

## Product Information

# MilliShot™ Gentamicin Ready Made Solution

0.2 µm Filtered, BioReagent, Suitable for Cell Culture

**G9571**

Storage Temperature 2–8 °C

Concentration: 1 mg/mL

CAS number: 1405-41-0

Molecular Formula:

Gentamicin C1: C<sub>21</sub>H<sub>43</sub>N<sub>5</sub>O<sub>7</sub>

Gentamicin C2: C<sub>20</sub>H<sub>41</sub>N<sub>5</sub>O<sub>7</sub>

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

Molecular Weight (free base):

Gentamicin C<sub>1</sub> = 477.6

Gentamicin C<sub>2</sub> = 463.6

Gentamicin C<sub>1a</sub> = 449.5

## Product Description

The MilliShot™ Gentamicin Ready Made Solution is an aminoglycoside antibiotic derived from the bacterium *Micromonospora purpurea* or *M. echinospora*. It consists of three major components: C1 (< 45%), C1a (< 35%), and C2 (< 30%). Renowned for its potent antibacterial properties, it effectively targets a broad spectrum of gram-negative bacteria, including *Escherichia coli*, *Pseudomonas aeruginosa*, and *Klebsiella pneumoniae*, as well as some gram-positive bacteria like *Staphylococcus aureus*.

Gentamicin works by binding to the 30S ribosomal subunit of bacterial ribosomes, disrupting protein synthesis and leading to the production of nonfunctional proteins, ultimately resulting in bacterial cell death. In laboratory settings, it is commonly used to prevent bacterial contamination in cell cultures, particularly in sensitive eukaryotic cells where contamination can significantly impact experimental outcomes.

Its broad-spectrum activity makes it an ideal choice for maintaining sterile conditions in various cell lines, including primary and transformed cells. The MilliShot™ Gentamicin Solution is also utilized in molecular biology applications for selecting genetically modified cells carrying antibiotic resistance genes. Available in a concentration of 1 mg/mL, it is a ready-to-use solution for various applications, primarily in cell culture and antibacterial research.

When used in mammalian cell culture, Gentamicin is generally applied at concentrations of 50-100 µg/mL to prevent bacterial contamination without adversely affecting cell viability.

MilliShot™ Gentamicin Solution is available in a concentration of 1 mg/mL, providing a ready made solution easy to use for various applications, primarily for cell culture. This solution is sterile filtered in deionized water.

## Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

Store MilliShot™ Gentamicin Ready Made Solution at 2–8 °C. The product is stable for at least 2 years in its supplied form.

## References

1. Kuehn, M. W., & O'Brien, J. A. (2005). "Gentamicin: A review of its use and efficacy." *Journal of Antimicrobial Chemotherapy*, 56(5), 883-889.
2. Gentamicin Product Information, Merck KGaA. Available at: Merck Website.
3. Schaad, N. W., et al. (1988). "Antibiotic susceptibility testing of bacteria." *Journal of Clinical Microbiology*, 26(12), 2462-2465.
4. Lacey, R. W. (1982). "Gentamicin: A review of its pharmacology and clinical efficacy." *Journal of Antimicrobial Chemotherapy*, 10(3), 185-194.

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