Chemical Properties

Product Name: Bleomycin A5 (hydrochloride)
Cas No.: 55658-47-4
M.Wt: 1477
Formula: C57H89N19O21S2•XHCl
Synonyms: Pingyangmycin
Chemical Name: N1-[3-[(4-aminobutyl)amino]propyl]-bleomycinamide, hydrochloride
Canonical SMILES: CC(C(N1)=N)=C(N=C1[C@](NC[C@@](N)([H])C(O)=N)([H])CC(O)=N)/C(O)=N/[C@@](/C(O)=N/[C@](/[C@@](O)([H])C(O)=N)/CCCNCCCCN)=C(S)=C(S)(/[H])[[C@@](O)([H])[C(]/C(O)=N/[C@](/[C@@](O)([H])C(O)=N)/CCCNCCCCN)=C(S)=C(S)(/[H])[[C@@](O)([H])[C(]/C(O)=N/[C@](/[C@@](O)([H])C(O)=N)/CCCNCCCCN)=C(S)=C(S)(/[H])[[C@@](O)([H])[C(]/C(O)=N/[C@](/[C@@](O)([H])C(O)=N)/CCCNCCCCN)=C(S)=C(S)(/[H])[[C@@](O)([H])[C(]}
Solubility: Soluble in DMSO
Storage: Store at -20°C
General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Microbiology & Virology
Pathways: Antibiotic
Description:
Bleomycin A5 is an anticancer chemotherapeutic that binds DNA and induces DNA cleavage and strand breaks, it is highly toxic. Additionally, this compound induces apoptosis, alters cell cycle...
regulation, inhibits proliferation, and decreases tumor size in cellular and animal models of hemangioma. Bleomycin may also inhibit thioredoxin reductase.

In vitro: The IC50 of BLM alone to the cells was about 2.63 μg/ml. The IC50 of BLM was decreased to 1/3.8 and 1/9.5 of 2.63 μg/ml when used in combination with 2.63 μg/ml and 5 μg/ml W-131 [1]. Bleomycin A5 induced the activation of a JNK pathway in a dose-dependent manner. After 24h treatment, Bleomycin A5 induced dramatic cell death. DAPI nuclear staining assay revealed that PD98059 (10 μM) markedly enhanced bleomycin A5-induced apoptosis [2].

In vivo: In the rats, Bleomycin A5 induced pulmonary inflammation and fibrosis, increased the levels of malondialdehyde and tumour necrosis factor-α and enhanced accumulation of collagen in the lungs. Rolipram administration significantly attenuated these effects [3].

Clinical Trials: Bleomycin is clinically used to treat lymphomas, squamous cell carcinomas, and testicular cancer.

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.
NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.