

<b>Product Name:</b>	Nystatin A1
<b>Product Number:</b>	N044
<b>CAS Number:</b>	1400-61-9
<b>Molecular Formula:</b>	C <sub>47</sub> H <sub>75</sub> NO <sub>17</sub>
<b>Molecular Weight:</b>	926.1
<b>Appearance:</b>	Yellow solid
<b>Solubility:</b>	Soluble in DMSO and DMF. Moderately soluble in methanol and ethanol. Sparingly soluble in water (0.36 mg/ml).
<b>Source:</b>	Streptomyces noursei
<b>Storage Conditions:</b>	-20°C
<b>Description:</b>	<p>Nystatin is a fungicidal and fungistatic polyene antifungal and growth promoter, first reported in 1950. It is a complex of A1, A2 and A3. Nystatin functions by accumulating cholesterol and thereby sequesters lipid from cell membranes. It can be used as a bioprobe and in quantum dot research, since cholesterol depletion can block several lipid raft-dependent endocytic pathways.</p> <p>Nystatin A1 is soluble in DMF and DMSO, moderately soluble in methanol and ethanol. It is sparingly soluble in water.</p>
<b>Mechanism of Action:</b>	Nystatin, like most polyene antifungals, binds to sterols in the fungal cell membrane leading to formation of ion channels in the wall, ion imbalance and cell death.
<b>Microbiology Applications</b>	<p>Nystatin is commonly used in clinical <i>in vitro</i> microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against fungal isolates. Medical microbiologists use AST results to recommend treatment options. Representative effective ranges include:</p> <ul style="list-style-type: none"> <li>◦ <i>Candida albicans</i> 0.78 µg/mL - 400 µg/mL</li> </ul> <p>For a representative list of Nystatin MIC values, <a href="#">click here</a>.</p>
<b>Plant Biology Applications</b>	<p>Nystatin can be used in plant tissue culture to control contamination. The first few days after protoplast isolation are the most critical in terms of establishing sterile culture. Authors found the most satisfactory control of protoplasts from leaf mesophyll cells was Nystatin (25 U/ml) in combination with carbenicillin (250 µg/ml)(Watts and King, 1973).</p>

**References:**

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Hazen EL and Brown R (1950) Two antifungal agents produced by a soil actinomycete. Science 1950, 112, 423.

Sevtap Arikan (2002) *In vitro* activity of Nystatin compared with those of liposomal Nystatin, Amphotericin B, and Fluconazole against clinical *Candida* isolates. J. Clin. Microbiol. 40(4):1406-1412

Watts JW and King JM 1973) The use of antibiotics in the culture of non-sterile plant protoplasts. Planta. 113(30:271-277

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Zielinski J. et al (1988) The structure of nystatin A3, a component of nystatin complex. J. Antibiot. 41:1289

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