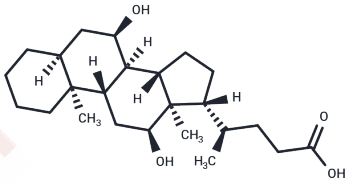
Data Sheet (Cat.No.T36585)

TargetMol

Isodeoxycholic Acid

Chemical Properties



CAS No. : 566-17-6

Formula: C24H40O4

Molecular Weight: 392.57

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	Isodeoxycholic Acid is a bile acid that is formed via epimerization of deoxycholic acid by intestinal bacteria. It has a greater critical micelle concentration than DCA, indicating reduced detergent activity, and is less active than DCA in inhibiting growth in a panel of seven gut commensal bacteria species. Isodeoxycholic Acid(0.1%) inhibits spore germination induced by taurocholic acid in several C. difficile strains, as well as decreases the cytotoxicity of C. difficile culture supernatants to Vero cells. Plasma levels of isodeoxycholic acid are decreased in a rat model of high-fat diet-induced obesity compared with rats fed a normal diet.
Targets(IC50)	Endogenous Metabolite,Antibacterial,Chloride channel
In vitro	Isodeoxycholic acid (0.1%) inhibits spore germination induced by taurocholic acid in several C. difficile strains, as well as decrease the cytotoxicity of C. difficile culture supernatants to Vero cells.[3]

Solubility Information

Solubility	DMF: 27 mg/mL (68.78 mM),Sonication is recommended. Ethanol: 18 mg/mL (45.85 mM),Sonication is recommended. DMSO: 122.5 mg/mL (312.05 mM),Sonication is recommended. DMF:PBS (pH 7.2) (1:1): 0.5 mg/mL (1.27 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 1.5 mg/mL (3.82 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	2.5473 mL	12.7366 mL	25.4732 mL
5 mM	0.5095 mL	2.5473 mL	5.0946 mL
10 mM	0.2547 mL	1.2737 mL	2.5473 mL
50 mM	0.0509 mL	0.2547 mL	0.5095 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

Takei H, et al. Characterization of long-chain fatty acid-linked bile acids: a major conjugation form of 3β-hydroxy bile acids in feces. J Lipid Res. 2022;63(10):100275.
Devlin AS, et al. A biosynthetic pathway for a prominent class of microbiota-derived bile acids. Nat Chem Biol. 2015;11(9):685-690.
Thanissery R, et al. Inhibition of spore germination, growth, and toxin activity of clinically relevant C. difficile strains by gut microbiota derived secondary bile acids. Anaerobe. 2017;45:86-100.
Lin H, et al. Alterations of Bile Acids and Gut Microbiota in Obesity Induced by High Fat Diet in Rat Model. J Agric Food Chem. 2019;67(13):3624-3632.