

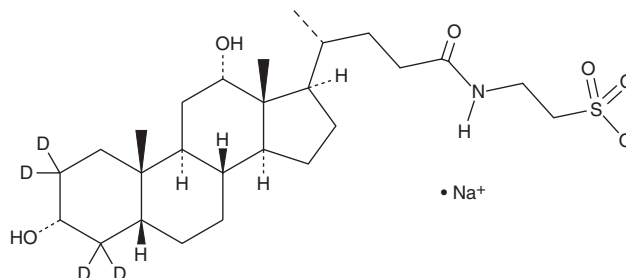
# PRODUCT INFORMATION



## Taurodeoxycholic Acid-d<sub>4</sub> (sodium salt)

Item No. 32983

**CAS Registry No.:** 2410279-82-0  
**Formal Name:** 2-[[[(3 $\alpha$ ,5 $\beta$ ,12 $\alpha$ )-3,12-dihydroxy-24-oxocholan-24-yl-2,2,4,4-d<sub>4</sub>]amino]ethanesulfonic acid, monosodium salt  
**Synonyms:** Sodium Taurodeoxycholate-d<sub>4</sub>, TDCA-d<sub>4</sub>  
**MF:** C<sub>26</sub>H<sub>40</sub>D<sub>4</sub>NO<sub>6</sub>S • Na  
**FW:** 525.7  
**Chemical Purity:** ≥98% (Taurodeoxycholic Acid-d<sub>4</sub>)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A crystalline 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

Taurodeoxycholic acid-d<sub>4</sub> is intended for use as an internal standard for the quantification of taurodeoxycholic acid (Item No. 15935) 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).

Taurodeoxycholic acid-d<sub>4</sub> is supplied as a crystalline solid. A stock solution may be made by dissolving the taurodeoxycholic acid-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Taurodeoxycholic acid-d<sub>4</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of taurodeoxycholic acid-d<sub>4</sub> in these solvents is approximately 2, 20 and 25 mg/ml.

### Description

Taurodeoxycholic acid is a taurine-conjugated form of the secondary bile acid deoxycholic acid (Item Nos. 20756 | 18231).<sup>1</sup> Taurodeoxycholic acid stimulates chloride ion secretion through calcium-activated chloride ion channels and cystic fibrosis transmembrane conductance regulator (CFTR) in Calu-3 airway epithelial cell monolayers when applied basolaterally.<sup>2</sup> Serum levels of taurodeoxycholic acid increase approximately 5-fold within two hours during an oral lipid tolerance test in humans.<sup>1</sup>

### References

- 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).
- Hendrick, S.M., Mroz, M.S., Greene, C.M., *et al.* Bile acids stimulate chloride secretion through CFTR and calcium-activated Cl<sup>-</sup> channels in Calu-3 airway epithelial cells. *Am. J. Physiol. Lung. Cell. Mol. Physiol.* **307**(5), L407-L418 (2014).

#### 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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