

Specification

Nystatin 2-hydrate *BioChemica*

A3811

Physical Description:	Solid
Product Code:	A3811
Product Name:	Nystatin 2-hydrate <i>BioChemica</i>
Specifications:	Activity: min. 4400 I.U./mg Identity (UV): passes test Heavy metals (as Pb): max. 0.002 % Sulfated ash: max. 3.5 % Loss on drying: max. 5 %
WGK:	1
Storage:	RT protected from light
Molecular Formula:	$C_{47}H_{75}NO_{17} \cdot 2H_2O$
M:	962.10 g/mol
CAS:	1400-61-9
EINECS:	215-749-0
CS:	29419000

AppliChem GmbH

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Comment

The antimycotic nystatin, in the past called fungicidin, has been isolated from *Streptomyces noursei*. It belongs, like amphotericin B, to the group of polyene macrolides. Nystatin is active (primarily fungistatic) against fungi (biphasic fungi, dermatophyta, molds) and yeast (concentrations usually between 0.5 - 20 µg/ml), at higher concentration fungicidal too (2-4fold concentration). Grampositive and -negative bacteria or viruses are resistant. The mode of action is based on the interaction steroids of the cell wall of fungi and yeasts. Nystatin forms a channel in the cell membrane, that is permeable selectively for monovalent cations (Na^{+}). The loss of cations, the activation of the $\text{Na}^{+}/\text{K}^{+}$ -pump and the inhibition of several membrane-bound enzymes destroy yeasts and fungi. Nystatin is applied in protoplast cultures of *Antirrhinum majus*, *Pisum* and *Nicotiana tabacum* in liquid or solid media. The active concentrations is approx. 5 µg/ml. It is recommended to test for the required concentration case by case (recommended concentration between 5 and 50 µg/ml). The cytotoxic concentration is 600 µg/ml. Nystatin is almost insoluble in water (100 mg/100 ml), hardly soluble in ethanol (1 g/30-100 ml), methanol and butanol and soluble in DMSO (1 g/50 ml) and dimethyl formamide. Store the dry substance protected from light (stable for at least one year). The stability of solutions 3 days at 37°C, at room temperature one week. At +4°C and pH 6, the activity is reduced after 24 hours by approx. 9 %, after 48 hours by approx. 14 % and after 72 hours by approx. 20%. In the pH-range <2 and >7, the antimycotic is rapidly inactivated. It decomposes under heat, if exposed to light or oxygen.

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