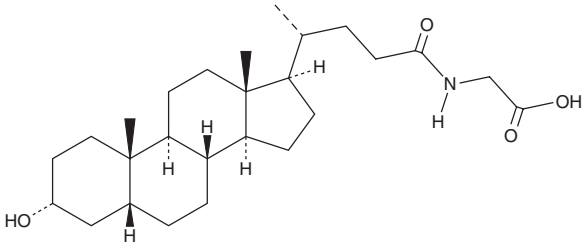
PRODUCT INFORMATION

Glycolithocholic Acid

Item No. 21723

CAS Registry No.:	474-74-8
Formal Name:	N-[(3α,5β)-3-hydroxy-24-oxocholan-24-yl]-glycine
Synonyms:	GLCA, Lithocholylglycine
MF:	$C_{26}H_{43}NO_4$
FW:	433.6
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

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

Glycolithocholic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, glycolithocholic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Glycolithocholic acid 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

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(Cys^{10}, Cys^{13}), a modified peptide hormone, in lean or diet-induced obese mice.[3] Serum glycolithocholic acid levels increase with age in children.[4]

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. Gastenterol. Nutr.* (2016).

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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