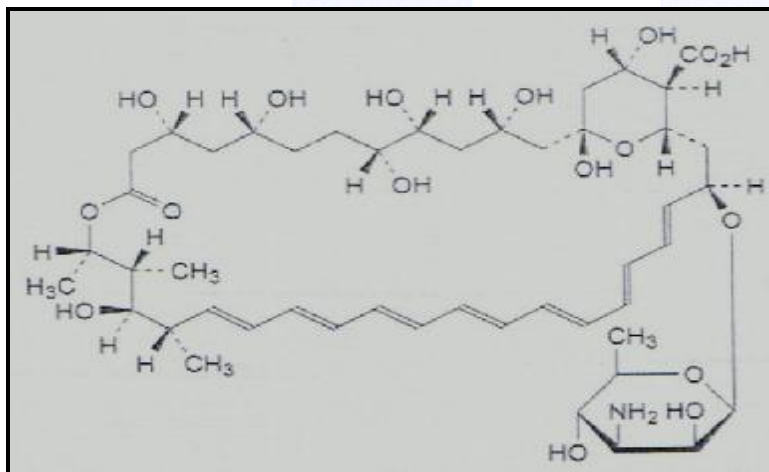


Product Profile



Product Name:	Amphotericin B ⁽¹⁾ Solution 250 micrograms/ml
Product Catalog Number	03-028-1
Concentration:	250µg/ml
Unit Size Availability:	100ml/20ml
Formulation:	Dark-Brown Colored Frozen Solution
Optimal Storage Conditions:	-20°C
Stability: (Under Specified Handling & Storage)	Please Refer to Product Label

Important Note! Please read the MSDS and Product Profile carefully in their entirety before using this material for possible safety precautions and potential hazards.

Product Description

Amphotericin B is a mixture of anti-mycotic polyenes and is used in cell culture for the control of fungi, yeasts and molds. These types of antimycotics are typically derived from *Streptomyces spp.* bacteria. Their Mode of Action (MOA) is exhibited by their ability to bind to steroidal alcohols (e.g. cholesterol, cholestanol), specifically ergosterol, in the cell membrane of susceptible fungi by creating transmembrane channels in the cell membrane *per se* thereby increasing membrane permeability. The resultant loss of cations (e.g. K⁺, Na⁺, H⁺) or other low molecular-weight substances including sugars, amino acids or nucleotides in addition to the inhibitory effect through these channels in the extracellular space of several membrane-bound enzymes, all contribute to the demise of these types of organisms. Used as a Fungicide, it is cytolytic by causing the formation of pores that allow passage of small molecules through the plasma membrane resulting in cytolysis. It only acts on sterol-containing membranes (e.g. ergosterol) hence its preferential selectivity for Fungi.

These intermolecular hydrogen bonding interactions among the carboxyl, hydroxyl and amino groups stabilize the channel pore causing the cytoplasmic contents to escape. It may be toxic to some insect cell types.

In Human medicine, since the introduction of the Echinocandins (i.e. synthetically modified lipopeptides which inhibit the synthesis of β-D-Glucan in Fungal Cell Walls) and the broad-spectrum Azoles, Amphotericin B formulations have seen considerably less use. However, with its long-proven track-record, its place in the anti-fungal armamentarium is ensured.

The current role of this anti-mycotic solution in cell culture is multi-faceted and may be divided into several principal functions.

- Anti-Mycotic Spectrum only, it is not bactericidal or virucidal
- Interacts with the fungal cell membranes by increasing cell-membrane permeability
- One hundred percent (100%) pharmacokinetic activity

Some Predominant Characteristics of Amphotericin B include:

- ◆ Easy-To-Use
- ◆ Liquid Formulation
- ◆ Sterile-Filtered(0.1µ)
- ◆ Cell-Culture Tested

Instructions/Procedure:

The product should be stored at -20°C and should be allowed to thaw to room temperature prior to use. The product should not be left in the light for prolonged periods. When stored in the dark under specified conditions, the product is stable until the expiry date.

- 1) Take a bottle from the proper storage conditions at -20°C and read the label.
- 2) Allow to thaw to room temperature prior to use.
- 3) Ensure that the cap of the bottle is tight.
- 4) Gently swirl the solution in the bottle.
- 5) Wipe the outside of the bottle with a disinfectant solution such as 70% ethanol.
- 6) Using aseptic/sterile technique under a laminar-flow culture hood, work according to established protocols.
- 7) Recommended Dilution: 1:100 to 1:1000

Quality Control

Test	Specification
Cell-Culture:	Test and Record
pH:	9.0-12.0
Sterility:	Sterile

References:

- 1) Biological Industries (BI) Specifications
- 2) Darling, D.C. and Morgan S.J. Animal Cells: Culture and Media, John Wiley & Sons, New York, 1994
- 3) Amphotericin B is the generic name for FUNGIZONE®, a registered trade name of E. R. Squibb & Sons
- 4) Current Edition Merck Index
- 5) Biological Industries (BI) Specifications
- 6) Current Edition USP/E Ph
- 7) Martindale, The Extra Pharmacopeia, 28th Edition, Royal Pharmaceutical Society: London, England, pps.716-719.
- 8) Lackie, J. M. The Dictionary of Cell & Molecular Biology, Academic Press: London, 2007
- 9) Gallagher, Jason C. and MacDougall, Conan. Antibiotics Simplified, Jones & Bartlett: Sudbury, Mass., 2009. pps.111-113

Biological Industries