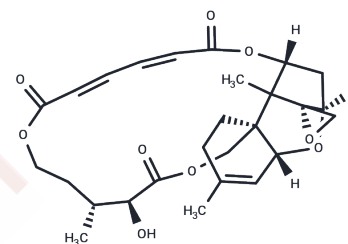


Verrucarin A

Chemical Properties

CAS No. : 3148-09-2
 Formula: C₂₇H₃₄O₉
 Molecular Weight: 502.55
 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	Verrucarin A (Muconomycin A) is a Type D macrocyclic mycotoxin. Verrucarin A (VA), derived from the pathogen fungus <i>Myrothecium verrucaria</i> , is a protein synthesis inhibitor that inhibits the growth of leukemia cell lines and activates caspases, apoptosis, and inflammatory signaling in macrophages. It effectively increases the phosphorylation of p38 MAPK and diminishes the phosphorylation of ERK/Akt. Additionally, Verrucarin A causes cell cycle deregulation through the induction of p21 and p53 [1] [2].
Targets(IC50)	Apoptosis,Others,Reactive Oxygen Species,ROS
In vitro	Verrucarin A, at concentrations ranging from 0 to 0.6 μM/ml over 24 to 48 hours, exhibits a time- and dose-dependent inhibition of growth in the MCF-7 human breast cancer cell line. It effectively raises the levels of reactive oxygen species (ROS), which leads to a reduction in mitochondrial membrane potential ($\Delta\psi_m$). This reduction triggers an increase in the Bax/Bcl-2 ratio, ensuing the release of cytochrome c, activation of caspases, PARP degradation, and ultimately inducing apoptosis. The cell viability assay further substantiates these findings, demonstrating significant growth inhibition of MCF-7 cells in a dose- and time-responsive manner, with IC ₅₀ values of 0.41 and 0.29 μM/ml for 24- and 48-hour treatment periods, respectively.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9899 mL	9.9493 mL	19.8985 mL
5 mM	0.398 mL	1.9899 mL	3.9797 mL
10 mM	0.199 mL	0.9949 mL	1.9899 mL
50 mM	0.0398 mL	0.199 mL	0.398 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481