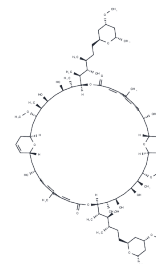


Swinholide A

Chemical Properties

CAS No. :	95927-67-6
Formula:	C78H132O20
Molecular Weight:	1389.87
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Swinholide A is a polyketone compound that can be extracted from sponges and binds to actin to dimerize actin with Kd of about 50 nM. Swinholide A is a cytotoxin that stabilizes actin dimers and severs actin filaments. Swinholide A has antifungal activity and can damage the actin cytoskeleton of cells.
Targets(IC50)	Antifungal
In vitro	First isolated from the Okinawan marine sponge Theonella swinhoei, Swinholide A dimerizes actin[1]. Isolated from the marine sponge Theonella swinhoei, Swinholide A is highly cytotoxic to a variety of cancer cell lines[2]. Disrupting the actin cytoskeleton of cells grown in culture, Swinholide A sequesters actin dimers in vitro in both polymerizing and non-polymerizing buffers, with a binding stoichiometry of one Swinholide A molecule per actin dimer. Additionally, it rapidly severs F-actin in vitro with high cooperativity[2].

Solubility Information

Solubility	Methanol: Soluble DMSO: Soluble Ethanol: Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.7195 mL	3.5975 mL	7.1949 mL
5 mM	0.1439 mL	0.7195 mL	1.439 mL
10 mM	0.0719 mL	0.3597 mL	0.7195 mL
50 mM	0.0144 mL	0.0719 mL	0.1439 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

Inji Shin, et al. Total Synthesis of Swinholide A: An Exposition in Hydrogen-Mediated C-C Bond Formation. *J Am Chem Soc.* 2016 Nov 2;138(43):14246-14249.

M R Bubb, et al. Swinholide A is a microfilament disrupting marine toxin that stabilizes actin dimers and severs actin filaments. *J Biol Chem.* 1995 Feb 24;270(8):3463-6.

Terry, D.R., Higa, T., and Bubb, M.R. Misakinolide A is a marine macrolide that caps but does not sever filamentous actin. *The Journal of Biological Chemistry* 272(12), 7841-7845 (1997)

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