

# Bleomycin sulfate

Blenoxane, Bleocin, Bleo, BLM

Isolated from *Streptomyces verticillus*

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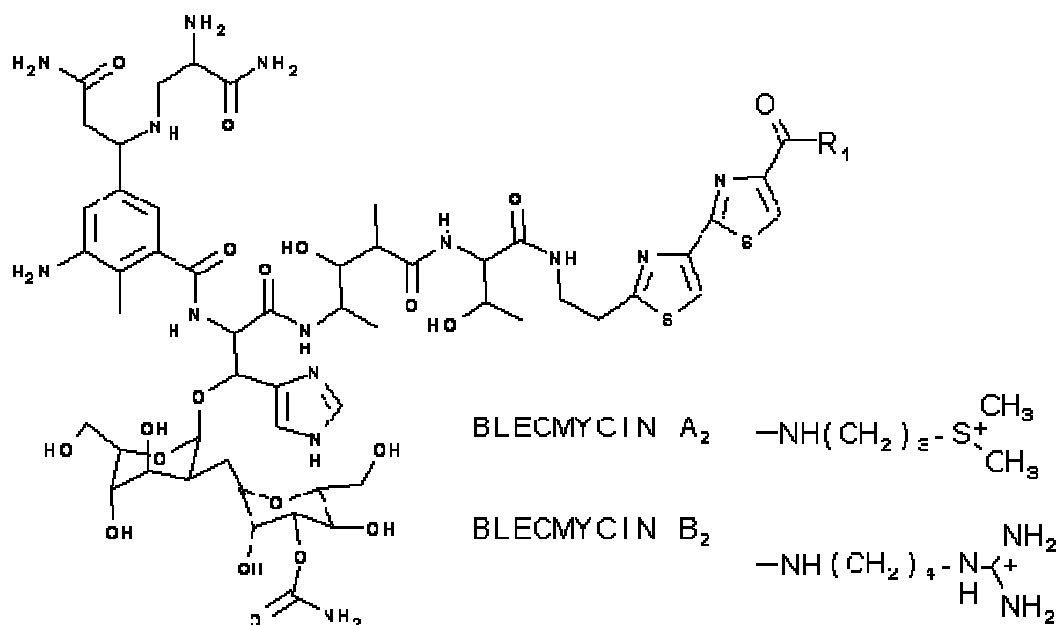
Product	Cat#	Package size
Bleomycin sulfate	M3112.0001	1mg
Bleomycin sulfate	M3112.0005	5mg

## Product description

Bleomycin is an antineoplastic antibiotic. The drug is active against gram-positive and gram-negative bacteria and fungi, but its cytotoxicity precludes its use as an anti-infective agent. The precise mechanism(s) of action of bleomycin is not fully known. Several studies in *Escherichia coli* and HeLa cells suggest that the drug inhibits the incorporation of thymidine into DNA. In these in vitro studies, DNA synthesis was inhibited to a greater extent than was RNA or protein synthesis. Bleomycin also appears to labilize the DNA structure, resulting in scission of both single- and double-stranded DNA. The drug has no immunosuppressive activity in mice.

## Properties

Bleomycin sulfate is a mixture of basic cytotoxic glycopeptide antibiotics produced by *Streptomyces verticillus*; bleomycin A<sub>2</sub> (ca. 60%) and bleomycin B<sub>2</sub> (ca. 30%) are the major components. Other bleomycins: ca. 10%. Following reconstitution, bleomycin sulfate has a pH of 4.5–6, depending upon the diluent used.



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### Activity

The potency of bleomycin is assayed microbiologically; the activity of 1 unit of bleomycin is equivalent to the activity of 1mg of bleomycin A<sub>2</sub> reference standard.

### Appearance

Bleomycin sulfate occurs as a cream-colored, amorphous powder and is very soluble in water and sparingly soluble in alcohol.

<b>Category:</b>	Peptide antibiotic, DNA strand scission agent.
<b>Binding mode:</b>	Intercalation
<b>Side Specificity:</b>	5'-GpT-3' and 5'-GpC-3'
<b>Effect on DNA:</b>	DNA unwinding angle 12°, lengthens DNA 0.31 nm per drug insertion ( <b>Povirk, 1979</b> ). Alters PAGE migration of intrinsically bent DNA.
<b>Storage:</b>	Has to be stored at 4°C.