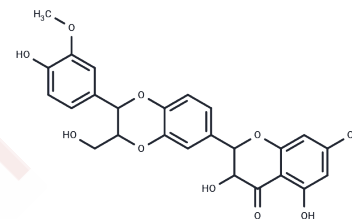


Silymarin

Chemical Properties

CAS No. :	65666-07-1
Formula:	C ₂₅ H ₂₂ O ₁₀
Molecular Weight:	482.441
Storage:	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	Silymarin is a natural polyphenolic flavonolignan mixture extracted from the seeds of <i>Silybum marianum</i> . It can inhibit tumor cell proliferation and angiogenesis, and improve insulin resistance, thus being widely used in liver disease-related research and adjuvant applications. Studies have shown that silymarin exhibits inhibitory activity against the SARS-CoV-2 main protease, and it has potential research value in the mechanism-related studies of COVID-19.
Targets(IC50)	SARS-CoV
In vitro	Mechanism of Silymarin involves different biochemical reactions, such as stimulation of the rate of ribosomal RNA synthesis by stimulating the transcription of polymerase I and ribosomal RNA genes, blockage of alpha-glycoside loops toxin intake, and protection of cell membranes from free radical-induced damage. Silymarin also displays a substantial protective effect against UVB-induced canceration at different stages, possibly through its strong antioxidant properties.
In vivo	The intravenous injection LD50 of Silymarin is 391.4 mg/kg, 70.1 mg/kg, 142.3 mg/kg for mice, rats, rabbits, respectively.

Solubility Information

Solubility	DMSO: 71.00 mg/mL (147.17 mM),Sonication is recommended. H ₂ O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: 1.00 mg/mL (2.07 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.50 mg/mL (5.18 mM),Sonication is recommended. 50% PEG300+50% saline: 20.00 mg/mL (41.46 mM),Suspension. <i>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.</i>

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

Feher J, et al. *Curr Pharm Biotechnol*, 2012, 13(1), 210-217.

Wang J, Chen B, Cheng C, et al. Timosaponin B II as a novel KEAP1-NRF2 inhibitor to alleviate alcoholic liver disease: Receptor structure-based virtual screening and biological evaluation. *Chemico-Biological Interactions*. 2025: 111390.

Wellington K, et al. *BioDrugs*, 2001, 15(7), 465-489.

Katiyar SK, et al. *J Natl Cancer Inst*, 1997, 89(8), 556-566.

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