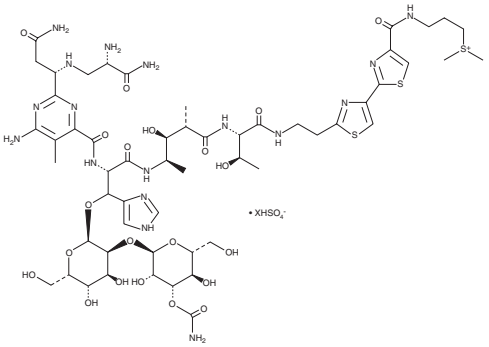
PRODUCT INFORMATION

Bleomycin (sulfate)

Item No. 13877



CAS Registry No.: 9041-93-4
Formal Name: bleomycin sulfate (salt)
Synonym: Blenoxane
MF: $C_{55}H_{84}N_{17}O_{21}S_3 \bullet XHSO_4$ (for A2)
FW: 1,415.6
Purity: ≥95% (mixture of A2 and B2)
UV/Vis.: λ_{max}: 294 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

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

Description

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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM