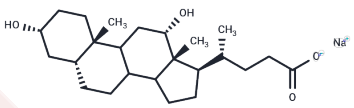
Data Sheet (Cat.No.T5077)

TargetMol

Deoxycholic acid sodium salt

Chemical Properties



CAS No. : 302-95-4

Formula: C24H39NaO4

Molecular Weight: 414.56

Storage: Keep away from direct sunlight
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	Deoxycholic acid sodium salt (Sodium deoxycholate) can activate the G protein-coupled bile acid receptor TGR5 that stimulates brown adipose tissue (BAT) thermogenic activity.
Targets(IC50)	Endogenous Metabolite,GPCR19
In vitro	Deoxycholic acid (DCA) and chenoDeoxycholic acid (CDCA) are the common ingredients of duodenal reflux that act synergistically in many physiological and pathological processes. The cells are repeatedly exposed to 100 μM CDCA and Deoxycholic acid at pH 5.5 for up to 120 min. To simulate chronic local recurrent disease in vitro, the gastric cancer cell line MGC803 is exposed to acidified medium (pH 5.5) containing 100 μM Deoxycholic acid and CDCA. An untreated log-growth MGC803 cell line is generated to be used as a control in normal pH media. After daily 10 min exposure to the acidified bile acids for 60 weeks, MGC803-resistant cells are able to survive and proliferate after 120 min exposure [2].
Cell Research	MGC803 cells are cultured in Roswell Park Memorial Institute media supplemented with 10% fetal calf serum and 100 U/mL Penicillin and 100 mg/mL Streptomycin. To generate MGC803-resistant cells, the pH value of the MGC803 culture medium is adjusted to the experimental conditions using the hydrochloric acid (A). The bile acids GCDA and Deoxycholic acid are diluted to optimal working concentrations of 100 μM (B) with culture medium, and the overall pH (A+B) is adjusted to pH 5.5, simulating the gastric environment. Initially, MGC803 cells are chronically exposed to acidified medium with bile acids (A+B) for 10 min every 24 h. The experimental time and conditions are optimized in our preliminary experiments, which show that 10 min is enough and does not result in cell damage. This procedure is repeated and it takes 60 weeks for the MGC803 cells to survive and proliferate under the exposure of A+B for 120 min. Control untreated cells are cultured in neutral RPMI medium at pH 7.4 in parallel to the resistant cells for 60 weeks. The morphological changes in MGC803 cells exposed to acidified bile acids (A+B) are documented at 30 and 60 weeks[2].

Solubility Information

Solubility	H2O: 330 mg/mL (796.02 mM),Sonication is recommended. DMSO: 20 mg/mL (48.24 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 0.5 mg/mL (1.21 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4122 mL	12.061 mL	24.122 mL
5 mM	0.4824 mL	2.4122 mL	4.8244 mL
10 mM	0.2412 mL	1.2061 mL	2.4122 mL
50 mM	0.0482 mL	0.2412 mL	0.4824 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

Somm E, et al. β-Klotho deficiency protects against obesity through a crosstalk between liver, microbiota, and brown adipose tissue. JCI Insight. 2017 Apr 20;2(8). pii: 91809.
Wang X, et al. Acidified bile acids enhance tumor progression and telomerase activity of gastric cancer in micedependent on c-Myc expression. Cancer Med. 2017 Apr;6(4):788-797.