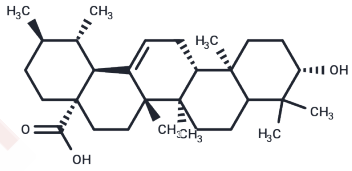
Data Sheet (Cat.No.T0722)

TargetMol

Ursolic acid

Chemical Properties



CAS No. : 77-52-1

Formula: C30H48O3

Molecular Weight: 456.70

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	Ursolic acid (Prunol) is a natural product, a pentacyclic triterpene carboxylic acid extracted from Rhododendron caprifolium. Ursolic acid has anti-tumor, anti-inflammatory, anti-bacterial and hypoglycemic activities.
Targets(IC50)	Endogenous Metabolite,Autophagy
In vitro	**METHODS**: Embryonal carcinoma cells NTERA-2 and NCCIT were treated with Ursolic acid (1-50 μM) for 24 h. Cell viability was measured by MTT assay. **RESULTS**: Concentration-dependent inhibition of NTERA-2 and NCCIT cell viability by Ursolic acid treatment. [1] **METHODS**: Lung cancer cells H460 and H1975 were treated with Ursolic acid (5-20 nM) for 48 h. Apoptosis was detected by Flow cytometry. **RESULTS**: Ursolic acid significantly increased the percentage of Annexin V (+) apoptotic cells compared to control. [2]
In vivo	**METHODS**: To investigate the antidepressant-like effects, Ursolic acid (0.001-10 mg/kg, distilled water with 10% Tween 80) was orally administered to Swiss mice, and the TST, FST, or open-field test was performed 60 min later. **RESULTS**: Ursolic acid shortened the immobilization time in TST and FST.The antidepressant-like effect of Ursolic acid in TST may be mediated by the activation of dopamine D1 and D2 receptors interacting with the dopaminergic system. [3]

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Propylene glycol: 4.76 mg/mL (10.42 mM),Sonication is recommended. DMSO: 50.00 mg/mL (109.48 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (5.47 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 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	2.1896 mL	10.9481 mL	21.8962 mL
5 mM	0.4379 mL	2.1896 mL	4.3792 mL
10 mM	0.219 mL	1.0948 mL	2.1896 mL
50 mM	0.0438 mL	0.219 mL	0.4379 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

Kang DY, et al. Antitumor Effects of Natural Bioactive Ursolic Acid in Embryonic Cancer Stem Cells. J Oncol. 2022 Feb 16;2022:6737248.

Li W, Mei W, Jiang H, et al.Blocking the PD-1 signal transduction by occupying the phosphorylated ITSM recognition site of SHP-2.Science China Life Sciences.2024: 1-15.

Wang M, et al. Autophagy inhibition enhances the inhibitory effects of ursolic acid on lung cancer cells. Int J Mol Med. 2020 Nov;46(5):1816-1826.

Machado DG, et al. Antidepressant-like effect of ursolic acid isolated from Rosmarinus officinalis L. in mice: evidence for the involvement of the dopaminergic system. Pharmacol Biochem Behav. 2012 Dec;103(2):204-11.

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