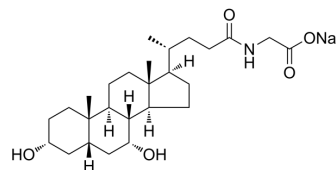


Glycochenodeoxycholic acid sodium salt

Cat. No.:	HY-N2334A
CAS No.:	16564-43-5
Molecular Formula:	C ₂₆ H ₄₂ NNaO ₅
Molecular Weight:	471.61
Target:	Endogenous Metabolite; Apoptosis; STAT; BCL6; Interleukin Related; Caspase
Pathway:	Metabolic Enzyme/Protease; Apoptosis; JAK/STAT Signaling; Stem Cell/Wnt; Immunology/Inflammation
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (530.10 mM; Need ultrasonic)
 H₂O : ≥ 100 mg/mL (212.04 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.1204 mL	10.6020 mL	21.2040 mL
	5 mM	0.4241 mL	2.1204 mL	4.2408 mL
	10 mM	0.2120 mL	1.0602 mL	2.1204 mL

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 50 mg/mL (106.02 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Glycochenodeoxycholic acid sodium salt (Sodium glycochenodeoxycholate) is a relatively toxic bile salt generated in the liver from chenodeoxycholic acid and glycine. Glycochenodeoxycholic acid sodium salt inhibits Autophagosome formation and impairs lysosomal function by inhibiting lysosomal proteolysis and increasing lysosomal pH in human normal liver cells, leading to the Apoptosis of human hepatocyte cells. Glycochenodeoxycholic acid sodium salt induces stemness and

chemoresistance via activating STAT3 signaling pathway in hepatocellular carcinoma cells (HCC). Glycochenodeoxycholic acid sodium salt is promising for research in the field of cholestasis disease, hepatocellular carcinoma and primary sclerosing cholangitis (PSC)^{[1][2][3][4]}.

IC₅₀ & Target

Microbial Metabolite

Human Endogenous Metabolite

In Vitro

Glycochenodeoxycholic acid sodium salt (0-100 μ M, 6 h) significantly increases the amount of dead cells and decreases in LC3, ATG5 and BECN1 expression in human normal liver cells, leading to Autophagosome formation inhibition^[1].

Glycochenodeoxycholic acid sodium salt (5–500 μ M, 24 h) exerts no induction or reduction of TGF- β mRNA expression in KMBC cells and LX-2 cells^[2].

Glycochenodeoxycholic acid sodium salt (200 μ M, 24 h and 48 h) enhances stemness and chemoresistance of hepatocellular carcinoma cells (HCC) by activating the STAT3 signaling pathway, suppressing the expression of apoptotic genes (Bcl10, Caspase 3, Caspase 4, Tp53, BAD) and increasing the expression of anti-apoptotic genes (Bcl2, Bcl-xl and IL10)^[4].

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

Apoptosis Analysis^[4]

Cell Line:	Huh7 and LM3 cell lines
Concentration:	200 μ M
Incubation Time:	24 h and 48 h
Result:	Increased the cell viability and promoted chemoresistance treated with 5-FU (HY-90006) (120 μ g/mL) and cisplatinin (10 μ g/mL) in Huh7 and LM3 cell lines

Cell Autophagy Assay^[1]

Cell Line:	L02 cells
Concentration:	100 μ M
Incubation Time:	6 h
Result:	Significantly reduced GFP-LC3 puncta and decreased microtubule-associated protein 1 light chain 3 (LC3), autophagy related 5 (ATG5) and beclin 1 (BECN1) expression in L02 cells.

Western Blot Analysis^[1]

Cell Line:	Human normal liver cells
Concentration:	0-100 μ M
Incubation Time:	6 h
Result:	Decreased the TFE3 levels in a dose-dependent manner in human normal liver cells.

RT-PCR^[2]

Cell Line:	KMBC cells
Concentration:	5–500 μ M
Incubation Time:	24 h
Result:	Unaltered TGF- β mRNA expression in KMBC cells and LX-2 cells.

Real Time qPCR^[4]

Cell Line:	Huh7 and LM3 cell lines
Concentration:	200 μ M
Incubation Time:	24 h and 48 h
Result:	Suppressed the expression of apoptotic genes (Bcl10, Caspase 3, Caspase 4, Tp53, BAD) and increased the expression of anti-apoptotic genes (Bcl2, Bcl-xl and IL10) in Huh7 and LM3 cell lines.

CUSTOMER VALIDATION

- Hepatol Int. 2024 Jan 3.
- Discov Oncol. 2023 Jan 11;14(1):4.
- SSRN. 2022 Jan 26.

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REFERENCES

- [1]. Lan W, et al. Glycochenodeoxycholic acid sodium salt impairs transcription factor E3 -dependent autophagy-lysosome machinery by disrupting reactive oxygen species homeostasis in L02 cells[J]. Toxicol Lett. 2020 Oct 1;331:11-21.
- [2]. Wang A, et al. Glycochenodeoxycholic acid sodium salt Does Not Increase Transforming Growth Factor-Beta Expression in Bile Duct Epithelial Cells or Collagen Synthesis in Myofibroblasts[J]. J Clin Exp Hepatol. 2017 Dec;7(4):316-320.
- [3]. Shi C, et al. Glycochenodeoxycholic acid sodium salt induces stemness and chemoresistance via the STAT3 signaling pathway in hepatocellular carcinoma cells[J]. Aging (Albany NY). 2020 Aug 3;12(15):15546-15555.
- [4]. Gonzalez B, et al. Glycochenodeoxycholic acid (GCDC) induced hepatocyte apoptosis is associated with early modulation of intracellular PKC activity. Mol Cell Biochem. 2000 Apr;207(1-2):19-27.

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

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