

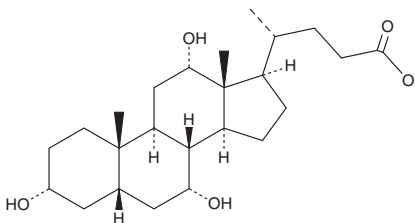
PRODUCT INFORMATION



Cholic Acid

Item No. 20250

CAS Registry No.: 81-25-4
Formal Name: (5 β)-3 α ,7 α ,12 α -trihydroxy-cholan-24-oic acid
Synonyms: Cholalic Acid, Cholalin, NSC 6135
MF: C₂₄H₄₀O₅
FW: 408.6
Purity: \geq 95%
Supplied as: A crystalline solid
Storage: Room temperature
Stability: \geq 4 years



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

Laboratory Procedures

Cholic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the cholic acid in the solvent of choice, which should be purged with an inert gas. Cholic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of cholic acid in these solvents is approximately 0.3 and 1 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of cholic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cholic acid in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cholic acid is a primary bile acid.¹ It is formed from cholesterol *via* a multistep process catalyzed by the cytochrome P450 (CYP) isoforms CYP7A1, CYP8B1, and CYP27A1. Cholic acid is conjugated to glycine or taurine by bile acid-CoA:amino acid N-acyltransferase (BAAT) to produce glycocholic acid (GCA; Item No. 20276) and taurocholic acid (TCA; Item No. 16215), respectively, in the liver, and is transformed into the secondary bile acid deoxycholic acid (DCA; Item No. 20756) by intestinal microbiota.¹⁻³ It induces *C. difficile* colony formation in an agar dilution assay when used at a concentration of 0.1% w/v.⁴ Dietary administration of cholic acid (0.4% w/w) increases serum cholesterol levels, biliary phospholipid secretion, and fecal DCA levels in rats.⁵

References

- Šarenac, T.M. and Mikov, M. Bile acid synthesis: From nature to the chemical modification and synthesis and their applications as drugs and nutrients. *Front. Pharmacol.* **9**, 939 (2018).
- Hunt, M.C., Siponen, M.I., and Alexson, S.E.H. The emerging role of acyl-CoA thioesterases and acyltransferases in regulating peroxisomal lipid metabolism. *Biochim. Biophys. Acta* **1822(9)**, 1397-1410 (2012).
- Staley, C., Weingarden, A.R., Khoruts, A., *et al.* Interaction of gut microbiota with bile acid metabolism and its influence on disease states. *Appl. Microbiol. Biotechnol.* **101(1)**, 47-64 (2017).
- Sorg, J.A. and Sonenshein, A. L. Bile salts and glycine as cogerminants for *Clostridium difficile* spores. *J. Bacteriol.* **190(7)**, 2505-2512 (2008).
- Uchida, K., Nomura, Y., and Takeuchi, N. Effects of cholic acid, chenodeoxycholic acid, and their related bile acids on cholesterol, phospholipid, and bile acid levels in serum, liver, bile, and feces of rats. *J. Biochem.* **87(1)**, 187-194 (1980)

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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