

PRODUCT INFORMATION



Glycodeoxycholic Acid-d₄ MaxSpec[®] Standard

Item No. 31553

CAS Registry No.: 1069132-37-1

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

Synonym: GDCA-d₄

MF: C₂₆H₃₉D₄NO₅

FW: 453.7

Purity: \geq 95%

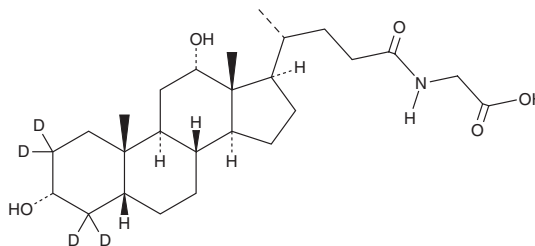
Supplied as: A solution in methanol; in a deactivated glass ampule

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

Storage: -20°C

Stability: \geq 7 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

Glycodeoxycholic acid-d₄ (GDCA-d₄) is intended for use as an internal standard for the quantification of glycodeoxycholic acid (Item No. 20274) by GC- or LC-MS. GDCA is a glycine-conjugated form of the secondary bile acid deoxycholic acid (Item Nos. 18231 | 20756).¹ It induces a reversible, concentration-dependent reduction in myogenic tone in rats and decreases expression of the gene encoding the cytochrome P450 (CYP) isoform 7A1 (CYP7A1) in rabbits.^{2,3} Serum levels of GDCA are elevated in non-surviving patients with acetaminophen-induced acute liver failure (AALF) compared with survivors.⁴ GDCA levels are also increased in the plasma of patients with asthma.⁵

Glycodeoxycholic acid-d₄ MaxSpec[®] standard is a quantitative grade standard of glycodeoxycholic acid-d₄ (Item No. 31310) 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. This glycodeoxycholic acid-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. Lefebvre, P., Cariou, B., Lien, F., *et al.* Role of bile acids and bile acid receptors in metabolic regulation. *Physiol. Rev.* **89**(1), 147-191 (2009).
2. Khurana, S., Raina, H., Pappas, V., *et al.* Effects of deoxycholyglycine, a conjugated secondary bile acid, on myogenic tone and agonist-induced contraction in rat resistance arteries. *PLoS One* **7**(2), e32006 (2012).
3. Shang, Q., Guo, G.L., Honda, A., *et al.* Bile acid flux through portal but not peripheral veins inhibits CYP7A1 expression without involvement of ileal FGF19 in rabbits. *Am. J. Physiol. Gastrointest. Liver Physiol.* **307**(4), G479-G486 (2014).
4. Woolbright, B.L., McGill, M.R., Staggs, V.S., *et al.* Glycodeoxycholic acid levels as prognostic biomarker in acetaminophen-induced acute liver failure patients. *Toxicol. Sci.* **142**(2), 436-444 (2014).
5. Comhair, S.A.A., McDunn, J., Bennett, C., *et al.* Metabolomic endotype of asthma. *J. Immunol.* **195**(2), 643-650 (2015).

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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