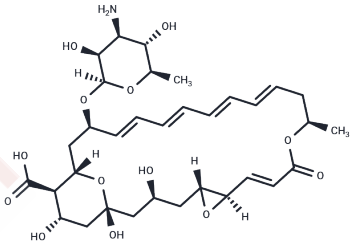
Data Sheet (Cat.No.T0709)

TargetMol

Natamycin

Chemical Properties



CAS No. : 7681-93-8

Formula: C33H47NO13

Molecular Weight: 665.73

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	Natamycin (Pimaricin) is a Polyene Antimicrobial.
Targets(IC50)	Estrogen/progestogen Receptor,Endogenous Metabolite,Antibacterial,Antibiotic, Antifungal
In vivo	Under conditions where growth is inhibited, Natamycin does not affect the permeability of yeast cell membranes. Natamycin impedes the initiation phase of vacuole fusion, preventing the joining of separate vacuoles without damaging the barrier function of the vacuolar membrane. It disrupts vacuole morphology within the yeast cells, resulting in the formation of numerous smaller vacuole structures. Natamycin specifically binds to ergosterol on model membranes. It exhibits a lower minimum inhibitory concentration (MIC) for dematiaceous fungi and species of Curvularia. The solubility and stability of Natamycin in aqueous solutions are enhanced through the formation of a complex with γ-cyclodextrin, which also reduces drug side effects without compromising antifungal activity. The MIC90 of both Natamycin and its complex with Natamycin-γ cyclodextrin (Natamycin-γ CyD) is below 0.0313 mg/ml, indicating that γ CyD significantly enhances the antifungal activity of Natamycin, thus affirming the clinical utility of the Natamycin-gamma CyD complex.

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 1 mg/mL (1.5 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (1.5 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5021 mL	7.5106 mL	15.0211 mL
5 mM	0.3004 mL	1.5021 mL	3.0042 mL
10 mM	0.1502 mL	0.7511 mL	1.5021 mL
50 mM	0.030 mL	0.1502 mL	0.3004 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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Pradhan L, et al. Indian J Ophthalmol, 2011, 59(6), 512-514.
Bruin GJ, et al. Drug Metab Dispos, 2008, 36(12), 2523-2538.
Cevher E, et al. J Pharm Sci, 2008, 97(10), 4319-4335.