Bekanamycin

Cat. No.: HY-B1174

CAS No.: 4696-76-8

Molecular Formula: $C_{18}H_{37}N_5O_{10}$

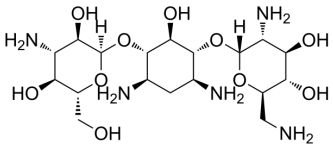
Molecular Weight: 483.51

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (206.82 mM)

DMSO : 1 mg/mL (2.07 mM; ultrasonic and warming and heat to 80°C)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.0682 mL	10.3410 mL	20.6821 mL
5 mM	0.4136 mL	2.0682 mL	4.1364 mL
10 mM	0.2068 mL	1.0341 mL	2.0682 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 25 mg/mL (51.71 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Bekanamycin (Kanamycin B) is an aminoglycoside antibiotic produced by Streptomyces kanamyceticus, against an array of Gram-positive and Gram-negative bacterial strain[1][2].

IC_{50} & Target

Aminoglycoside

In Vitro

Bekanamycin (Kanamycin B) is a precursor for semisynthetic antibiotics such as Arbekacin and Dibekacin and is generally extracted from the broth of S. kanamyceticus[2].

Bekanamycin (Kanamycin B) in a concentration-dependent fashion reduces reversibly the quantal content of the end-plate potentials while it has no observable effect on the configuration of the extracellularly recorded presynaptic action potential. The reduction in evoked transmitter release produced by Bekanamycin could be antagonized either by increasing the

external calcium concentration or by drugs like the aminopyridines which are to greatly enhance transmitter release from motor nerve terminals. Bekanamycin exerts potent inhibitory effects on transmitter release probably by interfering with the influx of calcium that occurs during depolarization of motor nerve terminals[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Gao W, et al. Modulation of kanamycin B and kanamycin A biosynthesis in Streptomyces kanamyceticus viametabolic engineering. PLoS One. 2017 Jul 28;12(7):e0181971.

[2]. Uchiyama T, et al. Presynaptic effects of bekanamycin at the frog neuromuscular junction. Reversibility by calcium and aminopyridines. Eur J Pharmacol. 1981 Jul 10;72(4):271-80.

[3]. Fosso MY, et al. Synthesis and Bioactivities of Kanamycin B-Derived Cationic Amphiphiles. J Med Chem. 2015 Dec 10;58(23):9124-32.

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