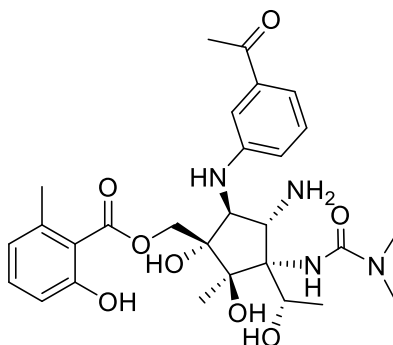


Pactamycin

Code No.: **BIA-P2322**

Pack sizes: **0.1 mg, 0.5 mg**



Synonyms : NSC 52947

Specifications

CAS #	: 23668-11-3
Molecular Formula	: C ₂₈ H ₃₈ N ₄ O ₈
Molecular Weight	: 558.62
Source	: <i>Streptomyces</i> sp.
Appearance	: White solid
Purity	: >95% by HPLC
Long Term Storage	: -20°C
Solubility	: Soluble in methanol or DMSO

Application Notes

Pactamycin (pactacin) is a unique type of highly-substituted aminocyclitol produced by *Streptomyces* sp. which is a potent inhibitor of translation in eukaryotes, bacteria and archaea, active against Gram positive and Gram negative bacteria. Pactamycin was patented by Upjohn Inc. in 1967 as an antiviral. Pactamycin binds to the 30S ribosomal subunit at a site distinct from tetracycline and hygromycin B, promoting structural changes that prevent the tRNA from binding. Pactamycin also exhibits antineoplastic and antimalarial properties. Although its use was limited by toxicity, some semisynthetic analogues are less toxic.

References

1. Pactamycin, a new antitumor antibiotic. I. Discovery and biological properties. Bhuyan B.K. et al. *Antimicrob Agents Chemother.* 1962, 1961, 184.
2. The structural basis for the action of the antibiotics tetracycline, pactamycin, and hygromycin B on the 30S ribosomal subunit. Brodersen D.E. et al. *Cell* 2000, 103, 1143.
3. Pactamycin resistance mutations in functional site of 16 S mRNA. Mankin A.S. *J Mol Biol.* 1997, 274, 8.
4. Controlling viral activity with pactamycin. Smith C.G. 1967, US 3304231 19670214.
5. PD 113,618 and PD 118,309, new pactamycin analogs. Hurley T.R. et al. *J Antibiot.* 1986, 39, 1086.