# Small Molecules

**Bleomycin**

Antibiotic with antitumor properties

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| | |
|---|---|
| Catalog #100-0550 | 5 mg |
| 100-0551 | 10 mg |

## Product Description

Bleomycin is a glycopeptide-derived antibiotic, isolated from the bacterium Streptomyces verticillus, that creates DNA strand scission and exhibits antitumor activity against squamous cell carcinomas and malignant lymphomas (Galm et al.). Bleomycin induces lung injury leading to acute inflammatory response and pulmonary fibrosis (Kulkarni et al.). This product is supplied as the sulfate salt of the molecule.

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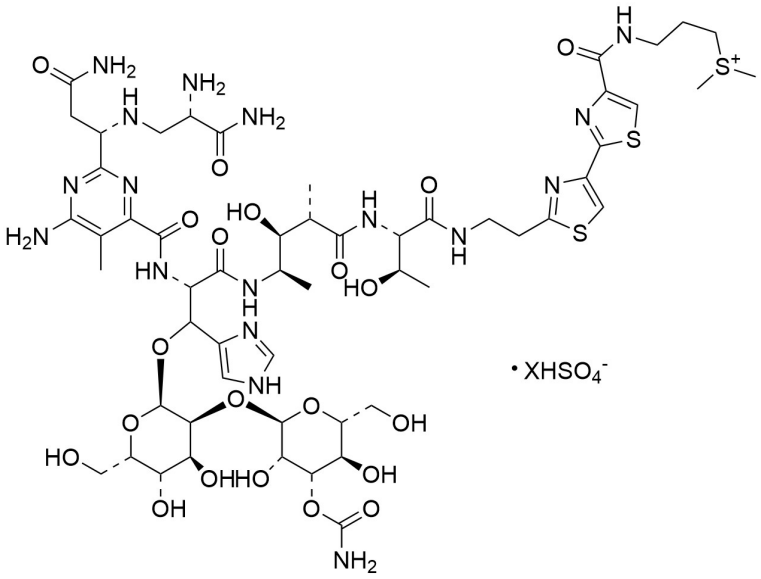
| Molecular Name: | Bleomycin (Sulfate) |
| Alternative Names: | Blenoxane |
| CAS Number: | 9041-93-4 |
| Chemical Formula: | $C_{55}H_{84}N_{17}O_{21}S_3 \bullet XHSO_4$ |
| Molecular Weight: | 1415.6 g/mol |
| Purity: | ≥ 95% |
| Chemical Name: | Bleomycin sulfate (salt) |
| Structure: | |



## Properties

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| Physical Appearance: | A crystalline solid |
| Storage: | Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt. |
| Solubility: | • PBS (pH 7.2) ≤ 7.0 mM<br>• DMSO ≤ 9.1 mM<br>For example, to prepare a 5 mM stock solution in DMSO, resuspend 1 mg in 141 µL of DMSO.<br><br>Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. |

## Published Applications

CANCER RESEARCH
· Induces single- and double-strand DNA breaks in tumor cells (Hecht).
DISEASE MODELING
· Induces lung fibrosis in mice (Kulkarni et al.).

## References

Galm U et al. (2005) Antitumor antibiotics: bleomycin, enediynes, and mitomycin. Chem Rev 105(2): 739–58.

Hecht SM. (2000) Bleomycin: new perspectives on the mechanism of action. J Nat Prod 63(1): 158–68.

Kulkarni AA et al. (2013) The triterpenoid CDDO-Me inhibits bleomycin-induced lung inflammation and fibrosis. PLoS One 8(5): e63798.

## Related Small Molecules

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This product is hazardous. Please refer to the Safety Data Sheet (SDS).