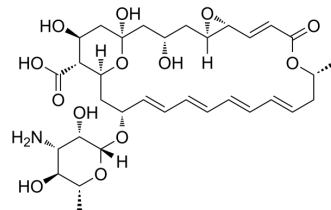


Natamycin

Cat. No.:	HY-B0133	
CAS No.:	7681-93-8	
Molecular Formula:	C ₃₃ H ₄₇ NO ₁₃	
Molecular Weight:	665.73	
Target:	Fungal; Endogenous Metabolite; Antibiotic; Bacterial	
Pathway:	Anti-infection; Metabolic Enzyme/Protease	
Storage:	Powder	-20°C 3 years 4°C 2 years
	In solvent	-80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 16.67 mg/mL (25.04 mM; ultrasonic and adjust pH to 6 with HCl)
H₂O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	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

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 1.67 mg/mL (2.51 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 1.67 mg/mL (2.51 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Natamycin (Pimaricin) is a macrolide antibiotic agent produced by several *Streptomyces* strains. Natamycin inhibits the growth of fungi via inhibition of amino acid and glucose transport across the plasma membrane. Natamycin is a food preservative, an antifungal agent in agriculture, and is widely used for fungal keratitis research^{[1][2]}.

IC₅₀ & Target

Microbial Metabolite	Macrolide	Human Endogenous Metabolite
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In Vitro

Natamycin, an important macrolide antibiotic, produced by several *Streptomyces* species, including *S. natalensis*, *S. gilvosporeus*, *S. lydicus* and *S. chattanoogensis*, can inhibit the growth of fungi via immediate inhibition of amino acid and glucose transport across the plasma membrane. Natamycin is widely used in the food industry and in pharmacotherapy for

topical treatment. Unlike other polyene antibiotics, the mode of action of Natamycin is not based on the ergosterol-dependent permeabilization of the plasma membrane. The immediate cessation of growth of yeasts by Natamycin treatment indicates that there might be an instantaneous effect of Natamycin at the level of the plasma membrane^{[1][2]}. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Brain Behav Immun. 2020 Nov 24;S0889-1591(20)32408-9.
- J Mater Chem B. 2022 Oct 5;10(38):7847-7861.
- Inflammopharmacology. 2023 Dec 27.
- Eur J Pharmacol. 2022 May 18;926:175041.
- Microbiologyopen. 2019 Oct;8(10):e873.

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REFERENCES

[1]. Wu H, et al. SlnM gene overexpression with different promoters on natamycin production in *Streptomyces lydicus* A02. *J Ind Microbiol Biotechnol*. 2014 Jan;41(1):163-72.

[2]. Yvonne Maria te Welscher, et al. Polyene antibiotic that inhibits membrane transport proteins. *Proc Natl Acad Sci U S A*. 2012 Jul 10;109(28):11156-9.

Caution: Product has not been fully validated for medical applications. For research use only.

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