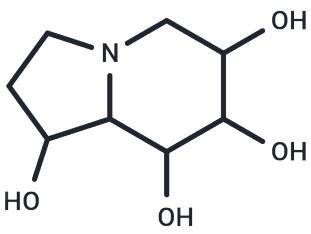
Data Sheet (Cat.No.TQ0308)

TargetMol

Castanospermine

Chemical Properties



CAS No. : 79831-76-8

Formula: C8H15NO4

Molecular Weight: 189.21

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	Castanospermine (1,6,7,8-Tetrahydroxyoctahydroindolizine) is a natural compound that inhibits α- and β-glucosidases, especially glucosidase I.
Targets(IC50)	Glucosidase,glycosidase
In vitro	Castanospermine is a potent and specific inhibitor of mammalian and plant α-and β-D-glucosidases in vitro [1].
In vivo	Experiments in vivo with castanospermine, an inhibitor of the glucosidases that convert protein N-linked high mannose carbohydrates to complex oligosaccharides, resulted in significant inhibition of tumor growth in nude mice [3].

Solubility Information

Solubility	DMSO: 140 mg/mL (739.92 mM),Sonication is recommended. H2O: 32 mg/mL (169.12 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 (10.57 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	5.2851 mL	26.4257 mL	52.8513 mL
5 mM	1.057 mL	5.2851 mL	10.5703 mL
10 mM	0.5285 mL	2.6426 mL	5.2851 mL
50 mM	0.1057 mL	0.5285 mL	1.057 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

Bryan G, Anthony C et al. The structural basis of the inhibition of human glycosidases by castanospermine analogues. Biochem. J. (1990) 269, 227-231.
Eisaku Tsujii et al. Nectrisine Is a Potent Inhibitor of a-Glucosidases, Demonstrating Activities Similarly at Enzyme and Cellular Levels. Biochemical and Biophysical Research Communications 220, 459-466 (1996)
Pili R et al. The alpha-glucosidase I inhibitor castanospermine alters endothelial cell glycosylation, preventsangiogenesis, and inhibits tumor growth. Cancer Res. 1995 Jul 1;55(13):2920-6.