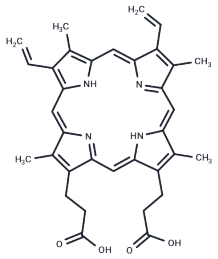
Data Sheet (Cat.No.T1192)

TargetMol

Protoporphyrin IX

Chemical Properties



CAS No. : 553-12-8

Formula: C34H34N4O4

Molecular Weight: 562.66

Storage: Keep away from direct sunlight,Keep away from moisture,Store under nitrogen
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	Protoporphyrin IX (PPIX) is a tetrapyrrole that is a metabolic precursor of heme, cytochrome c, and chlorophyll. Protoporphyrin IX has been shown to improve liver function, promote cellular tissue respiration, improve protein and glucose metabolism, and resist complement binding.
Targets(IC50)	Endogenous Metabolite
In vitro	**METHODS**: Gastric cancer cells SGC-7901 and MGC-80 were treated with Stigmasterol (2.5-30 μM) for 24-72 h. Cell viability was measured by CCK8 assay. **RESULTS**: Stigmasterol significantly inhibited the viability of SGC-7901 and MGC-803 cells in a time- and dose-dependent manner. [1] **METHODS**: Ovarian cancer cells ES2 and OV90 were treated with Stigmasterol (5-20 μg/mL) for 24 h, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: Stigmasterol stimulated caspase 3 and caspase 9 cleavage in a dose-dependent manner in each cell type. cytochrome c, BAK and BAX were activated by Stigmasterol in both cell types. alpha-tubulin levels were unchanged after Stigmasterol treatment. The level of alpha-tubulin did not change after Stigmasterol treatment. [2]
In vivo	**METHODS**: To investigate the role in allergic skin reactions, Stigmasterol (10-100 mg/kg) was administered intraperitoneally to ICR mice with induced irritant dermatitis. **RESULTS**: Stigmasterol significantly inhibited IgE-mediated active cutaneous allergic reactions (ACA), reducing the area of reaction and the concentration of exuded Evans blue dye. Stigmasterol significantly inhibited C48/80-induced scratching behavior compared to control. Skin histopathology at the injection site confirmed that Stigmasterol reduced mast cell transport and degranulation associated with C48/80-induced itching. [3]

Solubility Information

Solubility	DMSO: 5.63 mg/mL (10.01 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: 0.56 mg/mL (1 mM),Solution. *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	1.7773 mL	8.8864 mL	17.7727 mL
5 mM	0.3555 mL	1.7773 mL	3.5545 mL
10 mM	0.1777 mL	0.8886 mL	1.7773 mL
50 mM	0.0355 mL	0.1777 mL	0.3555 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

Jiang L, et al. Protoporphyrin IX is a dual inhibitor of p53/MDM2 and p53/MDM4 interactions and induces apoptosis in B-cell chronic lymphocytic leukemia cells. Cell Death Discov. 2019 Mar 11;5:77
Scavenger endothelial cells alleviate tissue damage by engulfing toxic molecules derived from hemolysis
Sznarkowska A, et al. Reactivation of TAp73 tumor suppressor by protoporphyrin IX, a metabolite of aminolevulinic acid, induces apoptosis in TP53-deficient cancer cells. Cell Div. 2018 Dec 26;13:10.
Liu Q, et al. Sonodynamic antitumor effect of protoporphyrin IX disodium salt on S180 solid tumor. Chemotherapy. 2007;53(6):429-36.