

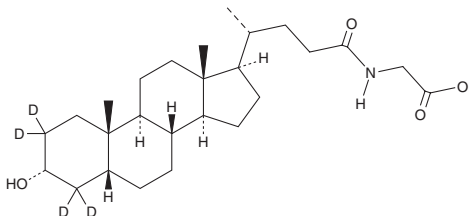
# PRODUCT INFORMATION



## Glycolithocholic Acid-d<sub>4</sub>

Item No. 31308

**CAS Registry No.:** 2044276-16-4  
**Formal Name:** N-[(3 $\alpha$ ,5 $\beta$ )-3-hydroxy-24-oxocholan-24-yl-2,2,4,4-d<sub>4</sub>]-glycine  
**Synonym:** Lithocholylglycine-d<sub>4</sub>  
**MF:** C<sub>26</sub>H<sub>39</sub>D<sub>4</sub>NO<sub>4</sub>  
**FW:** 437.7  
**Chemical Purity:**  $\geq$ 98% (Glycolithocholic acid)  
**Deuterium Incorporation:**  $\geq$ 99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>);  $\leq$ 1% d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Glycolithocholic acid-d<sub>4</sub> is intended for use as an internal standard for the quantification of glycolithocholic acid (Item No. 21723) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Glycolithocholic acid-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the glycolithocholic acid-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Glycolithocholic acid-d<sub>4</sub> is slightly soluble in chloroform (warmed) and methanol (warmed).

### Description

Glycolithocholic acid is a glycine-conjugated form of the secondary bile acid lithocholic acid (Item No. 20253).<sup>1</sup> It is increased in the liver of mice fed a diet supplemented with ursodeoxycholic acid (Item No. 15121).<sup>2</sup> Glycolithocholic acid levels are decreased in the plasma following subcutaneous administration of PEG-obestatin(Cys<sup>10</sup>, Cys<sup>13</sup>), a modified peptide hormone, in lean or diet-induced obese mice.<sup>3</sup> Serum glycolithocholic acid levels increase with age in children.<sup>4</sup>

### 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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