

Dioscin

Chemical Properties

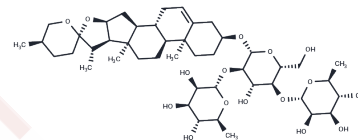
CAS No. : 19057-60-4

Formula: C₄₅H₇₂O₁₆

Molecular Weight: 869.04

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	Dioscin (Collettiside III) is a saponin with antitumor activities.
Targets(IC50)	Apoptosis, Autophagy
In vitro	The chemical compound exhibits an LD50 value of greater than 300 mg/kg in mice, indicating the dosage at which half the population of test subjects succumbed to the compound's effects exceeded 300 mg/kg.
In vivo	Dioscin induces apoptosis by downregulating the activity of caspase-8 and upregulating the activity of caspase-9 in HeLa cells. It inhibits the growth of the MDA-MB-435, H14, HL60, and HeLa cell lines, with IC50 values of 2.6, 0.8, 7.5, and 4.5 μ M, respectively.
Kinase Assay	Rat liver cytosol is prepared from a separate piece of liver from rat. Assays are carried out in a total volume of 0.1 mL containing 10 mg of cytosolic protein, and components according to Rilling. All reaction components (except IPP) are mixed and kept on ice for 15 min. Reactions are initiated by the addition of [¹⁴ C]IPP and incubation at 37°C. Reactions are stopped after 5 min by addition of 0.4 mL MeOH/HCl (4/1, by vol.) and the samples are incubated a further 15 min to hydrolyze the allylic pyrophosphates to petroleum ether-extractable products. Following addition of 0.5 mL water and 1 mL petroleum ether, 50% of the upper (petroleum ether-extractable) phase is taken for liquid scintillation analysis. Preliminary experiments indicated that the reaction is linear with time and protein under these conditions, and no more than 10% of the substrate is consumed.

Solubility Information

Solubility	DMSO: 100 mg/mL (115.07 mM), Sonication is recommended. Ethanol: 22 mg/mL (25.32 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1507 mL	5.7535 mL	11.507 mL
5 mM	0.2301 mL	1.1507 mL	2.3014 mL
10 mM	0.1151 mL	0.5753 mL	1.1507 mL
50 mM	0.023 mL	0.1151 mL	0.2301 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.

Reference

Wang Z, et al. Biol Pharm Bull, 2001, 24(2), 159-162.

An Y, Zhu J, Wang X, et al. Oridonin Delays Aging Through the AKT Signaling Pathway. Frontiers in Pharmacology. 2022: 1823

Cai J, et al. Biol Pharm Bull. 2002, 25(2), 193-196.

Li H, Pang B, Nie B, et al. Dioscin promotes autophagy by regulating the AMPK-mTOR pathway in ulcerative colitis. Immunopharmacology and Immunotoxicology. 2022: 1-9.

Liang H, Xu Y, Sun S, et al. Based on network pharmacology, the mechanism of Dioscin in alleviating renal tubular epithelial cell injury induced by calcium oxalate crystals was explored. Urolithiasis. 2025, 53(1): 1-14.

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