

Gentamicin Sulphate

Cell Culture Tested

Product Code: TC026

Product Description :

Molecular Weight:

C₁: 477.6

C₂: 463.6

C_{1a}: 449.5

Molecular Formula:

C₁: C₂₁H₄₃N₅O₇

C₂: C₂₀H₄₁N₅O₇

C_{1a}: C₁₉H₃₉N₅O₇

CAS number: 1405-41-0

Gentamicin is a broad spectrum bacteriocidal agent of aminoglycoside group and is effective against gram positive bacteria and gram negative bacteria. It is a mixture of the three major components C₁, C_{1a} and C₂.

The ratio of the three components is as follows:

C₁ - 25 - 50%

C₂ - 25 - 55%

C_{1a} - 10 - 35%

Gentamicin 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 incorrect amino acids are inserted into the polypeptide leading to nonfunctional or toxic peptides and the breakup of polysomes into nonfunctional monosomes.

In cell culture, gentamicin sulfate is used as an anti-bacterial agent to prevent contamination.

Directions :

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

Preparation instructions:

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

Quality Control:

Appearance

White to off white powder

Solubility

Clear, faint yellow solution at 5gm in 100ml of water

pH of 5% solution in water

3.50 - 5.50

Specific rotation [alpha]₂₀/D

+107° to +121°

Residue on ignition

NMT 1%

Potency

NLT 590IU/mg

Antibiotic sensitivity

Passes

Cell Culture Test

Passes

Storage and Shelf Life:

Store at gentamicin sulfate powder and solution at 2-8°C.

Gentamicin solution is stable for up to 5 days at 37°C.

Shelf Life is 36 months

Use before expiry date given on the product label.

Disclaimer :

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