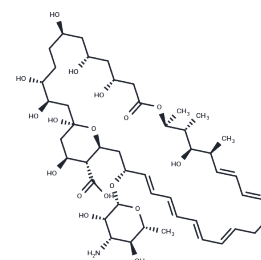


## Nystatin

## Chemical Properties

|                   |   |
|-------------------|---|
| CAS No. :         | 1400-61-9   |
| Formula:          | C <sub>47</sub> H <sub>75</sub> N <sub>1</sub> O <sub>17</sub>  |
| Molecular Weight: | 926.1   |
| Storage:          | Store at low temperature<br>Powder: -20°C for 3 years<br><i>Actual storage temperature shall be subject to the COA.</i> |



## Biological Description

|               |   |
|---------------|---|
| Description   | Nystatin (Fungicidin) is a topical and oral antifungal agent with activity against many species of yeast and candida albicans, which is used largely to treat skin and oropharyngeal candidiasis.   |
| Targets(IC50) | Apoptosis, Antibacterial, Antibiotic, Antifungal  |
| In vitro      | <p><b>METHODS:</b> Hippocampal neurons were treated with Nystatin (2.5-25 μM) for 30 min and cell morphology was examined.</p> <p><b>RESULTS:</b> Acute incubation with different concentrations of Nystatin increased the growth cone size of hippocampal neurons. [1]</p> <p><b>METHODS:</b> CHO cells were treated with Nystatin (100-300 μmol/L) for 10-60 min, and cell viability was measured by MST-1 assay.</p> <p><b>RESULTS:</b> Cell viability studies after Nystatin application showed significant concentration- and time-dependent effects. At Nystatin concentrations equal to 100 μmol/L, the percentage of viable cells was significantly higher compared to higher concentrations. [2]</p> |
| In vivo       | Nystatin combined with endostatin selectively enhances endostatin uptake and biodistribution in tumor blood vessels and tumor tissues rather than in normal tissues of tumor-bearing mice, ultimately leading to elevated antiangiogenic and antitumor efficacies of endostatin in vivo[3]. Liposomal Nystatin, at doses as low as 2 mg/kg of body weight/day, protects neutropenic mice against Aspergillus-induced death in a statistically significant manner at the 50-day time point compared to either the no-treatment, the saline, or the empty-liposome group[4].  |

## Solubility Information

|                     |   |
|---------------------|---|
| Solubility          | DMSO: 250.00 mg/mL (269.95 mM), Sonication is recommended.<br>( < 1 mg/ml refers to the product slightly soluble or insoluble)  |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5.00 mg/mL (5.40 mM), Suspension.<br><i>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.</i> |

## Preparing Stock Solutions

|       | <b>1mg</b> | <b>5mg</b> | <b>10mg</b> |
|-------|------------|------------|-------------|
| 1 mM  | 1.0798 mL  | 5.399 mL   | 10.798 mL   |
| 5 mM  | 0.216 mL   | 1.0798 mL  | 2.1596 mL   |
| 10 mM | 0.108 mL   | 0.5399 mL  | 1.0798 mL   |
| 50 mM | 0.0216 mL  | 0.108 mL   | 0.216 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

- Roselló-Busquets C, et al. Nystatin Regulates Axonal Extension and Regeneration by Modifying the Levels of Nitric Oxide. *Front Mol Neurosci.* 2020 Apr 3;13:56.
- Qin S, Wang X, Han P, et al. LRP1-Mediated Endocytosis May Be the Main Reason for the Difference in Cytotoxicity of Curcun and Curcun C on U2OS Osteosarcoma Cells. *Toxins.* 2022, 14(11): 771.
- Zemljič Jokhadar Š, et al. Osmotic Effects Induced by Pore-Forming Agent Nystatin: From Lipid Vesicles to the Cell. *PLoS One.* 2016 Oct 27;11(10):e0165098.
- Wei Y, Ma L, Zhang L, et al. Noncovalent interaction-assisted drug delivery system with highly efficient uptake and release of paclitaxel for anticancer therapy. *International journal of nanomedicine.* 2017 Sep 25;12:7039-7051.
- Li X, Tang H, Huang X, et al. Rigidity-Dependent Placental Cells Uptake of Silk-Based Microcapsules. *Macromolecular bioscience.* 2019: 1900105.
- Chen Y, et al. Cholesterol sequestration by nystatin enhances the uptake and activity of endostatin in endothelium via regulating distinct endocytic pathways. *Blood.* 2011 Jun 9;117(23):6392-403.
- Yang C, Xu H, Yang D, et al. A renal YY1-KIM1-DR5 axis regulates the progression of acute kidney injury. *Nature Communications.* 2023, 14(1): 4261.
- Wallace TL, et al. Activity of liposomal nystatin against disseminated *Aspergillus fumigatus* infection in neutropenic mice. *Antimicrob Agents Chemother.* 1997 Oct;41(10):2238-43.
- Li X, Tang H, Huang X, et al. Rigidity-Dependent Placental Cells Uptake of Silk-Based Microcapsules[J]. *Macromolecular bioscience.* 2019: 1900105.
- Wei Y, Ma L, Zhang L, et al. Noncovalent interaction-assisted drug delivery system with highly efficient uptake and release of paclitaxel for anticancer therapy[J]. *International journal of nanomedicine.* 2017 Sep 25;12:7039-7051.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481