

PRODUCT INFORMATION



Glycolithocholic Acid-d₄ MaxSpec[®] Standard

Item No. 31554

CAS Registry No.: 2044276-16-4

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

Synonym: GLCA-d₄, Lithocholylglycine-d₄

MF: C₂₆H₃₉D₄NO₄

FW: 437.7

Purity: \geq 95%

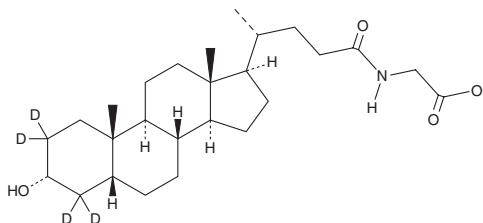
Supplied as: A solution in methanol; in a deactivated glass ampule

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

Glycolithocholic acid-d₄ is intended for use as an internal standard for the quantification of glycolithocholic acid (Item Nos. 21723 | 20273) by GC- or LC-MS. Glycolithocholic acid is a glycine-conjugated form of the secondary bile acid lithocholic acid (Item No. 20253).¹ It is increased in the liver of mice fed a diet supplemented with ursodeoxycholic acid (Item No. 15121).² Glycolithocholic acid levels are decreased in the plasma following subcutaneous administration of PEG-obestatin(Cys¹⁰, Cys¹³), a modified peptide hormone, in lean or diet-induced obese mice.³ Serum glycolithocholic acid levels increase with age in children.⁴

Glycolithocholic acid-d₄ MaxSpec[®] standard is a quantitative grade standard of glycolithocholic acid-d₄ (Item No. 31308) 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 glycolithocholic 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. Zhang, Y. and Klaassen, C.D. Effects of feeding bile acids and a bile acid sequestrant on hepatic bile acid composition in mice. *J. Lipid Res.* **51**(11), 3230-3242 (2010).
3. Cowan, E., Kimar, P., Burch, K.J., *et al.* Treatment of lean and diet-induced obesity (DIO) mice with a novel stable obestatin analogue alters plasma metabolite levels as detected by untargeted LC-MS metabolomics. *Metabolomics* **12**(124), (2016).
4. Semba, R.D., Gonzalez-Freier, M., Moaddel, R., *et al.* Environmental enteric dysfunction is associated with altered bile acid metabolism. *J. Pediatr. Gastroenterol. Nutr.* **64**(4), 536-540 (2017).

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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