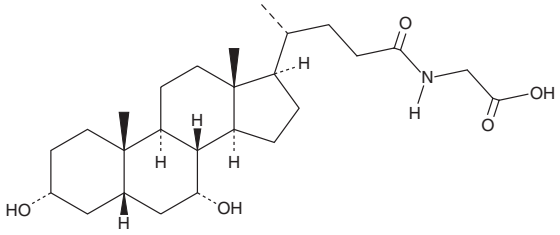
PRODUCT INFORMATION

Glycochenodeoxycholic Acid MaxSpec® Standard

Item No. 31363



CAS Registry No.: 640-79-9
Formal Name: N-[(3α,5β,7α)-3,7-dihydroxy-24-oxocholan-24-yl]-glycine
Synonyms: GCDCA
MF: $C_{26}H_{43}NO_5$
FW: 449.6
Purity: ≥95%
Supplied as: A solution in methanol at 100 µg/ml; in a deactivated glass ampule
Concentration: 100.0 µg/ml (nominal); see certificate of analysis for verified concentration
Storage: -20°C
Stability: ≥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

Glycochenodeoxycholic acid (GCDCA) is a glycine-conjugated form of the primary bile acid chenodeoxycholic acid (Item No. 10011286).[1] It reduces formation of cholic acid (Item No. 20250) in primary human hepatocytes when used at a concentration of 100 µM.[2] GCDCA (50, 75, and 100 µM) reduces the number of LC3 puncta, a marker of autophagy, and is cytotoxic to L-02 hepatocytes.[1] GCDCA (50 µM) induces apoptosis in isolated rat hepatocytes, an effect that can be blocked by the protein kinase C (PKC) inhibitor chelerythrine (Item No. 11314).[3] Fecal levels of GCDCA are decreased in a rat model of high-fat diet-induced obesity compared with rats fed a normal diet.[4]

Glycochenodeoxycholic acid MaxSpec® standard is a quantitative grade standard of glycochenodeoxycholic acid (Item No. 16942) 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 Glycochenodeoxycholic acid 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. Lan, W., Chen, Z., Chen, Y., *et al.* Glycochenodeoxycholic acid impairs transcription factor E3-dependent autophagy-lysosome machinery by disrupting reactive oxygen species homeostasis in L02 cells. *Toxicol. Lett.* **331**, 11-21 (2020).
2. Ellis, E., Axelson, M., Abrahamsson, A., *et al.* Feedback regulation of bile acid synthesis in primary human hepatocytes: Evidence that CDCA is the strongest inhibitor. *Hepatology* **38(4)**, 930-938 (2003).
3. Gonzalez, B., Fisher, C., and Rosser, B.G. Glycochenodeoxycholic acid (GCDC) induced hepatocyte apoptosis is associated with early modulation of intracellular PKC activity. *Mol. Cell. Biochem.* **207(1-2)**, 19-27 (2000).
4. Lin, H., An, Y., Tang, H., *et al.* Alterations of bile acids and gut microbiota in obesity induced by high fat diet in rat model. *J. Agric. Food Chem.* **67(13)**, 3624-3632 (2019).

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.

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