

PRODUCT INFORMATION



Glycocholic Acid-d₄ MaxSpec[®] Standard

Item No. 31352

CAS Registry No.: 1201918-15-1

Formal Name: N-[(3 α ,5 β ,7 α ,12 α)-3,7,12-trihydroxy-24-oxocholan-24-yl]-2,2,4,4-d₄-glycine

Synonyms: Cholylglycine-d₄, GCA-d₄

MF: C₂₆H₃₉D₄NO₆

FW: 469.7

Purity: \geq 95%

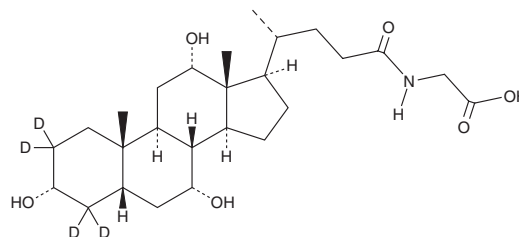
Supplied as: A solution in methanol; in a deactivated glass ampule

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

Storage: -20°C

Stability: \geq 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

Glycocholic acid-d₄ is intended for use as an internal standard for the quantification of glycocholic acid (Item No. 20276) by GC- or LC-MS. Glycocholic acid is a glycine-conjugated form of the primary bile acid cholic acid (Item No. 20250) and has roles in the emulsification of fats.^{1,2} It reduces expression of the gene encoding the farnesoid X receptor (FXR) and increases expression of the genes encoding the bile acid receptors TGR5 and S1PR2 in SNU-245 cells when used at a concentration of 1.6 μ mol/ml.³ Glycocholic acid (250 μ M) increases the intracellular accumulation and cytotoxicity of epirubicin (Item No. 12091) in Caco-2 cells, as well as decreases expression of the genes encoding multidrug resistance protein 1 (MDR1), MDR-associated protein 1 (MRP1), and MRP2 when used alone or in combination with epirubicin.⁴ It increases absorption of epirubicin into everted sacs of rat ileum and jejunum when used at a concentration of 250 μ M. The bile acid composition ratio of glycocholic acid is elevated in bile of patients with cholangiocarcinoma compared with patients with pancreatic cancer or benign biliary diseases.³ Serum levels of glycocholic acid are elevated in patients with hepatocellular carcinoma compared with healthy individuals.²

Glycocholic acid-d₄ MaxSpec[®] standard is a quantitative grade standard of glycocholic acid-d₄ (Item No. 21889) 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 glycocholic 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. *Physiol. Rev.* **89**(1), 147-191 (2009).
2. Guo, C., Xie, C., Ding, P., et al. *J. Chromatogr. B. Analyt. Technol. Biomed. Life Sci.* **1072**, 315-319 (2018).
3. Song, W.-S., Park, H.-M., Ha, J.M., et al. *Sci. Rep.* **8**(1), 11088 (2018).
4. Lo, Y.L., Ho, C.T., and Tsai, F.L. *Eur. J. Pharm. Sci.* **35**(1-2), 52-67 (2008).

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.

Copyright Cayman Chemical Company, 07/10/2023

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