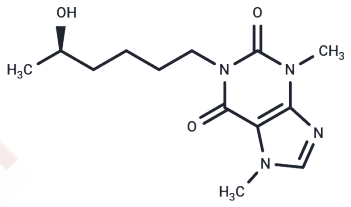
Data Sheet (Cat.No.T21694)

TargetMol

(R)-Lisofylline

Chemical Properties



CAS No. : 100324-81-0

Formula: C13H20N4O3

Molecular Weight: 280.32

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	(R)-Lisofylline ((R)-Lisophylline) is an inhibitor of lysophosphatidic acid acyltransferase (IC50 = 0.6 μM) that interrupts IL-12 signaling-mediated STAT4 activation, making it useful for studies on the treatment of type 1 diabetes and autoimmune disorders.
Targets(IC50)	STAT
In vitro	(R)-Lisofylline inhibits IL-12-induced T cell proliferation and Th1 differentiation without affecting IL-12 secretion[1].
In vivo	In NOD mice, (R)-Lisofylline prevents β cell dysfunction by inhibition of STAT4 phosphorylation and ameliorates experimental allergic encephalomyelitis. (R)-Lisofylline reduces the impairment of insulin secretion induced by IL-1β in cultured rat islet cells, suppresses IFN-γ production, the onset of diabetes, and macrophage infiltration into islets. (R)-Lisofylline improves insulin response and lowers glucose levels in Streptozotocin-treated rats after the oral glucose tolerance test. In rats given IL-1 intratracheally (R)-Lisofylline pretreatment reduces lung leak but does not decrease neutrophil accumulation in lungs. (R)-Lisofylline improves survival in mice injected with a lethal dose of LPS and ameliorates sepsis-induced lung injury in minipigs[2].

Solubility Information

Solubility	DMSO: 45 mg/mL (160.53 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5674 mL	17.8368 mL	35.6735 mL
5 mM	0.7135 mL	3.5674 mL	7.1347 mL
10 mM	0.3567 mL	1.7837 mL	3.5674 mL
50 mM	0.0713 mL	0.3567 mL	0.7135 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

J J Bright, et al. Prevention of Experimental Allergic Encephalomyelitis via Inhibition of IL-12 Signaling and IL-12-mediated Th1 Differentiation: An Effect of the Novel Anti-Inflammatory Drug Lisofylline. J Immunol. 1998 Dec 15; 161(12):7015-22.

Elżbieta Wyska, et al. Physiologically Based Modeling of Lisofylline Pharmacokinetics Following Intravenous Administration in Mice. Eur J Drug Metab Pharmacokinet. 2016 Aug;41(4):403-12.

B M Hybertson, et al. Lisofylline Prevents Leak, but Not Neutrophil Accumulation, in Lungs of Rats Given IL-1 Intratracheally. J Appl Physiol (1985). 1997 Jan;82(1):226-32.