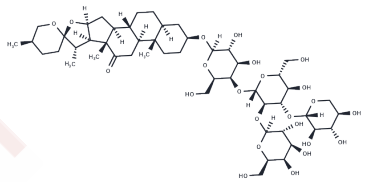
Data Sheet (Cat.No.T2S0886)

TargetMol

Terrestrosin D

Chemical Properties



CAS No. : 179464-23-4

Formula: C50H80O23

Molecular Weight: 1049.16

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	Terrestrosin D can induce apoptotic cell death and inhibit angiogenesis in xenograft tumor cells, cell cycle arrest and induction of apoptosis in cancer cells and endothelial cells might be plausible mechanisms of actions for the observed antitumor and antiangiogenic activities of terrestrosin D.
Targets(IC50)	Apoptosis
In vitro	The aim of this study was to investigate whether Terrestrosin D (TED) inhibits the progression of castration-resistant prostate cancer and consider its mechanism. METHODS AND RESULTS: Cell cycle, mitochondrial membrane potential (ΔΨm) and apoptosis were determined by flow cytometry. Caspase-3 activity and vascular endothelial growth factor secretion were detected by a caspase-3 assay and human vascular endothelial growth factor kit, respectively. A PC-3 xenograft mouse model was used to evaluate the anticancer effect of TED in vivo. In vitro, TED strongly suppressed the growth of prostate cancer cells and endothelial cells in a dose-dependent manner. TED induced cell cycle arrest and apoptosis in PC-3 cells and human umbilical vascular endothelial cells (HUVECs). TED-induced apoptosis did not involve the caspase pathway. TED also decreased ΔΨm in PC-3 cells and HUVECs. In vivo, TED significantly suppressed tumor growth in nude mice bearing PC-3 cells, without any overt toxicity. Immunohistochemical analysis showed TED induced apoptotic cell death and inhibited angiogenesis in xenograft tumor cells. CONCLUSIONS: Cell cycle arrest and induction of apoptosis in cancer cells and endothelial cells might be plausible mechanisms of actions for the observed antitumor and antiangiogenic activities of TED.

Solubility Information

Solubility	DMSO: 150 mg/mL (142.97 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 mg/mL (1.91 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	0.9531 mL	4.7657 mL	9.5314 mL
5 mM	0.1906 mL	0.9531 mL	1.9063 mL
10 mM	0.0953 mL	0.4766 mL	0.9531 mL
50 mM	0.0191 mL	0.0953 mL	0.1906 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

Terrestrosin D, a steroidal saponin from Tribulus terrestris L., inhibits growth and angiogenesis of human prostate cancer in vitro and in vivo. Pathobiology. 2014;81(3):123-32.
Zhang H, Sun D, Lei P, et al.Terrestrosin D inhibits invasion and induces apoptosis through inhibition of STAT3 in anaplastic thyroid carcinoma.Molecular & Cellular Toxicology.2024: 1-9.