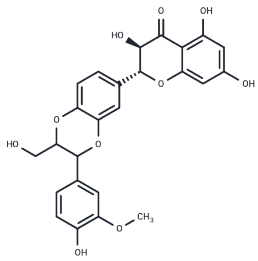
Data Sheet (Cat.No.T75437)

TargetMol

Silybin

Chemical Properties



CAS No. : 802918-57-6

Formula: C25H22O10

Molecular Weight: 482.44

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	Silybin is a flavonoid from Silybum that inhibits P-glycoprotein-assisted extracellular efflux, inhibits cytochrome P450 enzymes, has the advantage of being well-tolerated, can be used as an adjunctive treatment for hepatotoxicity and chronic hepatitis and cirrhosis, and has antioxidant and anti-inflammatory activity in cosmetic applications, as well as being capable of blocking the MCT8 transporter protein.
Targets(IC50)	Apoptosis,Cytochromes P450,P-gp
In vitro	**Methods**: HepG2 cells were treated with Silybin (0-200 mM, 24, 48, 72 hours) and cell viability was measured by MTT assay. **Results**: After 72 hours of treatment, the IC50 value was 68 μM. [1]
In vivo	**Methods**: C57BL/6J mice were fed a high-fat/high-cholesterol diet for 8 weeks and treated with Silybin (50 or 100 mg/kg per day) and sodium taurodeoxycholate (TUDCA, 50 mg/kg/day) by gavage in the last 4 weeks. Blood biochemical indices and liver lipid determination as well as liver Oil Red O staining were performed to evaluate the model and lipid-lowering effects of Silybin and TUDCA. In addition, serum and liver samples were detected by a gas chromatography-mass spectrometry (GC/MS)-based metabolomics platform. Multivariate/univariate data analysis and pathway analysis were used to study differential metabolites and metabolic pathways. **Results**: The mouse NAFLD model was successfully established, and Silybin and TUDCA significantly reduced serum and liver lipid accumulation. Metabolomics analysis of serum and liver showed that a high-fat/high-cholesterol diet led to abnormal metabolism of metabolites in lipid metabolism, polyol metabolism, amino acid metabolism, urea cycle, and TCA cycle. Both Silybin and TUDCA treatment reversed the metabolic disturbances induced by HFD feeding.[2]

Solubility Information

Solubility	DMSO: 25 mg/mL (51.82 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (4.15 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*

In vivo Formulation	*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	2.0728 mL	10.364 mL	20.728 mL
5 mM	0.4146 mL	2.0728 mL	4.1456 mL
10 mM	0.2073 mL	1.0364 mL	2.0728 mL
50 mM	0.0415 mL	0.2073 mL	0.4146 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

Silvia Zappavigna, et al. Silybin-Induced Apoptosis Occurs in Parallel to the Increase of Ceramides Synthesis and miRNAs Secretion in Human Hepatocarcinoma Cells. Int J Mol Sci. 2019 May 3;20(9):2190.
Runbin Sun, et al. Silybin ameliorates hepatic lipid accumulation and modulates global metabolism in an NAFLD mouse model. Biomed Pharmacother. 2020 Mar;123:109721.