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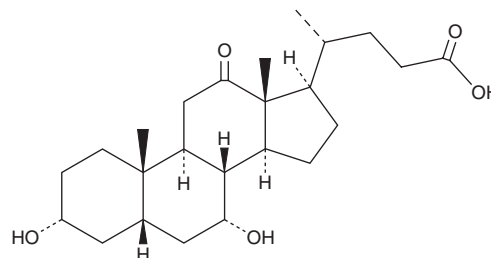
PRODUCT INFORMATION



12-keto Chenodeoxycholic Acid

Item No. 30838

CAS Registry No.: 2458-08-4
Formal Name: (3 α ,5 β ,7 α)-3,7-dihydroxy-12-oxo-cholan-24-oic acid
Synonyms: 12-keto CDCA, 12-oxo CDCA, 12-oxo Chenodeoxycholic Acid, 3 α ,7 α -Dihydroxy-12-keto-5 β -cholanolic acid
MF: C₂₄H₃₈O₅
FW: 406.6
Purity: \geq 95%
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

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-monoketocholeic 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

1. Sutherland, J.D., Macdonald, I.A., and Forrest, T.P. The enzymic and chemical synthesis of ursodeoxycholic acid and chenodeoxycholic acid from cholic acid. *Prep. Biochem.* **12(4)**, 307-321 (1982).
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. 3 α ,7 α -dihydroxy-12-oxo-5 β -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).

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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