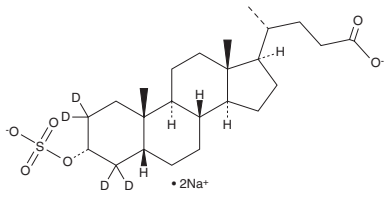
# PRODUCT INFORMATION

## Lithocholic-2,2,4,4-$d_4$ Acid 3-sulfate (sodium salt)

*Item No. 43710*

**Formal Name:** (3α,5β)-3-(sulfooxy)-cholan-24-oic-2,2,4,4-$d_4$ acid, disodium salt
**Synonyms:** LCA 3-sulfate-$d_4$, Lithocholate 3-sulfate-$d_4$
**MF:** $C_{24}H_{34}D_4O_6S \bullet 2Na$
**FW:** 504.6
**Chemical Purity:** ≥98% (Lithocholic Acid 3-sulfate)
**Deuterium Incorporation:** ≥99% deuterated forms ($d_1$-$d_4$); ≤1% $d_0$
**Supplied as:** A 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

Lithocholic-2,2,4,4-$d_4$ acid 3-sulfate (sodium salt) is intended for use as an internal standard for the quantification of lithocholic acid 3-sulfate (Item No. 20676) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Lithocholic-2,2,4,4-$d_4$ acid 3-sulfate (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the lithocholic-2,2,4,4-$d_4$ acid 3-sulfate (sodium salt) in the solvent of choice, which should be purged with an inert gas. Lithocholic-2,2,4,4-$d_4$ acid 3-sulfate (sodium salt) is sparingly soluble (1-10 mg/ml) in DMSO.

### Description

Lithocholic acid 3-sulfate is a metabolite of the secondary bile acid lithocholic acid (Item No. 20253).[1] It is water soluble and the primary form of lithocholic acid in the bile duct. Lithocholic acid 3-sulfate forms a complex with calcium *in vitro*.[2] Biliary secretion of lithocholic acid 3-sulfate is increased in a rat model of diabetes induced by streptozotocin (Item No. 13104).[3]

### References


1. 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).
2. Oelberg, D.G., Dubinsky, W.P., Adcock, E.W., *et al.* Calcium binding by lithocholic acid derivatives. *Am. J. Physiol.* **247(1 Pt 1)**, G112-G115 (1984).
3. Kirkpatrick, R.B. and Kraft, B.G. Effect of streptozotocin-induced diabetes on bile acid sulfation in male rat liver. *Am. J. Physiol.* **247(3 Pt 1)**, G226-G230 (1984).





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