

PRODUCT INFORMATION



Amikacin

Item No. 15405

CAS Registry No.: 37517-28-5
Formal Name: O-3-amino-3-deoxy- α -D-glucopyranosyl-(1 \rightarrow 6)-O-[6-amino-6-deoxy- α -D-glucopyranosyl-(1 \rightarrow 4)]-N¹-[(2S)-4-amino-2-hydroxy-1-oxobutyl]-2-deoxy-D-streptomine

Synonyms: Antibiotic BB-K 8, BAY 41-6551, BB-K 8, Lukadin, Potentox

MF: C₂₂H₄₃N₅O₁₃

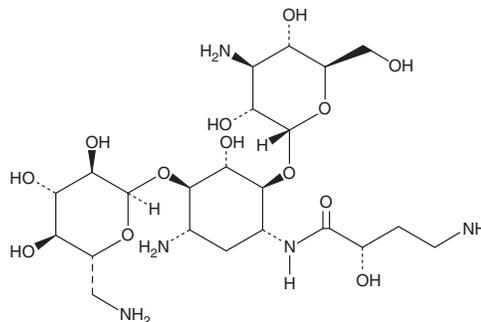
FW: 585.6

Purity: \geq 98%

Supplied as: A crystalline solid

Storage: -20°C

Stability: \geq 4 years



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

Laboratory Procedures

Amikacin is supplied as a crystalline solid. Aqueous solutions of amikacin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of amikacin in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Amikacin is an aminoglycoside antibiotic derived from kanamycin A. Like other aminoglycosides, amikacin binds to bacterial ribosomes and disrupts translation.¹ However, the specific binding sites differ between different aminoglycoside antibiotics, as do the mechanisms of resistance.¹⁻⁴ Amikacin is effective against Gram-negative and Gram-positive bacteria.²

References

1. Le Goffic, F., Capmau, M.L., Tangy, F., *et al.* Have deoxystreptomine aminoglycoside antibiotics the same binding site on bacterial ribosomes? *J. Antibiot. (Tokyo)* **33(8)**, 895-899 (1980).
2. Price, K.E., Purisano, T.A., DeFuria, M.D., *et al.* Activity of BB-K8 (amikacin) against clinical isolates resistant to one or more aminoglycoside antibiotics. *Antimicrob. Agents Chemother.* **5(2)**, 143-152 (2014).
3. Georghiou, S.B., Magana, M., Garfein, R.S., *et al.* Evaluation of genetic mutations associated with *Mycobacterium tuberculosis* resistance to amikacin, kanamycin and capreomycin: A systematic review. *PLoS One* **7(3)**, e33275 (2012).
4. Davis, M.A., Baker, K.N.K., Orfe, L.H., *et al.* Discovery of a gene conferring multiple-aminoglycoside resistance in *Escherichia coli*. *Antimicrob. Agents Chemother.* **54(6)**, 2666-2669 (2010).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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