Neomycin Sulphate Salt
Cell Culture Tested

Product Code: TC031

Product Description:
Molecular Weight: 908.88
Molecular Formula: C_{23}H_{46}N_{6}O_{13}.3H_{2}SO_{4}
CAS No: 1405-10-3

Neomycin sulfate salt is an aminoglycoside antibiotic obtained from *Streptomyces fradiae*. It is a complex of three separate compounds, neomycin A (neamine; inactive), neomycin C and neomycin B (framycetin).

Neomycin irreversibly binds to specific 30S-subunit proteins and 16S rRNA. Neomycin specifically binds to four nucleotides of 16S rRNA and a single amino acid of protein S12. This interferes with decoding site in the vicinity of nucleotide 1400 in 16S rRNA of 30S subunit. This region interacts with the wobble base in the anticodon of tRNA. This leads to interference with the initiation complex, misreading of mRNA so the incorrect amino acids are inserted into the polypeptide leading to non-functional or toxic peptides and the breakup of polysomes into non-functional monosomes. It is a broad spectrum antibiotic active against Gram-positive and Gram-negative organisms.

In cell culture, neomycin sulfate is used as an antimicrobial agent to prevent contamination.

Directions:
For cell culture applications, neomycin sulfate is used at concentration of 50mg/L.

Preparation instructions:
Neomycin sulfate is soluble in water (50mg/ml). Neomycin solution should be sterilized by filtering through a sterile membrane filter with a porosity of 0.22micron or less.

Quality Control:

**Appearance**
White to light yellow powder.

**Solubility**
Clear colorless to faint yellow solution at 5gm in 100ml of water.

**pH of 5% solution in water**
5.00 -7.00

**Specific rotation [alpha]20/D**
+53° to +59°

**Loss on drying**
NMT 8%

**Potency**
NLT 600IU/mg

**Antibiotic Sensitivity**
Passes

**Cell Culture Test**
Passes

Storage and Shelf Life:
Store neomycin sulfate powder at 10-30°C away from bright light.
Neomycin solution remains stable for 5 days at 37°C.
Shelf life is 36 months.
Use before expiry date given on the product label.

Disclaimer:
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