

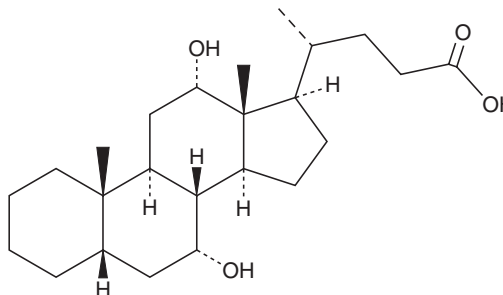
PRODUCT INFORMATION



Isodeoxycholic Acid

Item No. 29890

CAS Registry No.: 566-17-6
Formal Name: (5 β ,7 α ,12 α)-7,12-dihydroxy-
cholan-24-oic acid
Synonym: isoDCA
MF: C₂₄H₄₀O₄
FW: 392.6
Purity: $\geq 95\%$
Supplied as: A solid
Storage: -20°C
Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Isodeoxycholic acid is supplied as a solid. A stock solution may be made by dissolving the isodeoxycholic acid in the solvent of choice, which should be purged with an inert gas. Isodeoxycholic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of isodeoxycholic acid in ethanol and DMSO is approximately 20 mg/ml and approximately 30 mg/ml in DMF.

Isodeoxycholic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, isodeoxycholic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Isodeoxycholic acid has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Isodeoxycholic acid is a bile acid that is formed *via* epimerization of deoxycholic acid (DCA; Item Nos. 20756 | 18231) by intestinal bacteria.¹ 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 (Item No. 16215) in several *C. difficile* strains, as well as decreases the cytotoxicity of *C. difficile* culture supernatants to Vero cells.² Plasma levels of isodeoxycholic acid are decreased in a rat model of high-fat diet-induced obesity compared with rats fed a normal diet.³

References

1. Devlin, A.S. and Fischbach, M.A. A biosynthetic pathway for a prominent class of microbiota-derived bile acids. *Nat. Chem. Biol.* **11**(9), 685-690 (2018).
2. 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* **45**, 86-100 (2017).
3. 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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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