can be used in research in the fields of epigenetics, oncology, metabolism, and inflammation.
Targets(IC50)	Histone Demethylase,Monoamine Oxidase
In vitro	**Methods**: Cells derived from wild-type iPSCs were treated with 500 nM GSK-LSD1 dihydrochloride from day 8 to day 12 of differentiation (5 days total), and expression of the megakaryocyte marker CD42b and the myeloid marker CD86 was detected. **Results**: GSK-LSD1 dihydrochloride Long-term treatment resulted in a significant reduction in the proportion of CD42b-positive cells and an increase in CD86-positive cells, confirming that LSD1 inhibition impairs megakaryocyte differentiation and promotes a shift toward myeloid differentiation.[1]
In vivo	**Methods**: db/db mice (leptin receptor-deficient) and their leptin-competent controls (db/+) received intraperitoneal injections of GSK-LSD1 (500 μg/kg/day) once daily for 6 weeks. **Results**: GSK-LSD1 dihydrochloride treatment significantly reduced weight gain and food intake in obese mice, markedly decreased fasting blood glucose and insulin levels, and improved glucose tolerance and insulin sensitivity. No significant effects were observed in lean mice. [2]

Solubility Information

Solubility	DMSO: 25 mg/mL (86.43 mM),Sonication is recommended. H2O: 50 mg/mL (172.87 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 (6.91 mM),Sonication is recommended. 10% DMSO+90% Saline: 2.5 mg/mL (8.64 mM),Solution. *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*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4573 mL	17.2867 mL	34.5734 mL
5 mM	0.6915 mL	3.4573 mL	6.9147 mL
10 mM	0.3457 mL	1.7287 mL	3.4573 mL
50 mM	0.0691 mL	0.3457 mL	0.6915 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

Venhuizen J, et al. GFI1B and LSD1 repress myeloid traits during megakaryocyte differentiation. Commun Biol. 2024 Mar 28;7(1):374.

Wang L, Wu J, Sramek M, et al.Heterogeneous enhancer states orchestrate β cell responses to metabolic stress. Nature Communications.2024, 15(1): 9361.

Ramms B, et al. Systemic LSD1 Inhibition Prevents Aberrant Remodeling of Metabolism in Obesity. Diabetes. 2022 Dec 1;71(12):2513-2529.