

# Gentamicin Solution

With 10mg/ml Gentamicin sulfate in sterile tissue culture grade water

**Product Code: A010**

## Product Description :

Molecular Weight:

C<sub>1</sub> - 477.6

C<sub>2</sub> - 463.6

C<sub>1a</sub> - 449.5

Molecular Formula:

C<sub>1</sub> - C<sub>21</sub>H<sub>43</sub>N<sub>5</sub>O<sub>7</sub>

C<sub>2</sub> - C<sub>20</sub>H<sub>41</sub>N<sub>5</sub>O<sub>7</sub>

C<sub>1a</sub> - C<sub>19</sub>H<sub>39</sub>N<sub>5</sub>O<sub>7</sub>

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 C<sub>1</sub>, C<sub>1a</sub> and C<sub>2</sub>.

The ratio of the three components is as follows:

C<sub>1</sub> - 25 - 50%

C<sub>2</sub> - 25 - 55%

C<sub>1a</sub> - 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.

L-Glutamine is an essential amino acid required by all mammalian and insect cells grown in culture. It functions as an additional source of carbon and energy.

A010 is sterile filtered solution formulated to contain 10mg gentamicin per ml.

## Directions :

Recommended use concentration is 5ml/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

4.00 -5.00

### Osmolality in mOsm/Kg H<sub>2</sub>O

5.00 -35.00

### Sterility

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

### Gentamicin Potency

10 - 12mg/ml

### Cultural Response

No toxicity to cells.

### Endotoxin Content

NMT 0.5EU/ml

## Storage and Shelf Life:

Store at 2 - 8°C.

Shelf life of the product is 24 months.

Use before expiry date given on the product label.

Revision: 1 / 2012

## Disclaimer :

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