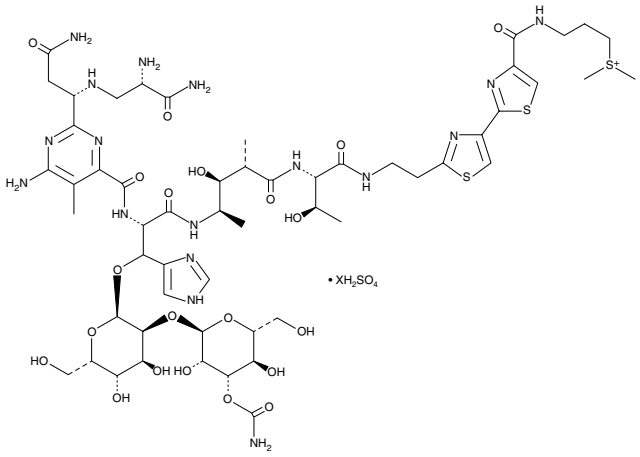
Product Information

Bleomycin (sulfate)

Item No. 13877



CAS Registry No.:	9041-93-4
Formal Name:	bleomycin sulfate (salt)
Synonym:	Blenoxane
MF:	$C_{55}H_{84}N_{17}O_{21}S_3 \bullet XH_2SO_4$
FW:	1,513.6
Purity:	≥95%
Stability:	≥2 years at -20°C
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max}: 204, 294 nm

Laboratory Procedures

For long term storage, we suggest that bleomycin (sulfate) be stored as supplied at -20°C. It should be stable for at least two years.

Bleomycin (sulfate) is supplied as a crystalline solid. A stock solution may be made by dissolving the bleomycin (sulfate) in the solvent of choice. Bleomycin (sulfate) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of bleomycin (sulfate) in these solvents is approximately 13 and 2 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of bleomycin (sulfate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of bleomycin (sulfate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Bleomycin is a glycopeptide antitumor antibiotic produced by the bacterium *S. verticillus*. Its mechanism of action causes single and double-strand DNA breaks in tumor cells, which interrupts the cell cycle.[1] Bleomycin is thought to achieve this by chelating metal ions, producing a pseudoenzyme that reacts with oxygen to produce superoxide and hydroxide free radicals that cleave DNA.[1] Bleomycin has been used for the treatment of Hodgkin's lymphoma in combination with doxorubicin, squamous cell carcinomas, testicular cancer, as well as in animal models of pulmonary fibrosis.[2,3]

References

1. Hecht, S.M. Bleomycin: New perspectives on the mechanism of action. *J. Nat. Prod.* **63**, 158-168 (2000).
2. Martinelli, G., Cocorocchio, E., Saletti, P.C., *et al.* Efficacy of vinblastine, bleomycin, methotrexate (VBM) combination chemotherapy with involved field radiotherapy in early stage (I-IIA) Hodgkin disease patients. *Leuk. Lymphoma* **44(11)**, 1919-1923 (2003).
3. Moeller, A., Ask, K., Warburton, D., *et al.* The bleomycin animal model: A useful tool to investigate treatment options for idiopathic pulmonary fibrosis? *Int. J. Biochem. Cell Biol.* **40(3)**, 362-382 (2008).

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