

PRODUCT INFORMATION



Taurodeoxycholic Acid-d₄ MaxSpec[®] Standard

Item No. 31563

CAS Registry No.: 1332881-65-8

Formal Name: 2-[[[(3 α ,5 β ,12 α)-3,12-dihydroxy-24-oxocholan-24-yl]-2,2,4,4-d₄]amino]ethanesulfonic acid

Synonym: TDCA-d₄

MF: C₂₆H₄₁D₄NO₆S

FW: 503.7

Purity: $\geq 95\%$

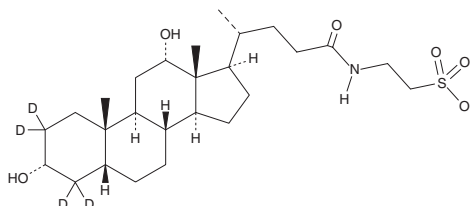
Supplied as: A solution in methanol; in a deactivated glass ampule

Concentration: 100 $\mu\text{g/ml}$ (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

Taurodeoxycholic acid-d₄ (TDCA-d₄) is intended for use as an internal standard for the quantification of taurodeoxycholic acid (Item No. 15935) by GC- or LC-MS. TDCA is a taurine-conjugated form of the secondary bile acid deoxycholic acid (Item Nos. 20756 | 18231).¹ TDCA 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.² Serum levels of taurodeoxycholic acid increase approximately 5-fold within two hours during an oral lipid tolerance test in humans.¹

TDCA-d₄ MaxSpec[®] standard is a quantitative grade standard of TDCA-d₄ (Item No. 32983) 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 TDCA-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

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. Hendrick, S.M., Mroz, M.S., Greene, C.M., *et al.* Bile acids stimulate chloride secretion through CFTR and calcium-activated Cl⁻ 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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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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