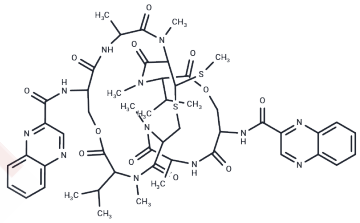
Data Sheet (Cat.No.T15197)

TargetMol

Echinomycin

Chemical Properties



CAS No. : 512-64-1

Formula: C51H64N12O12S2

Molecular Weight: 1101.26

Storage: 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	Echinomycin (Quinomycin A) is an antitumor antibiotic secondary metabolite isolated from Streptomyces, a quinoxaline antibiotic, a DNA doubly intercalating peptide, and inhibits hypoxia-inducible factor-1 (HIF-1) DNA binding activity. Echinomycin has potential anticancer activity and can be used to study triple-negative breast cancer.
Targets(IC50)	HIF/HIF Prolyl-Hydroxylase,Antibacterial,Antibiotic
In vitro	Electrophoretic mobility shift assay experiments showed that Echinomycin inhibited binding of HIF-1α and HIF-1β proteins to a HRE sequence but not binding of the corresponding proteins to activator protein-1 (AP-1) or nuclear factor-κB (NF-κB) consensus sequences. Echinomycin very potently inhibited hypoxic induction of luciferase expression in U251-HRE in a dose-dependent fashion with an EC50 of 1.2 nmol/L. [1] Echinomycin abrogated the CSCs with an IC50 of 29.4 pM. Echinomycin selectively induces apoptosis of CSCs. The cultured lymphoma cells were treated with 20 pM echinomycin or vehicle in medium for 16 hr. [2]
In vivo	Cultured lymphoma cells were injected i.p. into immune-competent B10.BR mice or BALB Rag2−/−/c mice. Fourteen days later, 10 μg/Kg/injection of echinomycin was injected at a 2-day interval for a total of five times. The untreated mice survived only 6–10 weeks, while all treated mice lived until euthanasia at 134 or 252 days after tumor-cell injection, with no sign of tumor development upon necropsy. [2]

Solubility Information

Solubility	DMSO: 2 mg/mL (1.82 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.9081 mL	4.5403 mL	9.0805 mL
5 mM	0.1816 mL	0.9081 mL	1.8161 mL
10 mM	0.0908 mL	0.454 mL	0.9081 mL
50 mM	0.0182 mL	0.0908 mL	0.1816 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

Kong D, et al. Echinomycin, a small-molecule inhibitor of hypoxia-inducible factor-1 DNA-binding activity. Cancer Res. 2005 Oct 1;65(19):9047-55.

Wang Y, et al. Targeting HIF1α eliminates cancer stem cells in hematological malignancies. Cell Stem Cell. 2011 Apr 8;8(4):399-411.