Taurochenodeoxycholic acid

Cat. No.: HY-N2027

CAS No.: 516-35-8

Molecular Formula: $C_{26}H_{45}NO_6S$

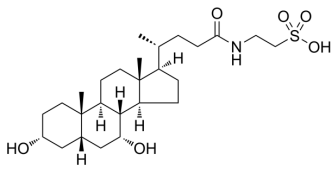
Molecular Weight: 499.7

Target: Apoptosis; Endogenous Metabolite; Caspase

Pathway: Apoptosis; 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

H_2O : 100 mg/mL (200.12 mM; Need ultrasonic)

DMSO : ≥ 25 mg/mL (50.03 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0012 mL	10.0060 mL	20.0120 mL
	5 mM	0.4002 mL	2.0012 mL	4.0024 mL
	10 mM	0.2001 mL	1.0006 mL	2.0012 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (200.12 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.16 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.16 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.16 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Taurochenodeoxycholic acid (12-Deoxycholyltaurine) is one of the main bioactive substances of animals' bile acid. Taurochenodeoxycholic acid induces apoptosis and shows obvious anti-inflammatory and immune regulation properties[1][2].

IC_{50} & Target	Microbial Metabolite	Human Endogenous Metabolite
In Vitro	Taurochenodeoxycholic acid (12-Deoxycholyltaurine) dramatically improves the apoptosis rate of NR8383 cells in a concentration-dependent manner. In the meantime, Taurochenodeoxycholic acid significantly augments PKC mRNA levels, activities and increases JNK, caspase-3 and caspase-8 mRNA expression levels, activities[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	Taurochenodeoxycholic acid (12-Deoxycholyltaurine; 0.05, 0.1g/kg) decreases the pulmonary coefficient in the model mice and reduces the pathological damages on their lungs; it can decrease the expression levels of TNF-α and TIMP-2 in pulmonary tissues in the pulmonary fibrosis mice and has no significant effects on MMP2[2]. ?Taurochenodeoxycholic acid significantly normalizes the clinical inflammatory parameters, prevented indomethacin-induced increases in the biliary contents of secondary bile acids and hydrophobicity index, and tended to attenuate the intestinal inflammation[3]. ?Taurochenodeoxycholic acid significantly suppresses paw swelling and polyarthritis index, increases the loss body weight and index of thymus and spleen, and amends radiologic changes in AA rats. The overproduction and mRNA expression of TNF-α, IL-1β and IL-6 are remarkably suppressed in serum and synovium tissue of all TCDCA-treated rats[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

PROTOCOL

Animal Administration [4]	Rats: Male Wistar rats are divided into six groups of ten each. Group 1 is normal rat (Sham), Group 2 received FCA only, Group 3 and Group 4 received FCA+Taurochenodeoxycholic acid (0.1 g/kg) and FCA+Taurochenodeoxycholic acid (0.2 g/kg), respectively, Groups 3 and 4 are treated beginning from day 0 of injection of FCA, Group 5 and Group 6 received FCA+Taurochenodeoxycholic acid (0.1 g/kg) and FCA+Taurochenodeoxycholic acid (0.2 g/kg), respectively, Group 5 and Group 6 are treated from 14 days after induction. All animals are treated with intragastrical administration and sacrificed after 28 days of induction[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- SSRN. 2022 Jan 26.

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REFERENCES

[1]. Wang X, et al. Taurochenodeoxycholic acid induces NR8383 cells apoptosis via PKC/JNK-dependent pathway. Eur J Pharmacol. 2016 Sep 5;786:109-15.

[2]. Zhou C, et al. The effects of taurochenodeoxycholic acid in preventing pulmonary fibrosis in mice. Pak J Pharm Sci. 2013 Jul;26(4):761-5.

[3]. Uchida A, et al. Taurochenodeoxycholic acid ameliorates and ursodeoxycholic acid exacerbates small intestinal inflammation. Am J Physiol. 1997 May;272(5 Pt 1):G1249-57.

[4]. Liu M, et al. Effects of taurochenodeoxycholic acid on adjuvant arthritis in rats. Int Immunopharmacol. 2011 Dec;11(12):2150-8.

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

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