

Product Name:	Amphotericin B, USP
Product Number:	A007
CAS Number:	1397-89-3
Molecular Formula:	C ₄₇ H ₇₃ NO ₁₇
Molecular Weight:	924.08
Form:	Powder
Appearance:	Yellow or orange powder
Solubility:	DMSO (35 mg/ml), DMF (3 mg/ml)
Source:	<i>Streptomyces nodosus</i>
Water Content (Karl Fischer):	≤5.0%
Storage Conditions:	2-8°C
Description:	<p>Amphotericin B, USP is a polyene antifungal or antimycotic compound derived from <i>Streptomyces nodosus</i>. It is used to control contamination from fungi, viruses and protozoa.</p> <p>TOKU-E offers 3 forms of Amphotericin B:</p> <ul style="list-style-type: none">• Amphotericin B, USP (A007)• <u>Amphotericin B, EP (A064)</u>• <u>Amphotericin B, solubilized (A008)</u> <p>The compound is nearly insoluble in water at pH 6-7 (but is soluble at pH 2 or 11). It is soluble in dimethyl sulfoxide and dimethylformamide.</p> <p>Amphotericin B, USP conforms to United States Pharmacopoeia specifications.</p>
Mechanism of Action:	<p>Amphotericin B associates with membrane sterols (ergosterol in fungal cell membranes, and cholesterol in mammalian cell membranes). Amphotericin B forms a pore in these membranes resulting in leakage of essential ions and ultimately cell death.</p>

Spectrum:

Amphotericin B is active against mammalian cells, fungi, viruses, and protozoa. Amphotericin B is not toxic to bacteria due to their lack of sterols. The following represents MIC susceptibility data for amphotericin B against common fungal pathogens:

- *Candida albicans* - 0.001 - 321 µg/mL
- *Candida krusei* - 0.001 - 16 µg/mL
- *Coccidioides immitis* - 0.0625 - 2 µg/mL
- *Cryptococcus neoformans* - 0.2 - 39 µg/mL
- *Fusarium oxysporum* - 0.75 - 125 µg/mL

Microbiology Applications Amphotericin B is used as an antimycotic selective agent in several routinely used selective media formulations to inhibit the growth of background fungal growth. It can also combat viruses and protozoa.

Plant Biology Applications

Amphotericin B can be used to inhibit phytopathogenic fungi *in vitro*.

References:

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