



Amikacin Sulfate

Aminoglycoside, Inhibitor of protein synthesis.

A potent, broad-spectrum aminoglycoside antibiotic that is commonly utilized in microbiology is amikacin sulfate powder. It is useful for cultivating and isolating bacteria.

Amikacin is highly effective against a wide range of bacteria, including both Gram-positive and Gram-negative species (such Staphylococcus aureus and Pseudomonas, E. coli, and Klebsiella). It also actives against bacteria resistant to penicillin and cephalosporins.

Amikacin is an inhibitor of protein synthesis in bacteria. It does this by binding itself to the bacterial ribosome's 30S subunit. An essential component of cells, the ribosome is responsible for synthesis proteins according to the genetic code. Amikacin interferes with the reading of the genetic code by binding to the 30S subunit. Errors in protein synthesis, like premature termination or incorrect amino acid insertion, may result from this. In the end, this prevents bacterial growth and may cause cell death.

Cat. Number	AS-2001
CAS Number	39831-55-5
Additional CAS	149022-22-0
MDL Number	MFCDD00167475
PubChem	310266130
Molecular Weight	781.77 g/mol
Molecular Formula	$C_{22}H_{43}N_5O_{13} \cdot 2H_2SO_4$
Storage Temperature	4°C
Form and Color	White, powder to crystalline powder
Assay (on dry basis)	674 to 786 USP U/mg
pH	2 - 4
Loss on Drying	max. 13.0 %
FT-IR Spectrum	corresponds to reference spectrum
Synonym	O-3-Amino-3-deoxy-a-D-glucopyranosyl-(1→6)-O-[6-amino-6-deoxy-a-D-glucopyranosyl-(1→4)]-N1-[(2S)-4-amino-2-hydroxy-1-oxobutyl]-2-deoxy-D-streptomine sulfate 1-N-[L-(-)-gamma-Amino-a-hydroxybutyryl] kanamycin A sulfate Amiglyde V Amikacin disulfate salt