

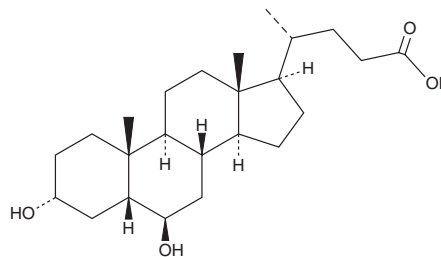
# PRODUCT INFORMATION



## Murideoxycholic Acid

Item No. 20290

**CAS Registry No.:** 668-49-5  
**Formal Name:** 5 $\beta$ -3 $\alpha$ ,6 $\beta$ -dihydroxy-cholan-24-oic acid  
**Synonyms:** MDCA, Murocholic Acid, NSC 18166  
**MF:** C<sub>24</sub>H<sub>40</sub>O<sub>4</sub>  
**FW:** 392.6  
**Purity:**  $\geq$ 95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



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

### Laboratory Procedures

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

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

Murideoxycholic acid (MDCA) is a secondary bile acid produced from  $\alpha$ -muricholic acid (Item No. 20291) and  $\beta$ -muricholic acid (Item No. 20287).<sup>1</sup> It is also a metabolite of lithocholic acid (Item No. 20253) in liver S9 fractions from humans and other species.<sup>2</sup> MDCA prevents gallstone formation in hamsters fed a lithogenic diet but does not resolve gallstones in prairie dogs fed a high cholesterol diet.<sup>3,4</sup> Gallstones formed during MDCA administration after a high cholesterol diet are comprised of an insoluble calcium salt of murideoxycholyl taurine.<sup>4</sup> In humans, MDCA is rapidly absorbed and is metabolized as an endogenous bile acid with a half-life of approximately 3.5 days.<sup>5</sup>

### References

1. Wahlström, A., Sayin, S.I., Marschall, H.-I., *et al.* Intestinal crosstalk between bile acids and microbiota and its impact on host metabolism. *Cell Metab.* **24(1)**, 41-50 (2016).
2. Thakare, R., Alamoudi, J.A., Gautam, N., *et al.* Species differences in bile acids II. Bile acid metabolism. *J. Appl. Toxicol.* **38(10)**, 1336-1352 (2018).
3. Cohen, B.I., Matoba, N., Mosbach, E.H., *et al.* Bile acids substituted in the 6 position prevent cholesterol gallstone formation in the hamster. *Gastroenterology* **98(2)**, 397-405 (1990).
4. Cohen, B.I., Ayyad, N., Mosbach, E.H., *et al.* Replacement of cholesterol gallstones by murideoxycholyl taurine gallstones in prairie dogs fed murideoxycholic acid. *Hepatology* **14(1)**, 158-168 (1991).
5. Khallou, J., Legrand-Defretin, V., Parquet, M., *et al.* Metabolism and time-course excretion of murideoxycholic acid, a 6  $\beta$ -hydroxylated bile acid, in humans. *J. Hepatol.* **17(3)**, 364-372 (1993).

#### 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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