

Product Data Sheet

□ Cat # ABT-490-01
□ Cat # ABT-490-10

Amphotericin B (>98% pure)
Amphotericin B (>98% pure)

Size: 1g
Size: 10g or Bulk

General Information:

Amphotericin B (Fungilin, Fungizone, Abelcet, AmBisome, Fungisome, Amphocil, Amphotec) is a polyene antifungal drug, often used intravenously for systemic fungal infections caused by *C. albicans*, *A. fumigatus*, and parasitic *L. protozoans* as well as in tissue culture to prevent fungi from contaminating cell cultures. It was originally extracted from *Streptomyces nodosus*, a filamentous bacterium, in 1955 at the Squibb Institute for Medical Research from cultures of an un described streptomycete isolated from the soil collected in the Orinoco River region of Venezuela. Its name originates from the chemical's amphoteric properties.

Two amphotericins, Amphotericin A and Amphotericin B are known, but only B is used clinically because it is significantly more active in vivo: Amphotericin A is almost identical to Amphotericin B [having a double C=C bond between the 27th and 28th carbon] yet thus it loses most of its anti-fungal activity. Currently the drug is available as plain Amphotericin B, as cholesteryl sulfate complex, as lipid complex, and as liposomal formulation. The latter formulations have been developed to improve tolerability for the patient but may show considerably different pharmacokinetic characteristics compared to plain Amphotericin B.

Amphotericin B binds with ergosterol, the main component of fungal cell membranes, forming a transmembrane channel that result in altered plasma membrane permeability and leakage of vital cytoplasmic components, such as K^+ , Na^+ , H^+ , Cl^- , ultimately inducing cell death. Because prolonged use of amphotericin B is associated with infusion-related events and nephrotoxicity, lipid-based formulations have been devised for more favorable clinical relevance. The actual mechanism of action may be more complex and multi-faceted.



Molecular Formula:
($C_{47}H_{73}NO_{17}$)

Molecular Weight:
924.08 g/mol

Analysis Test	Specification	Results
Description	White or off-white crystalline solid	white crystalline solid
Identification B:(UV/Vis):	Conforms to standard, absorbance in the range of 320nm to 400nm	Conforms
Identification C:IR	Conforms to the reference standard	Conforms
Melting point(°C)	133-135 °C	Complies
Solubility	DMSO	Soluble
Stability	In accordance with information listed on product insert	Stable
Toxicity	Avoid release into the environment	Toxic
CAS number	1397-89-3	
Conclusion	QC Passed	

Storage and stability: Shipped at Room temperature. Stable for ≥ 2 years at $-20^{\circ}C$

Reference: Miceli (2012) Infection and drug resistance 5, 9:16; Wasan (2009) infect. Dis. 200, 357-360; Radomski Appl. Environ. Microbiol 76(11) 3514-3520; Ogita (2012) Front. Microbiol. 3(100), 1-6

Related items:

ABT-430-10 Houttuyfonate, Sodium (>98% pure)
 ABT-440-01 Arbidol, Hydrochloride (>98% pure)
 ABT-450-05 2,6-Dichloropyrazine (>98% pure)
 ABT-460-002 Rifabutin (>98% pure)
 ABT-470-010 Quinine Dihydrochloride Injection (>98% pure)
 ABT-480-10 Erythromycin thiocyanate (>98% pure)
 ABT-500-01 Fusidate, Sodium (>98% pure)
 ABT-490-01 Rev.140813P

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