

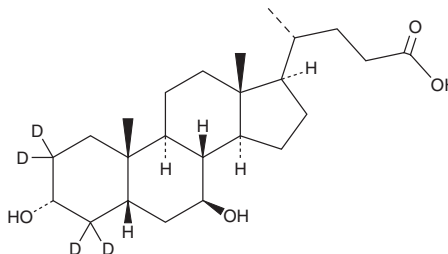
PRODUCT INFORMATION



Ursodeoxycholic Acid-d₄

Item No. 21892

CAS Registry No.: 347841-46-7
Formal Name: (3 α ,5 β ,7 β)-3,7-dihydroxy-cholan-24-oic-2,2,4,4-d₄ acid
Synonym: UDCA-d₄
MF: C₂₄H₃₆D₄O₄
FW: 396.6
Chemical Purity: \geq 95% (Ursodeoxycholic Acid)
Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₄); \leq 1% d₀
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 2 years



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

Laboratory Procedures

Ursodeoxycholic acid-d₄ (UDCA-d₄) is intended for use as an internal standard for the quantification of UDCA (Item No. 15121) 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).

UDCA-d₄ is supplied as a crystalline solid. A stock solution may be made by dissolving the UDCA-d₄ in the solvent of choice. UDCA-d₄ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of UDCA-d₄ in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Description

UDCA is a secondary bile acid formed via epimerization of chenodeoxycholic acid (CDCA; Item No. 10011286).^{1,2} UDCA is also a metabolite of lithocholic acid (LCA; Item No. 20253) in human liver microsomes.³ It inhibits taurocholic acid (Item No. 16215) uptake in HeLa cells expressing recombinant sodium/taurocholate cotransporting polypeptide (NTCP) with an IC₅₀ value of 3.6 μ M.⁴ UDCA (50 μ M) inhibits apoptosis induced by deoxycholic acid (DCA; Item Nos. 20756 | 18231) or ethanol in primary rat hepatocytes.⁵ Dietary administration of UDCA blocks DCA-induced increases in the number of TUNEL-positive hepatocytes in rats. Formulations containing UDCA have been used in the treatment of primary biliary cirrhosis.

References

1. Dawson, P.A. and Karpen, S.J. *J. Lipid Res.* **56(6)**, 1085-1099 (2015).
2. Chiang, J.Y.L. *Liver Res.* **1(1)**, 3-9 (2017).
3. Deo, A.K. and Bandiera, S.M. *Drug Metab. Dispos.* **37(9)**, 1938-1947 (2009).
4. Kim, R.B., Leake, B., Cvetkovic, M., et al. *J. Pharmacol. Exp. Ther.* **291(3)**, 1204-1209 (1999).
5. Rodrigues, C.M.P., Fan, G., Ma, X., et al. *J. Clin. Invest.* **101(12)**, 2790-2799 (1998).

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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