

Nigericin

Chemical Properties

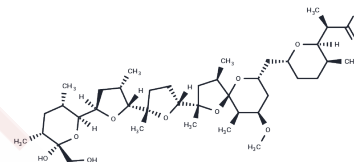
CAS No. : 28380-24-7

Formula: C₄₀H₆₈O₁₁

Molecular Weight: 724.96

Storage: Keep away from moisture, 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	Nigericin is a polyether antibiotic with potent antimicrobial, antimalarial, anticoronaviral and anticancer activities. It is capable of promoting cellular potassium efflux, inducing Caspase-1/GSDMD and Caspase-3-mediated cellular pyroptosis and apoptosis in triple-negative breast cancer, and inducing apoptosis in PEL (primary exudative lymphoma) cells through mitochondrial dysfunction and Wnt/ β -catenin signaling downregulation.
Targets(IC50)	Apoptosis, Caspase, NOD-like Receptor (NLR), Antibacterial, Antibiotic, Pyroptosis, Potassium Channel, Sodium Channel, Wnt/ β -catenin
In vitro	Methods: MDA-MB-231, MDA-MB-468, SK-BR-3, MCF-7 and 4T1 cells were treated with Nigericin (0.25, 0.5, 1, 2, 5, 10 and 20 μ g/mL), cell viability was measured by MTS assay, and IC ₅₀ values were calculated based on the cell viability curves. Results: Nigericin inhibited the cell viability of MDA-MB-231 and 4T1 cells in a dose-dependent manner, with IC ₅₀ values of 2.881 μ M and 2.505 μ M, respectively. [4]
In vivo	Methods: BALB/c mice transplanted with 4T1 cells were treated with Nigericin (2 mg/kg, subcutaneously, every two days for 4 weeks), and tumor volume was monitored every 3 to 4 days. At the end of the experiment, mice were euthanized by carbon dioxide, and tumors were harvested for further analysis. Results: Nigericin inhibited tumor growth. [4]

Solubility Information

Solubility	DMSO: 0.73 mg/mL (1.01 mM), Sonication and heating are recommended. Ethanol: 45.91 mg/mL (63.33 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.3794 mL	6.8969 mL	13.7939 mL
5 mM	0.2759 mL	1.3794 mL	2.7588 mL
10 mM	0.1379 mL	0.6897 mL	1.3794 mL
50 mM	0.0276 mL	0.1379 mL	0.2759 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

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- Mariathasan S, et al. Cryopyrin activates the inflammasome in response to toxins and ATP. *Nature.* 2006 Mar 9;440(7081):228-32.
- Cui Z Q, Hu X Y, Yang T, et al. TMEM16F may be a new therapeutic target for Alzheimer's disease. *Neural Regeneration Research.* 2023, 18(3): 643-651.
- Bissinger R, et al. Triggering of Suicidal Erythrocyte Death by the Antibiotic Ionophore Nigericin. *Basic Clin Pharmacol Toxicol.* 2016 May;118(5):381-9.
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