Nystatin preparation

Product Number N1638
Storage Temperature -20 °C

Product Description
Molecular Formula: C₄₇H₇₅NO₁₇ • 2H₂O
Molecular Weight: 962.1
CAS Number: 1400 -61-9
Melting Point: Gradually decomposes above 160 °C without melting by 250 °C
λ_max: 290, 307, and 322 nm (ethanol)
Specific Rotation (at 25 °C): -10° (glacial acetic acid)
+25° (pyridine)
+12° (DMF)
-7° (0.1 N HCl in methanol)

This product is formulated to contain 10,000 units/ml nystatin in Dulbecco's Phosphate Buffered Saline. It is aseptically processed, sterility tested by USP and cell culture tested (24 ml/L) and is recommended for use in cell culture applications.

Nystatin is a fungistatic and fungicidal polyene antibiotic, which increases the permeability of the cell membrane of sensitive fungi by binding to sterols, chiefly ergosterol. Its main action is against Candida species. It is also effective against Aspergillus, Coccioidiodes immitis, Cryptococcus neoformans, Histoplasma capsulatum, Blastomyces dermatidis, and other yeasts and fungi. Nystatin has been used to enrich mutants by killing yeast cells. Nystatin has no antibacterial activity. The minimum inhibitory concentration for most sensitive fungi has been reported to range from 1.56 to 6.25 µg/ml.

Nystatin is poorly absorbed from the gastrointestinal tract. It is not absorbed through the skin or mucous membranes when applied topically.

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
Nystatin is soluble at 28 °C in the following: methanol (11.2 mg/ml), ethanol (1.2 mg/ml), carbon tetrachloride (1.23 mg/ml), chloroform (0.48 mg/ml), benzene (0.28 mg/ml), and ethylene glycol (8.75mg/ml). Nystatin is soluble in DMSO (5 mg/ml), yielding a clear, bright yellow solution. This product is freely soluble in DMF and formamide. A 3% suspension in water has a pH of 6.5-8.0.

It is not recommended to autoclave or sterile filter suspensions of Nystatin.

Storage/Stability
Aqueous suspensions begin to lose activity soon after preparation. Heat, light, and oxygen accelerate decomposition. Aqueous suspensions are stable for 10 minutes when heating to 100 °C at pH 7. Nystatin (in tissue culture media) is stable at 37 °C for three days. It is also stable in moderately alkaline media, but labile at pH 9 and 2. Activity is not diminished by blood or serum.

This product is stored frozen and shipped on dry ice. It has a shelf life of 24 months when stored frozen.

References
1. The Merck Index, 11th ed., Entry# 6658.

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