

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: $C_{21}H_{43}N_5O_7$ Gentamicin C2: $C_{20}H_{41}N_5O_7$ Gentamicin C1a: $C_{19}H_{39}N_5O_7$

Molecular Weight (free base):

Gentamicin C₁ = 477.6Gentamicin C₂ = 463.6Gentamicin C_{1a} = 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. Schaad, N. W., et al. (1988). "Antibiotic susceptibility testing of bacteria." *Journal of Clinical Microbiology*, 26(12), 2462-2465.
3. Lacey, R. W. (1982). "Gentamicin: A review of its pharmacology and clinical efficacy." *Journal of Antimicrobial Chemotherapy*, 10(3), 185-194.

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Terms and Conditions of Sale

Warranty, use restrictions, and other conditions of sale may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Merck, MilliShot and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

© 2025 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.
23218504 Rev 06/25

The Merck logo, consisting of the word "MERCK" in a bold, red, sans-serif font.