

Technical Information

Gentamicin Solution

With 50mg/ml Gentamicin in sterile tissue culture grade water

Product Code: A01005

Application:-

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.

Methodology

Recommended use concentration is 1ml/L. Sensitive cell lines may react differently to this product. Hence it is recommended to determine optimum usage dose empirically for individual cell line.

Quality control

Appearance

Colorless, clear solution.

pH

4.70 -5.30

Osmolality in mOsm/Kg H₂O

80.00 -120.00

Sterility

No bacterial or fungal growth is observed after 14 days of incubation, as per USP specification.

Cultural Response

Gentamicin Potency

No toxicity to cells.

50 - 60mg/ml

Endotoxin Content

NMT 0.5EU/ml

Storage and Shelf Life

Store at -20°C. Repeated freezing and thawing should be avoided. Once thawed, remaining portion can be aseptically dispensed into sterile container and frozen for future use. Solution is stable for 3 days at 37°C and for approximately 2 to 3 weeks at 2 - 8°C.

Shelf life of the product is 24 months.

Use before expiry date given on the product label.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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