Amphotericin B

Amphotericin B (Fungizone®), a polyene macrolide, is an antifungal produced by *Streptomyces nodosus*. Con-ge-ners of the polyenes consist of four to seven conjugated double bonds linked to a cyclic ester. Amphotericin B, in particular, contains a mycosamine linked to the cyclic ester through a glycosidic bond.

These lipophilic antibiotics actively bind sterols, predominantly ergosterol, a component of the fungal membrane. Binding to ergosterol results in the formation of membrane channels, or pores, and the leakage of cellular components. Polyenes are fungistatic, inhibiting cell growth, to all fungi with the exception of fungi deficient in ergosterol as a result of its replacement with sterol precursors.

Amphotericin B is insoluble in water at physiological pH. As a result, the bile salt deoxycholate is used as a solubilizing agent.

Normal working concentration is 2.5 µg/mL, and may be paired with Penicillin/Streptomycin as a broad-spec-trum treatment. When used to treat severe contamination of fungi and yeast, it may be necessary to increase the concentration (up to 4 µg/mL) for several subcul-tures. Amphotericin B is stable for up to 7 days in culture at 37C. At 2-8C, this product is stable for up to 3 weeks. For optimum stability, keep frozen and avoid multiple freeze-thaw cycles.

References


Fungizone® is a registered trademark of E. R. Squibb & Sons.

Molecular Weight & Formula: 924.1, C₄₇H₇₃NO₁₇

Mode of Action:
Binds sterols, particularly ergosterol, forming pores in the fungal cytoplasmic membrane and causing leakage of cellular components

Conferred Resistance:
Ergosterol deficiency

Spectrum:
Fungi

Microbiological Potency:
250 µg/mL

Effective Concentration:
2.5 µg/mL, under normal working conditions

Appearance:
Clear solution with slight yellow color

Storage & Stability:
Frozen (-5 to -20C), protected from light; avoid multiple freeze-thaw cycles

Amphotericin B
250 µg/mL Solution 30-003-CF 6 x 50 mL