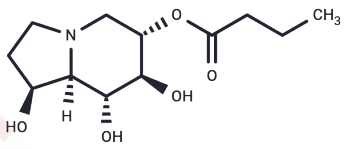
Data Sheet (Cat.No.T10755L)

TargetMol

Celgosivir

Chemical Properties



CAS No. : 121104-96-9

Formula: C12H21NO5

Molecular Weight: 259.3

Storage: Store at low temperature
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	Celgosivir (6 O-butanoyl castanospermine) is an inhibitor of α-glucosidase I. In vitro assay, it inhibits bovine viral diarrhoea virus (BVDV) (IC50: 1.27 μM).
Targets(IC50)	Anti-infection,HCV Protease,HIV Protease,Glucosidase,glycosidase
In vitro	Celgosivir exhibits potent antiviral activity against HIV-1 (IC50: 2.0±2.3 μM) [1]. Celgosivir inhibits DENV2 replication (EC50: 0.2 μM). The EC50 values against DENV1, 3 and 4 are less than 0.7 μM[3]. Celgosivir is more effective (IC50=20 μM) than the parent molecule (IC50=254 μM) at causing the accumulation of glucosylated oligosaccharides in HIV-infected cells by inhibition of glycoprotein processing. Bovine viral diarrhoea virus (BVDV) is a closely related virus of hepatitis C virus (HCV). In plaque assay and cytopathic effect assay, Celgosivir inhibits BVDV, with IC50 values of 16 and 47 μM ,
In vivo	Celgosivir demonstrates robust protection in AG129 mice against lethal infection from a mouse-adapted dengue virus, effectively administered at a dosage of 50 mg/kg twice daily (BID) for a duration of 5 days. This protective efficacy is maintained even when treatment onset is delayed by 48 hours. The outcomes suggest that celgosivir's protective capability is contingent upon both the dosage and the administration schedule, with a twice daily regimen of 50, 25, or 10 mg/kg proving superior to a single daily dose of 100 mg/kg in terms of survival. Specifically, during primary infection with the mouse-adapted DENV strain S221, there is a notable increase in viremia by day 3. However, an impressive 80% of mice survive until day 10, with the virus being completely eliminated by day 8[3].

Solubility Information

Solubility	DMSO: 50 mg/mL (192.83 mM),Sonication is recommended. H2O: 1.8 mg/mL (6.94 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.8565 mL	19.2827 mL	38.5654 mL
5 mM	0.7713 mL	3.8565 mL	7.7131 mL
10 mM	0.3857 mL	1.9283 mL	3.8565 mL
50 mM	0.0771 mL	0.3857 mL	0.7713 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

Taylor DL, et al. Inhibition of alpha-glucosidase I of the glycoprotein-processing enzymes by 6-O-butanoylcastanospermine (MDL 28,574) and its consequences in human immunodeficiency virus-infected T cells. Antimicrob Agents Chemother. 1994 Aug;38(8):1780-7.
Rathore AP, et al. Celgosivir treatment misfolds dengue virus NS1 protein, induces cellular pro-survival genes andprotects against lethal challenge mouse model. Antiviral Res. 2011 Dec;92(3):453-60.
Whitby K, et al. Action of celgosivir (6 O-butanoyl castanospermine) against the pestivirus BVDV: implications for the treatment of hepatitis C. Antivir Chem Chemother. 2004 May;15(3):141-51.
Watanabe S, et al. Dose- and schedule-dependent protective efficacy of celgosivir in a lethal mouse model for dengue virus infection informs dosing regimen for a proof of concept clinical trial. Antiviral Res. 2012 Oct;96(1):32-5.