Murideoxycholic Acid
Item No. 20290

CAS Registry No.: 668-49-5
Formal Name: 5β-3α,6β-dihydroxy-cholan-24-oic acid
Synonyms: MDCA, Murocholic Acid, NSC 18166
MF: C24H40O4
FW: 392.6
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥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

MDCA is a secondary bile acid produced from cholesterol by way of chenodeoxycholic acid (Item No. 10011286), α-muricholic acid (Item No. 20291), and hyocholic acid (Item No. 20293).1 MDCA prevents gallstone formation in hamsters fed a lithogenic diet but does not resolve gallstones in prairie dogs fed a high cholesterol diet.2,3 Gallstones formed during MDCA administration after a high cholesterol diet are comprised of an insoluble calcium salt of murideoxycholyl taurine.3 In humans, MDCA is rapidly absorbed and is metabolized as an endogenous bile acid with a half-life of approximately 3.5 days.4

References