

Chenodeoxycholic Acid

Catalog No: tcsc0834



Available Sizes

Size: 100mg

Size: 500mg



Specifications

CAS No:

474-25-9

Formula:

$C_{24}H_{40}O_4$

Pathway:

Metabolic Enzyme/Protease;Metabolic Enzyme/Protease

Target:

FXR;Endogenous Metabolite

Purity / Grade:

>98%

Solubility:

DMSO : ≥ 50 mg/mL (127.37 mM)

Alternative Names:

CDCA

Observed Molecular Weight:

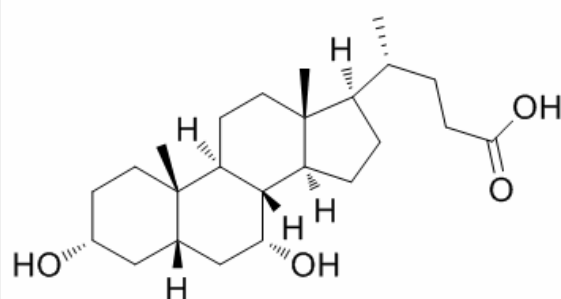
392.57

Product Description

Chenodeoxycholic Acid is a hydrophobic primary bile acid that activates nuclear receptors (**FXR**) involved in cholesterol metabolism.

In Vitro:

Chenodeoxycholic acid (CDCA) and Deoxycholic acid (DCA) both inhibit 11 beta HSD2 with IC₅₀ values of 22 mM and 38 mM, respectively and causes cortisol-dependent nuclear translocation and increases transcriptional activity of mineralocorticoid receptor (MR)^[1]. Chenodeoxycholic acid is able to stimulate Ishikawa cell growth by inducing a significant increase in Cyclin D1 protein and mRNA expression through the activation of the membrane G protein-coupled receptor (TGR5)-dependent pathway^[2]. Chenodeoxycholic acid (CDCA) induces LDL receptor mRNA levels approximately 4 fold and mRNA levels for HMG-CoA reductase and HMG-CoA synthase two fold in a cultured human hepatoblastoma cell line, Hep G2^[3]. Chenodeoxycholic acid-induced Isc is inhibited ($\geq 67\%$) by Bumetanide, BaCl₂, and the cystic fibrosis transmembrane conductance regulator (CFTR) inhibitor CFTRinh-172. Chenodeoxycholic acid-stimulated Isc is decreased 43% by the adenylate cyclase inhibitor MDL12330A and Chenodeoxycholic acid increases intracellular cAMP concentration^[4]. Chenodeoxycholic acid treatment activates C/EBP β , as shown by increases in its phosphorylation, nuclear accumulation, and expression in HepG2 cells. Chenodeoxycholic acid enhances luciferase gene transcription from the construct containing -1.65-kb GSTA2 promoter, which contains C/EBP response element (pGL-1651). Chenodeoxycholic acid treatment activates AMP-activated protein kinase (AMPK), which leads to extracellular signal-regulated kinase 1/2 (ERK1/2) activation, as evidenced by the results of experiments using a dominant-negative mutant of AMPK α and chemical inhibitor^[5].



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