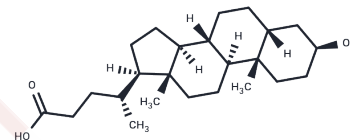


Isolithocholic Acid

Chemical Properties

CAS No. :	1534-35-6
Formula:	C ₂₄ H ₄₀ O ₃
Molecular Weight:	376.57
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	Isolithocholic Acid (3-Epilithocholic acid) (β -Lithocholic acid) is an isomer of Lithocholic acid. Isolithocholic Acid, a bile acid, is formed by microbial metabolism of Lithocholic acid or Lithocholic acid 3 α -sulfate.
Targets(IC50)	Endogenous Metabolite
In vitro	Isolithocholic Acid at a concentration of 0.01% does not inhibit the spore germination and outgrowth in CF5 and M120 strains, but at a higher concentration of 0.1%, it significantly inhibits these processes. At a much lower concentration (0.00003%), it prevents the growth of CD196, M68, CF5, 630, and BI9 strains, while also substantially reducing toxin activity in CF5, BI9, M120, and 630 strains. Furthermore, a slightly higher concentration of Isolithocholic Acid (0.0003%) results in a significant decrease in toxin activity across all strains, with the exception of R20291 and M120[3].
In vivo	Fecal Isolithocholic Acid levels significantly decrease starting from day 28 in the high fat diet (HFD) group when compared to rats on a normal diet[4].

Solubility Information

Solubility	Chloroform: Slightly soluble Ethanol: Slightly soluble Methanol: Slightly soluble DMSO: 13.51 mg/mL (35.88 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: 1 mg/mL (2.66 mM),Sonication is recommended. 10% DMSO+90% Saline: 1.35 mg/mL (3.58 mM),Suspension. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6555 mL	13.2777 mL	26.5555 mL
5 mM	0.5311 mL	2.6555 mL	5.3111 mL
10 mM	0.2656 mL	1.3278 mL	2.6555 mL
50 mM	0.0531 mL	0.2656 mL	0.5311 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

- Batta, A.K., Salen, G., and Shefer, S. Transformation of bile acids into iso-bile acids by *Clostridium perfringens*: Possible transport of 3β -hydrogen via the coenzyme *Hepatology* 5(6)1126-1131(1985)
- Borriello, S.P., and Owen, R.W. The metabolism of lithocholic acid and lithocholic acid-3- α -sulfate by human fecal bacteria *Lipids* 17(7)477-482(1982)
- Thanissery, R., Winston, J.A., and Theriot, C.M. Inhibition of spore germination, growth, and toxin activity of clinically relevant *C. difficile* strains by gut microbiota derived secondary bile acids *Anaerobe* 4586-100(2017)
- Lin, H., An, Y., Tang, H., et al. Alterations of bile acids and gut microbiota in obesity induced by high fat diet in rat model *J. Agric. Food Chem.* 67(13)3624-3632(2019)

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