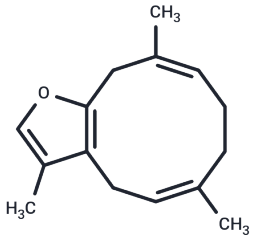
Data Sheet (Cat.No.TN1651)

TargetMol

Furanodiene

Chemical Properties



CAS No. : 19912-61-9

Formula: C15H20O

Molecular Weight: 216.32

Storage: Keep away from direct sunlight,Keep away from moisture,Store at low temperature
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	Furanodiene is a type of terpenoid natural product that can inhibit the function of efflux transporter Pgp and reduce the level of Pgp protein. It exerts anti-cancer effects through anti-angiogenesis, inducing ROS production, DNA strand breakage and cell apoptosis.
Targets(IC50)	Apoptosis,Reactive Oxygen Species,Caspase,CDK,PARP,P-gp,ROS
In vitro	The in vitro effects of Furanodiene were examined on two human breast cancer cell lines, MCF-7 and MDA-MB-231 cells. Assays of proliferation, LDH release, mitochondrial membrane potential (ΔΨm), cell cycle distribution, apoptosis and relevant signaling pathways were performed. The in vivo effect was determined with MCF7 tumor xenograft model in nude mice. Furanodiene significantly inhibited the proliferation and increased the LDH release in both cell lines in a dose-dependent manner. ΔΨm depolarization, chromatin condensation, and DNA fragmentation were also observed after Furanodiene treatment. Furanodiene dose-dependently induced cell cycle arrest at the G0/G1 phase. The protein expressions of p-cyclin D1, total cyclin D1, p-CDK2, total CDK2, p-Rb, total Rb, Bcl-xL, and Akt were significantly inhibited by Furanodiene, whereas the protein expressions of Bad and Bax, and the proteolytic cleavage of caspase-9, caspase-7, and poly-ADP-ribose polymerase (PARP) were dramatically increased. Furthermore, the z-VAD-fmk markedly reversed the Furanodiene-induced cell cytotoxicity, the proteolytic cleavage of caspase-9, and DNA fragmentation but did not affect the proteolytic cleavage of PARP, whereas the Akt inhibitor VIII increased the Furanodiene-induced cytotoxicity and PARP cleavage. In addition, Furanodiene dose-dependently suppressed the tumor growth in vivo, achieving 32% and 54% inhibition rates after intraperitoneal injection of 15 mg/kg and 30 mg/kg, respectively[1]

Solubility Information

Solubility	DMSO: 10 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 (9.25 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	4.6228 mL	23.1139 mL	46.2278 mL
5 mM	0.9246 mL	4.6228 mL	9.2456 mL
10 mM	0.4623 mL	2.3114 mL	4.6228 mL
50 mM	0.0925 mL	0.4623 mL	0.9246 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

Furanodiene, a natural product, inhibits breast cancer growth both in vitro and in vivo.Cell Physiol Biochem. 2012; 30(3):778-90.