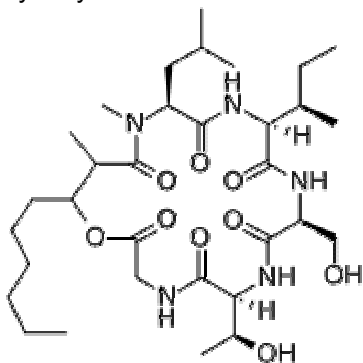


Product Information

Globomycin from *Streptomyces hagronensis*

Catalog Number **G1424**
Storage Temperature -20 °C

CAS RN 67076-74-8
Synonyms: Antibiotic SF 1902A1



Product Description

Molecular formula: C₃₂ H₅₇ N₅ O₉
Molecular weight: 655.82

Globomycin is a cyclic peptide antibiotic, which inhibits the growth of enteric Gram-negative bacteria through cell wall synthesis inhibition. It is inactive against Gram-positive bacteria or fungi even at a concentration of 100 µg/mL.^{1,2} Globomycin was found to inhibit LspA, a lipoprotein signal peptidase. It eliminates the maturation of pro-lipoproteins by inhibition of the enzyme that converts pro-lipoprotein to lipoprotein, acting as a substrate analog of the signal sequence in the outer membrane of Gram-negative bacteria.^{2,3} The inhibition results in the accumulation of prolipoprotein.⁴ Globomycin was found to affect lipoprotein processing in *Wolbachia* in a dose dependent manner. It was also found to have an adverse effect on the motility and viability of adult male and female *B. malay* nematodes *in vitro*,⁴ and to inhibit the synthesis of cytoplasmic and envelop proteins.¹ Globomycin inhibits the processing of Metal ion acquisition A (MtsA) that acts as a divalent metal ion uptake system. The solute-binding protein of this system is a lipoprotein and its processing could be inhibited by Globomycin.³

Purity: ≥98% by HPLC

Reconstitution instructions

Water insoluble. Soluble in DMSO (10 mg/mL), methanol, ethanol and ethyl acetate (5 mg/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.

Storage/Stability

Store the product sealed at -20 °C. Under these conditions the product is stable for at least 4 years. Solution of product in DMSO is stable for at least 3 months when kept at -20 °C

References

1. Inukai, M., et al., Mechanism of action of Globomycin. *J. Antibiot.*, **31**, 1203-1205 (1978).
2. Inukai, M., et al., Globomycin, a new peptide antibiotic with spheroplast-forming activity. II. Isolation and physico-chemical and biological characterization. *J. Antibiot.*, **31**, 421-425 (1978).
3. Bray, B.A., et al., Expression of the MtsA lipoprotein of *Streptococcus agalactiae* A909 is regulated by manganese and iron. *Antonie van Leeuwenhoek*, **95**, 101-109 (2009).
4. Johnston, K.L., et al., Lipoprotein biosynthesis as a target for anti-*Wolbachia* treatment of filarial nematodes. *Parasit. vectors*, **3**, 99 (2010).

DWF,JB,PHC 10/12-1