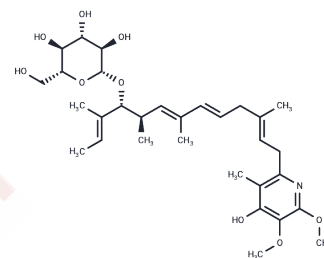


Glucopiericidin A

Chemical Properties

CAS No. :	108073-65-0
Formula:	C ₃₁ H ₄₇ N ₉ O
Molecular Weight:	577.706
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	Glucopiericidin A is a natural piperidine-based compound found in marine-derived <i>Streptomyces</i> strains. It serves as a chemical probe for glucose transporter proteins (GLUT) and can inhibit glycolysis. When combined with Piericidin A (PA), it synergistically inhibits ATP-dependent filopodia formation, yet has no effect alone. Glucopiericidin A induces apoptosis by increasing PRDX1, thereby reducing reactive oxygen species (ROS) levels, and also demonstrates potent antitumor activity in ACHN mouse xenografts.
Targets(IC50)	Apoptosis,ADC Cytotoxin,transporter
In vitro	Glucopiericidin A exhibits cytotoxic effects against three renal carcinoma cell lines: ACHN with an IC ₅₀ of 0.21 μM, and OS-RC-2 and 786-O both with IC ₅₀ values exceeding 100 μM. It also affects a normal renal cell line, HK-2, with an IC ₅₀ greater than 100 μM [2]. In ACHN cells, Glucopiericidin A at concentrations of 25 and 50 nM for 24 hours leads to the upregulation of PRDX1, with increased mRNA and protein expression and translocation of PRDX1 into the nucleus [2]. Additionally, it reduces reactive oxygen species (ROS) levels in normal ACHN cells [2]. Neither Glucopiericidin A (GPA) nor Piericidin A (PA) alone, at concentrations up to 500 nM and 2.3 mM respectively, exhibit inhibitory activity. However, in combination, significantly lower concentrations of GPA (17 nM) and PA (0.68 nM) inhibit filopodia protrusion [1].
In vivo	Administered intraperitoneally at a dosage of 0.8 mg/kg/day over three weeks, Glucopiericidin A significantly decreases the final tumor weight in nude mice bearing ACHN tumor xenografts [2]. Additionally, it enhances the mRNA and protein expression of PRDX1 within the tumor tissues.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.731 mL	8.6549 mL	17.3097 mL
5 mM	0.3462 mL	1.731 mL	3.4619 mL
10 mM	0.1731 mL	0.8655 mL	1.731 mL
50 mM	0.0346 mL	0.1731 mL	0.3462 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

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