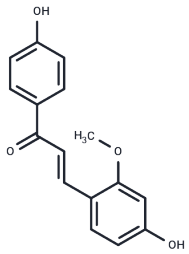
Data Sheet (Cat.No.T3926)

TargetMol

Echinatin

Chemical Properties



CAS No. : 34221-41-5

Formula: C16H14O4

Molecular Weight: 270.28

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	Echinatin (Retrochalcone) is extracted from licorice and is a natural chalcone. Echinatin has a wide range of biological activities including hepatoprotective, anti-inflammatory, anti-bacterial infections, and attenuates lung damage.
Targets(IC50)	Apoptosis,Free radical scavengers,NOD-like Receptor (NLR),Autophagy
In vitro	**METHODS**: Esophageal squamous cell carcinoma cells KYSE30 and KYSE270 were treated with Echinatin (10-40 μM) for 1-5 days and cell viability was measured by CCK-8 assay. **RESULTS**: Echinatin significantly inhibited cell proliferation in a dose- and time-dependent manner. [1] **METHODS**: Human osteosarcoma cells 143B and MG63 were treated with Echinatin (30-50 μM) for 24 h. Cell cycle was measured by Flow cytometry. **RESULTS**: Echinatin significantly increased the percentage of osteosarcoma cells in the S phase of the cell cycle. [2]
In vivo	**METHODS**: To test the antitumor activity in vivo, Echinatin (20-50 mg/kg) was administered by gavage to nude mice bearing KYSE270 xenografts every two days for 14 days. **RESULTS**: Tumor load was significantly suppressed, with a 57% and 48% reduction in the groups treated with 20 and 50 mg/kg Echinatin, respectively.Echinatin inhibited the AKT/mTOR pathway, as evidenced by a reduction in the expression levels of p-AKT and p-mTOR. [1]

Solubility Information

Solubility	Chloroform: Soluble, DMSO: 20 mg/mL (74 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: 4.9 mg/mL (18.13 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	3.6999 mL	18.4993 mL	36.9987 mL
5 mM	0.740 mL	3.6999 mL	7.3997 mL
10 mM	0.370 mL	1.8499 mL	3.6999 mL
50 mM	0.074 mL	0.370 mL	0.740 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

Hong P, et al. Echinatin suppresses esophageal cancer tumor growth and invasion through inducing AKT/mTOR-dependent autophagy and apoptosis. Cell Death Dis. 2020 Jul 13;11(7):524.
Hong P, Liu Q W, Xie Y, et al. Echinatin suppresses esophageal cancer tumor growth and invasion through inducing AKT/mTOR-dependent autophagy and apoptosis. Cell Death & Disease. 2020, 11(7): 1-13
Lu Q, et al. Echinatin inhibits the growth and metastasis of human osteosarcoma cells through Wnt/β-catenin and p38 signaling pathways. Pharmacol Res. 2023 May;191:106760.
Yang X, Liu L, Hao Y, et al. An Ultrasensitive Biosensor for Quantifying the Interaction of SARS-CoV-2 and Its Receptor ACE2 in Cells and in vitro. Viruses. 2021 Jun 2;13(6):1055. doi: 10.3390/v13061055.
Yang X, Liu L, Hao Y, et al. An Ultrasensitive Biosensor for Quantifying the Interaction of SARS-CoV-2 and Its Receptor ACE2 in Cells and in vitro[J]. bioRxiv. 2020
Hong P, Liu Q W, Xie Y, et al. Echinatin suppresses esophageal cancer tumor growth and invasion through inducing AKT/mTOR-dependent autophagy and apoptosis[J]. Cell Death & Disease. 2020, 11(7): 1-13.