

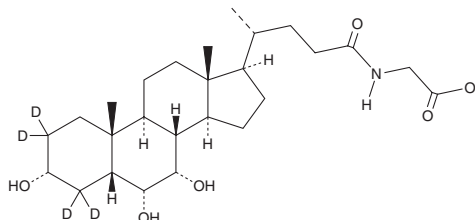
# PRODUCT INFORMATION



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

Item No. 27034

**Formal Name:** N-[(3 $\alpha$ ,5 $\beta$ ,6 $\alpha$ ,7 $\alpha$ )-3,6,7-trihydroxy-24-oxocholan-24-yl-2,2,4,4-d<sub>4</sub>]-glycine  
**Synonyms:** GHCA-d<sub>4</sub>, Glycine Hyocholate-d<sub>4</sub>, Glycohyocholate-d<sub>4</sub>  
**MF:** C<sub>26</sub>H<sub>39</sub>D<sub>4</sub>NO<sub>6</sub>  
**FW:** 469.7  
**Chemical Purity:** ≥98% (Glycohyocholic Acid)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

Glycohyocholic acid-d<sub>4</sub> (GHCA-d<sub>4</sub>) is intended for use as an internal standard for the quantification of GHCA (Item No. 22670) 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).

GHCA-d<sub>4</sub> is supplied as a crystalline solid. A stock solution may be made by dissolving the GHCA-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. GHCA-d<sub>4</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of GHCA-d<sub>4</sub> in ethanol and DMSO is approximately 20 mg/ml and approximately 30 mg/ml in DMF.

GHCA-d<sub>4</sub> is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, GHCA-d<sub>4</sub> should first be dissolved in DMF and then diluted with the aqueous buffer of choice. GHCA-d<sub>4</sub> has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

GHCA is a glycine-conjugated form of the primary bile acid hyocholic acid (Item No. 20293).<sup>1</sup> GHCA is upregulated 6.6-fold in the serum of patients with cirrhosis induced by hepatitis C virus (HCV) compared to healthy controls.<sup>2</sup> Plasma levels of GHCA increase in patients who are no longer diabetic following gastric bypass surgery.<sup>3</sup>

### References

1. Guo, L., Milburn, M.V., Ryals, J.A., *et al.* Plasma metabolomic profiles enhance precision medicine for volunteers of normal health. *Proc. Nat. Acad. Sci. USA* **112**(35), E4901-E4910 (2015).
2. Fitian, A.I., Nelson, D.R., Liu, C., *et al.* Integrated metabolomic profiling of hepatocellular carcinoma in hepatitis C cirrhosis through GC/MS and UPLC/MS-MS. *Liver Int.* **34**(9), 1428-1444 (2014).
3. Yu, H., Ni, Y., Bao, Y., *et al.* Chenodeoxycholic acid as a potential prognostic marker for Roux-en-Y gastric bypass in Chinese obese patients. *J. Clin. Endocrinol. Metab.* **100**(11), 4222-4230 (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.

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