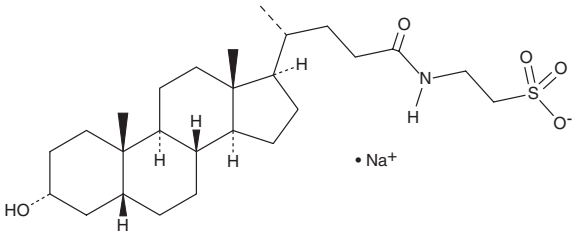
PRODUCT INFORMATION

Taurolithocholic Acid (sodium salt)

Item No. 17275

CAS Registry No.: 6042-32-6
Formal Name: 2-[[(3α,5β)-3-hydroxy-24-oxocholan-24-yl] amino]-ethanesulfonic acid, monosodium salt
Synonyms: NSC 681057, Sodium taurolithocholate, TLCA
MF: $C_{26}H_{44}NO_5S \bullet Na$
FW: 505.7
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Taurolithocholic acid (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the taurolithocholic acid (sodium salt) in the solvent of choice, which should be purged with an inert gas. Taurolithocholic acid (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of taurolithocholic acid (sodium salt) in these solvents is approximately 1, 20, and 25 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 taurolithocholic acid (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of taurolithocholic acid (sodium salt) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Taurolithocholic acid (TLCA) is a taurine-conjugated form of the secondary bile acid lithocholic acid (Item No. 20253).[1] TLCA (75 µM) increases caspase-3 and -7 activity in Hep3B cells transfected with sodium taurocholate cotransporting peptide (NTCP), but not nontransfected Hep3B cells.[2] It has been used to induce cholestasis in *ex vivo* and *in vivo* animal models of hepatocellular cholestasis.[3,4] Serum levels of TLCA increase approximately 5-fold in within two hours during an oral lipid tolerance test in humans.[1]

References

1. Schmid, A., Neumann, H., Karrasch, T., *et al.* Bile acid metabolome after an oral lipid tolerance test by liquid chromatography-tandem mass spectrometry (LC-MS/MS). *PLoS One* **11(2)**, e0148869 (2016).
2. Rust, C., Wild, N., Bernt, C., *et al.* Bile acid-induced apoptosis in hepatocytes is caspase-6-dependent. *J. Biol. Chem.* **284(5)**, 2908-2916 (2009).
3. Denk, G.U., Maitz, S., Wimmer, R., *et al.* Conjugation is essential for the anticholestatic effect of NorUrsodeoxycholic acid in taurolithocholic acid-induced cholestasis in rat liver. *Hepatology* **52(5)**, 1758-1768 (2010).
4. Javitt, N.B. Cholestasis in rats induced by taurolithocholate. *Nature* **210(5042)**, 1262-1263 (1966).

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