Product Name: Nystatin A1
Product Number: N044
CAS Number: 1400-61-9
Molecular Formula: C_{47}H_{75}NO_{17}
Molecular Weight: 926.1
Appearance: Yellow solid
Solubility: Soluble in DMSO and DMF. Moderately soluble in methanol and ethanol. Sparingly soluble in water (0.36 mg/ml).
Source: Streptomyces noursei
Storage Conditions: -20°C
Description: 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.
Nystatin A1 is soluble in DMF and DMSO, moderately soluble in methanol and ethanol. It is sparingly soluble in water.

Mechanism of Action: 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.

Microbiology Applications: Nystatin is commonly used in clinical in vitro 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:

- *Candida albicans* 0.78 µg/mL - 400 µg/mL

For a representative list of Nystatin MIC values, click here.

Plant Biology Applications: 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).
References:


Finkelstein A and Holz R (1973) Aqueous pores created in thin lipid membranes by the polyene antibiotics Nystatin and Amphotericin B. Mem. 2:377-408 PMID 4585230


