

**Product Name**

Name: Nystatin Suspension, 10,000 units/mL

Cat. No.: C3440-0020

Size: 20 mL

**Product Description**

Nystatin is a mixture of antimycotic polyenes, like amphotericin B, and is used in cell culture for the control of fungi, yeasts and molds. Like many other antifungals and antibiotics, this polyene macrolide antimycotic, generally termed nystatins, are of bacterial origin. Nystatin has been isolated from the soil actinomycete, *Streptomyces noursei*. The mode of action (MOA) of this family is exhibited by its ability to bind to steroidal alcohols (e.g., cholesterol, cholestanol), specifically ergosterol, in the cell membrane of susceptible fungi by creating transmembrane channels (ionophore) in the cell membrane per se thereby increasing membrane permeability.

The Minimum Inhibitory Concentration (MIC) for nystatin-sensitive fungi is reportedly to be in the range of 1.56 - 6.25 µg/mL.

The resultant loss of cations (e.g., K<sup>+</sup>, Na<sup>+</sup>, H<sup>+</sup>), and/or other low molecular weight substances including sugars, amino acids or nucleotides, the increase or amplification of Na<sup>+</sup> /K<sup>+</sup> pump activity in addition to the inhibitory effect through these channels on the extracellular membrane-bound enzymes, collectively and in concert, all contribute to the demise of these types of organisms. Nystatin is primarily fungistatic at low concentrations against biphasic fungi, *Dermatophyta* and molds. It is also effective against yeasts.

The current role of this antimycotic selective ionophore in cell culture is multi-faceted and may be divided into several principal functions.

- Antimycotic spectrum only, it is not bactericidal or virucidal
- Interacts with the fungal cell membranes by increasing cell membrane permeability by providing a pathway for the H<sup>+</sup> flow
- 100% pharmacokinetic activity

**Predominant Characteristics**

- Easy to use
- Liquid formulation
- Cation selective ionophore
- Antimycotic spectrum of activity (i.e., fungistatic/fungicidal)

**Storage and Stability**

The product should be kept at **-20°C**.

The product is **light-sensitive** and therefore should not be left in the light.

Shelf life: 18 months from date of manufacture.

**Procedure**

1. Take a bottle from the freezer at -20°C and read the label.
2. Ensure that the cap of the bottle is tight.
3. Allow to thaw to room temperature prior to use.
4. Gently swirl the solution in the bottle intermittently until all the content is thawed.
5. Wipe the outside of the bottle with a disinfectant solution such as 70% ethanol.
6. Pipette appropriate volume using an aseptic/sterile technique under a laminar-flow culture hood.
7. Aliquot the remaining solution and put them back to freezer to avoid repeated freezing and thawing.
8. Recommended dilution: 1:100 to 1:1,000.

\* It is recommended to test for the required concentration on a case-by-case basis.

**Quality control**

Nystatin Suspension is tested for sterility, pH, osmolality.

**Precaution and Disclaimer**

For research use only, not for clinical diagnosis, and treatment.