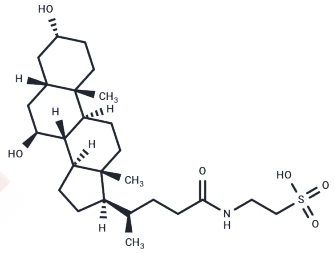
Data Sheet (Cat.No.T2532)

TargetMol

Tauroursodeoxycholate

Chemical Properties



CAS No. : 14605-22-2

Formula: C26H45NO6S

Molecular Weight: 499.7

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	Tauroursodeoxycholate (UR 906), also known as ursodoxicoltaurine, is a highly hydrophilic tertiary bile acid that is produced in humans at a low concentration. Tauroursodeoxycholate is the more hydrophilic form of ursodeoxycholic acid, which is the more abundant naturally produced bile acid in humans.Tauroursodeoxycholate is being investigated for use in several conditions such as Primary Biliary Cirrhosis (PBC), insulin resistance, amyloidosis, Cystic Fibrosis, Cholestasis, and Amyotrophic Lateral Sclerosis.
Targets(IC50)	Apoptosis,ERK,Caspase,Endogenous Metabolite,Cytochromes P450
In vitro	**METHODS**: HeLa cells overexpressing the WDR45 mutation were treated with Tauroursodeoxycholate (200 μM) for 24 h, and the expression levels of target proteins were measured by Western Blot. **RESULTS**: Inhibition of ER stress with Tauroursodeoxycholate significantly reduced the phosphorylation of p38 and LAMP2A as well as the punctate formation of mCherry KFERQ in cells expressing mutant WDR45. [1] **METHODS**: Undifferentiated neural stem cells NSCs were treated with Tauroursodeoxycholate (100 μM) for 24 h and cell proliferation was detected by Flow cytometry via BrdU. **RESULTS**: BrdU incorporation increased significantly after incubation with Tauroursodeoxycholate, and Tauroursodeoxycholate regulated cell proliferation. Tauroursodeoxycholate regulates cell proliferation.[2]
In vivo	**METHODS**: To test the effect on diabetes, Tauroursodeoxycholate (300 mg/kg) was administered intraperitoneally to STZ-induced diabetic C57BL/6 mice once daily for 24 days. **RESULTS**: After 15 days of treatment, STZ+Tauroursodeoxycholate mice had a 43% reduction in blood glucose compared to the STZ group. This decrease may be due to an increase in insulinemia. [3]

Solubility Information

Solubility	H2O: 100 mg/mL (200.12 mM),Sonication is recommended. DMSO: 6.25 mg/mL (12.51 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	5% DMSO+95% Saline: 4.5 mg/mL (9.01 mM),Solution. *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	2.0012 mL	10.006 mL	20.012 mL
5 mM	0.4002 mL	2.0012 mL	4.0024 mL
10 mM	0.2001 mL	1.0006 mL	2.0012 mL
50 mM	0.040 mL	0.2001 mL	0.4002 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

Xiong Q, et al. WDR45 mutation dysregulates iron homeostasis by promoting the chaperone-mediated autophagic degradation of ferritin heavy chain in an ER stress/p38 dependent mechanism. Free Radic Biol Med. 2023 May 20; 201:89-97.

Xiong Q, Sun H, Xing W, et al.WDR45 mutation dysregulates iron homeostasis by promoting the chaperone-mediated autophagic degradation of ferritin heavy chain in an ER stress/p38 dependent mechanism.Free Radical Biology and Medicine.2023

Zhou J, Shi Y, Zhao L, et al.γ-Glutamylcysteine restores glucolipotoxicity-induced islet β-cell apoptosis and dysfunction via inhibiting endoplasmic reticulum stress.Toxicology and Applied Pharmacology.2025, 495: 117206.

Xavier JM, et al. Tauroursodeoxycholic acid increases neural stem cell pool and neuronal conversion by regulating mitochondria-cell cycle retrograde signaling. Cell Cycle. 2014;13(22):3576-89.

Bronczek GA, et al. The Bile Acid TUDCA Improves Beta-Cell Mass and Reduces Insulin Degradation in Mice With Early-Stage of Type-1 Diabetes. Front Physiol. 2019 May 15;10:561.