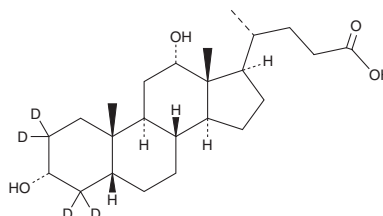


PRODUCT INFORMATION



Deoxycholic Acid-d₄ MaxSpec® Standard Item No. 31350

CAS Registry No.: 112076-61-6
Formal Name: (3 α ,5 β ,12 α)-3,12-dihydroxy-cholan-24-oic
2,2,4,4-d₄ acid
Synonyms: Cholanoic Acid-d₄, DCA-d₄
MF: C₂₄H₃₆D₄O₄
FW: 396.6
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

Deoxycholic acid-d₄ (DCA-d₄) is intended for use as an internal standard for the quantification of DCA (Item Nos. 20756 | 18231) by GC- or LC-MS. DCA is a secondary bile acid that is formed *via* microbial transformation of cholic acid (Item No. 20250) in the colon.¹ It can be conjugated to glycine or taurine (Item No. 27031) to produce glycodeoxycholic acid (GDCA; Item No. 20274) or taurodeoxycholic acid (TDCA; Item No. 15935), respectively, in hepatocytes.¹⁻³ DCA (0.2% v/v) inhibits spore germination induced by taurocholic acid (TCA; Item No. 16215) in seven *C. difficile* strains, as well as inhibits growth and decreases the cytotoxicity of *C. difficile* culture supernatants to Vero cells when used at a concentration of 0.02% v/v.¹ It inhibits ionizing radiation-induced p53-dependent transcription in a reporter assay using HCT116 cells when used at a concentration of 200 µM.⁴ Fecal and intestinal tissue levels of DCA are increased in a rat model of high-fat diet-induced obesity compared with rats fed a normal diet.⁵ Increased serum DCA levels have been found in patients with colorectal cancer.⁶

DCA-d₄ MaxSpec® standard is a quantitative grade standard of DCA-d₄ (Item No. 20851) 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 DCA-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. Thanissery, R., Winston, J.A., and Theriot, C.M. *Anaerobe* **45**, 86-100 (2017).
2. Schmid, A., Neumann, H., Karrasch, T., et al. *PLoS One* **11(2)**, e0148869 (2016).
3. Šarenac, T.M. and Mikov, M. *Front. Pharmacol.* **9**, 939 (2018).
4. Qiao, D., Gaitonde, S.V., Qi, W., et al. *Carcinogenesis* **22(6)**, 957-964 (2001).
5. Lin, H., An, Y., Tang, H., et al. *J. Agric. Food Chem.* **67(13)**, 3624-3632 (2019).
6. Bayerdörffer, E., Mannes, G.A., Richter, W.O., et al. *Gastroenterology* **104(1)**, 145-151 (1993).

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

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