Product Information

Bleomycin sulfate
from *Streptomyces verticillus*

Catalog Number B5507
Storage Temperature 2–8 °C

CAS RN 9041-93-4
Synonyms: Bleo; Blenoxane; Blexane

**Product Description**

Bleomycin A₂:
- Molecular formula: C_{55}H_{84}N_{17}O_{21}S_{3}
- Formula weight: 1,397

Bleomycin B₂:
- Molecular formula: C_{55}H_{81}N_{19}O_{21}S_{2}
- Formula weight: 1,407

$E^{1\%}$:
1. 121–148 (244–248 nm, in water)
2. 102–121.5 (289–294 nm, in water)

Bleomycin sulfate is an antineoplastic antibiotic isolated from *Streptomyces verticillus*. It is a mixture of glycopeptide antibiotics containing primarily Bleomycin A₂ (∼70%) and B₂ (∼30%). Bleomycins differ from one another in the terminal amine and show varying biological activity.¹

Bleomycin sulfate binds to DNA, inhibits DNA synthesis, and causes single strand scission of DNA in vivo and in vitro at specific base sequences. Binding of oxygen and a metal ion, such as copper or iron, is required to cleave DNA.²⁻³ The antibiotic also has the ability to cleave RNA to a lesser degree and in a more highly selective fashion.⁴ It also acts as an inducer and regulator of apoptosis in a variety of cells and inhibits tumor angiogenesis.

Specific activity: 1.5–2.0 units/mg

Recommended concentration for use as a selection agent is 10–100 µg/mL.

**Precautions and Disclaimer**

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

**Preparation Instructions**

The product is soluble in water (20 mg/mL) yielding a clear, colorless solution.

A stock solution (2 units/mL) in 0.1 M potassium phosphate, pH 7.0, stored refrigerated should be used within 14 days.⁵

At a concentration of 3 units/mL in normal saline, a solution remains active for ∼3 months when stored at 2–8 °C in a glass container and for 1 month when stored at 2–8 °C in a PVC container. If stored at −15 °C in either container, the solution remains active for 3 months. Solutions prepared in sterile water remain active for several days only.⁶

**Storage/Stability**

Store the product at 2–8 °C.

**References**

6. Sigma data.