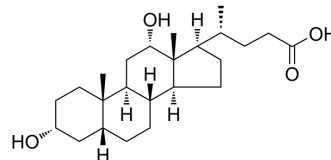


Deoxycholic acid

Cat. No.:	HY-N0593		
CAS No.:	83-44-3		
Molecular Formula:	C ₂₄ H ₄₀ O ₄		
Molecular Weight:	392.57		
Target:	G protein-coupled Bile Acid Receptor 1; Endogenous Metabolite		
Pathway:	GPCR/G Protein; Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (254.73 mM)
 H₂O : < 0.1 mg/mL (ultrasonic;warming;heat to 80°C) (insoluble)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	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

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: 2.5 mg/mL (6.37 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (6.37 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (6.37 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Deoxycholic acid (cholanoic acid), a bile acid, is a by-product of intestinal metabolism, that activates the G protein-coupled bile acid receptor TGR5^{[1][2]}.

IC₅₀ & Target

Microbial Metabolite

Human Endogenous Metabolite

In Vitro

Deoxycholic acid (DCA) (100 μ M) induces the production of gastric cancer cell line MGC803 resistant to acidified bile acids and enhances their survival and proliferation activity under bile acid stress^[2].

Deoxycholic acid (DCA) (100 μ M)-induced resistant cells shows altered morphology, significantly elevated telomerase activity, better cell viability and reduces apoptosis compared to normal MGC803 cells^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[2]

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 μ M (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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Res. 2019 Mar;29(3):193-205.
- Nat Cell Biol. 2018 Oct;20(10):1145-1158.
- Microbiome. 2019 Mar 20;7(1):43.
- Int J Biol Macromol. 2024 Mar 15:130939.
- Cell Death Discov. 2020 Jul 6;6:56.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. 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.

[2]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA