Data Sheet (Cat.No.T0847)

TargetMol

Chenodeoxycholic acid

Chemical Properties

CAS No. : 474-25-9

Formula: C24H40O4

Molecular Weight: 392.57

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Chenodeoxycholic acid (CDCA) is a bile acid that inhibits 11β-HSD2 with an IC50 value of 22 mM. Chenodeoxycholic acid acts as a detergent to dissolve fat for intestinal absorption and is reabsorbed by the small intestine. Chenodeoxycholic acid is used as a choledocholithiasis, choledocholithiasis and laxative, as well as to prevent or dissolve gallstones.
Targets(IC50)	FXR,Endogenous Metabolite,Autophagy,Potassium Channel
In vitro	**METHODS**: Caco-2 cells were treated with Chenodeoxycholic acid (0.1-1000 μM) for 24 hours, and cell growth inhibition was measured by MTT assay. **RESULTS**: Chenodeoxycholic acid significantly inhibited Caco-2 cell growth (IC50=106 μM). [1]
Kinase Assay	Briefly, transfected HEK-293 cells, incubated in charcoal-treated Dulbecco's modified Eagle's medium for 24 h, are washed once with Hanks' solution and resuspended in a buffer containing 100 mM NaCl, 1 mM MgCl2, 1 mM EDTA, 1 mM EGTA, 250 mMsucrose, 20 mM Tris-HCl, pH 7.4. Cells are lysed by freezing in liquid nitrogen. Dehydrogenase activity is measured in a final volume of 20 μL containing the appropriate concentration of bile acid, 30 nCi of [3H]cortisol, and unlabeled cortisol to a final concentrations of 50 nM. The reaction is started by mixing cell lysate with the reaction mixture. Alternatively, endoplasmic reticulum microsomes are prepared from transfected HEK-293 cells and incubated with reaction mixture containing various concentrations of cortisol and CDCA. Incubation proceeded for 20 min, and the conversion of cortisol to cortisone is determined by thin layer chromatography (TLC). Because of the inaccuracy of the TLC method at low conversion rates and the end-product inhibition of 11βHSD2 at conversion rates higher than 60-70%, only conversion rates between 10 and 60% are considered for calculation. The inhibitory constant IC50 is evaluated using the curve-fitting program. Results are expressed as means±S.E. and consist of at least four independent measurements.
Cell Research	The cell viability is analyzed by incubating transfected HEK-293 cells and CHO cells for 1 h with the corresponding concentration of bile acid and staining with trypan blue. The toxicity of bile acids is analyzed using the tetrazolium salt MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) according to the cell proliferation kit I. No significant differences between control and bile acid-treated cells are obtained in both tests.

Solubility Information

Solubility	Ethanol: 79 mg/mL (201.24 mM),Sonication is recommended. DMSO: 100 mg/mL (254.73 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5473 mL	12.7366 mL	25.4732 mL
5 mM	0.5095 mL	2.5473 mL	5.0946 mL
10 mM	0.2547 mL	1.2737 mL	2.5473 mL
50 mM	0.0509 mL	0.2547 mL	0.5095 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Májer F,et al. New highly toxic bile acids derived from deoxycholic acid, chenodeoxycholic acid and lithocholic acid. Bioorg Med Chem. 2014 Jan 1;22(1):256-68.
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Yang, Yue-Lian, et al. Intestinal flora is a key factor in insulin resistance and contributes to the development of polycystic ovary syndrome. Endocrinology. 2021
Casaburi I, et al. Cell Cycle, 2012, 11(14), 2699-2710.
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Noh K, et al. Drug Metab Dispos,2011, 39(8), 1451-1459.
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