

PRODUCT INFORMATION



G-418 (sulfate)

Item No. 13200

CAS Registry No.: 108321-42-2
Formal Name: O-2-amino-2,7-dideoxy-D-glycero- α -D-glucoheptopyranosyl-(1 \rightarrow 4)-O-[3-deoxy-4-C-methyl-3-(methylamino)- β -L-arabinopyranosyl-(1 \rightarrow 6)]-2-deoxy-D-streptomine, disulfate

MF: C₂₀H₄₀N₄O₁₀ • 2H₂SO₄

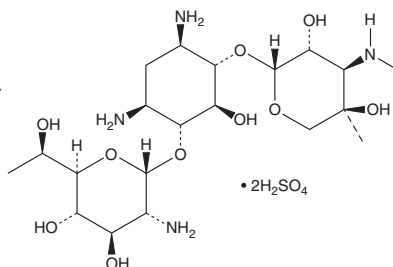
FW: 692.7

Purity: \geq 95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: \geq 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

G-418 (sulfate) is supplied as a crystalline solid. Aqueous solutions of G-418 (sulfate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of G-418 (sulfate) in PBS (pH 7.2) is approximately 100 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

G-418 is an aminoglycoside antibiotic.¹ It is active against *T. thermophila* (IC₅₀ = 10 μ M). It inhibits the 80S ribosome and protein elongation during translation in a cell-free assay when used at a concentration of 2 nM.² G-418 is used in molecular biology as a selective agent in cell lines or plasmids containing the neomycin resistance gene, *neoR*.³ It increases survival in mouse models of *Salmonella*, *P. vulgaris*, *K. pneumoniae*, or *E. coli* when administered at doses ranging from 0.8 to 4 mg/kg.⁴

References

1. Eustice, D.C. and Wilhelm, J.M. Mechanisms of action of aminoglycoside antibiotics in eucaryotic protein synthesis. *Antimicrob. Agents Chemother.* **26(1)**, 53-60 (1984).
2. Bar-Nun, S., Shneyour, Y., and Beckmann, J.S. G-418, an elongation inhibitor of 80 S ribosomes. *Biochim. Biophys. Acta* **741(1)**, 123-127 (1983).
3. Giordano-Santini, R., Milstein, S., Svrzikapa, N., et al. An antibiotic selection marker for nematode transgenesis. *Nat. Methods* **7(9)**, 721-723 (2010).
4. Waitz, J.A., Sabatelli, F., Menzel, F., et al. Biological activity of antibiotic G-418, a new *Micromonospora*-produced aminoglycoside with activity against protozoa and helminths. *Antimicrob. Agents Chemother.* **6(5)**, 579-581 (1974).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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