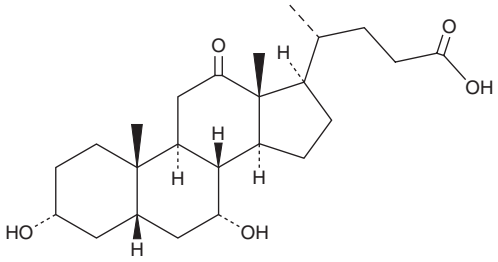
PRODUCT INFORMATION

12-keto Chenodeoxycholic Acid

Item No. 30838

CAS Registry No.: 2458-08-4
Formal Name: (3α,5β,7α)-3,7-dihydroxy-12-oxo-cholan-24-oic acid
Synonyms: 12-keto CDCA, 12-oxo CDCA, 12-oxo Chenodeoxycholic Acid, 3α,7α-Dihydroxy-12-keto-5β-cholanic acid
MF: $C_{24}H_{38}O_5$
FW: 406.6
Purity: ≥95%
Supplied as: A 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

12-keto Chenodeoxycholic acid (12-keto CDCA) is supplied as a solid. A stock solution may be made by dissolving the 12-keto CDCA in the solvent of choice, which should be purged with an inert gas. 12-keto CDCA is slightly soluble in chloroform and methanol.

Description

12-keto CDCA is an intermediate in the semisynthetic synthesis of ursodeoxycholic acid (Item Nos. 31016 | 15121) and chenodeoxycholic acid (Item Nos. 10011286 | 35346) from the primary bile acid cholic acid (Item No. 20250).[1,2] 12-keto CDCA has been found in the gastric tissues of C57BL/6J mice, KM mice, Sprague-Dawley rats, New Zealand white rabbits, and JX black pigs.[3] Fecal levels of 12-keto CDCA are increased in children with hepatic glycogen storage disease.[4] The sodium salt of 12-keto CDCA, known as 12-monoketocholic acid (12-MKA), increases brain uptake of quinine (Item No. 23958), the analgesic effect of morphine in the hot plate test, and pentobarbital-induced sleeping time in rats when administered at a dose of 2 mg/kg.[5] It also promotes nasal absorption of insulin and increases the duration of local anesthesia induced by lidocaine in rats.[5,6]

References

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2. Hofmann, A.F. The preparation of chenodeoxycholic acid and Its glycine and taurine conjugates. *Acta Chemica Scand.* **17**, 173-186 (1963).
3. Zhao, A., Wang, S., Chen, W., et al. Increased levels of conjugated bile acids are associated with human bile reflux gastritis. *Sci. Rep.* **10(1)**, 11601 (2020).
4. Wang, Y., Liu, H., Dong, F., *et al.* Altered gut microbiota and microbial metabolism in children with hepatic glycogen storage disease: a case-control study. *Transl. Pediatr.* **12(4)**, 572-586 (2023).
5. Mikov, M., Kevresan, S., Kuhajda, K., *et al.* 3α,7α-dihydroxy-12-oxo-5β-cholanate as blood-brain barrier permeator. *Pol. J. Pharmacol.* **56(3)**, 367-371 (2004)
6. Poša, M., Kevrešan, S., Mikov, M., *et al.* Effect of cholic acid and its keto derivatives on the analgesic action of lidocaine and associated biochemical parameters in rats. *Eur. J. Drug Metab. Pharmacokinet.* **32(2)**, 109-117 (2007).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM