

PRODUCT INFORMATION

Taurolithocholic Acid-d₄ MaxSpec® Standard

Item No. 31571

CAS Registry No.: 2410279-96-6

Formal Name: 2-[[[(3 α ,5 β)-3-hydroxy-24-oxocholan-24-yl-2,2,4,4-d₄]amino]-ethanesulfonic acid

Synonyms: Taurolithocholate-d₄, TLCA-d₄

MF: C₂₆H₄₁D₄NO₅S

FW: 487.7

Purity: ≥95%

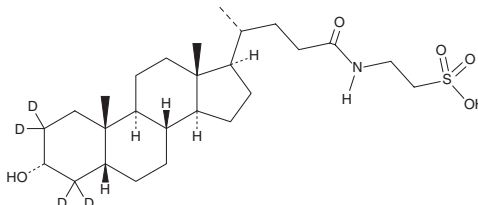
Supplied as: A solution in methanol; in a deactivated glass ampule

Concentration: 100 µg/ml (nominal); see certificate of analysis for verified concentration

Storage: -20°C

Stability: ≥5 years; *Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.*

Special Conditions: Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.



Description

Taurolithocholic acid-d₄ (TLCA-d₄) is intended for use as an internal standard for the quantification of TLCA (Item No. 17275) by GC- or LC-MS. 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 within two hours during an oral lipid tolerance test in humans.¹

TLCA-d₄ MaxSpec® standard is a quantitative grade standard of TLCA-d₄ (Item No. 32984) that has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. The verified concentration is provided on the certificate of analysis. This TLCA-d₄ MaxSpec® standard is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product. **Note:** *The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.*

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).
- 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).
- Denk, G.U., Maitz, S., Wimmer, R., *et al.* Conjugation is essential for the anticholestatic effect of NorUrsodeoxycholic acid in tauroolithocholic acid-induced cholestasis in rat liver. *Hepatology* **52**(5), 1758-1768 (2010).
- Javitt, N.B. Cholestasis in rats induced by tauroolithocholate. *Nature* **210**(5042), 1262-1263 (1966).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM