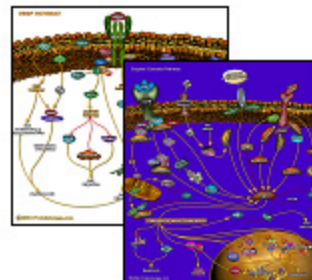


Data Sheet 345810 Rev. 15-March-06 RFH

G 418 Sulfate, Cell Culture Tested Cat. No. 345810



Note that this data sheet is not lot-specific and is representative of the current specifications for this product. Please consult the vial label and the certificate of analysis for information on specific lots. Also note that shipping conditions may differ from storage conditions. Full details are available at www.calbiochem.com.

Size: 250 mg
500 mg
1 g
5 g
25 g

Description: Aminoglycoside antibiotic related to gentamycin that inhibits prokaryotic and eukaryotic protein synthesis, is toxic to bacteria, yeast, protozoans, helminths, higher plant and mammalian cells. Used in molecular genetics as a selective agent for the bacterial *neo^r/kan^r* genes. The product of these genes, aminoglycoside 3'-phosphotransferase, inactivates G418, neomycin, and kanamycin by phosphorylation. Introduction of either of these genes into cells can confer resistance to G418, which enables cells to grow in media containing G418.

Recommended reaction conditions: The optimal concentration of G418 for selection of resistance will vary according to the organism and/or cell type under investigation. In general, the concentration of active drug required for selection is as follows:

Dictyostelium sp.: 10-100 µg/ml

Plant cells: 10-100 µg/ml

Yeast cells: 0.5-1.0 mg/ml

Mammalian cells: 0.1-2.0 mg/ml

A multiplying cell will be affected by the presence of G418 sooner than a resting cell. It will take at least two cell generations to achieve cell death in sensitive cell lines.

Form: White solid.

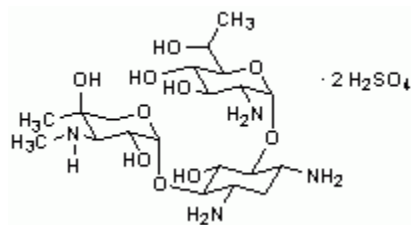
CAS Number 108321-42-2

RTECS: CB9378500

Molecular Weight: 692.7

Molecular Formula: $C_{20}H_{40}N_4O_{10} \cdot 2H_2SO_4$

Structure:



- Purity:** $\geq 98\%$ by TLC
- Biological Activity:** Potency: $\geq 730 \mu\text{g}/\text{mg}$
- Solubility:** Aqueous buffers or H_2O . Typically a stock solution of 10-50 mg/ml active drug is prepared in a highly buffered solution (e.g. 100 mM HEPES, pH 7.3, or cell culture medium).
- Storage:** SHELF (+20°C). Following reconstitution, sterilize by filtration through a 0.22 μm or 0.45 μm pore size filter, aliquot and freeze (-20°C) for long term storage or refrigerate (4°C) for short-term storage. Sterile stock solutions are stable for at least 1 year at 4°C.
- Toxicity:** MSDS available upon request.
- References:** Ethier, S.P., and Taback, E. 1993. *Cancer Lett.* **74**, 189.
 Santerre, R.F., et al. 1991. *Methods Mol. Biol.* **7**, 245.
 Maniatis, T., et al. 1989. In *Molecular Cloning, A Laboratory Manual, Second Edition*, Cold Spring Harbor, NY.
 Edwards, S.A., and Adamson, E.D. 1987. *J. Cell Physiol.* **133**, 46.
 Ernst, J.F., and Chan, R.K. 1985. *J. Bacteriol.* **163**, 8.
 Canaani, D., and Berg, P. 1982. *Proc. Natl. Acad. Sci. USA* **79**, 5166.
 Hirth, K.P., et al. 1982. *Proc. Natl. Acad. Sci. USA* **79**, 7356.
 Ursic, D., et al. 1981. *Biochem. Biophys. Res. Commun.* **101**, 1031.
 Jimenez, A., and Davies, J. 1980. *Nature* **287**, 869.

USA and Canada
 Tel (800) 628-8470
 technical@calbiochem.com

Germany
 Freephone 0800 100 3496
 techservice@merckbiosciences.de

United Kingdom and Ireland
 UK Freephone 0800 622935
 Ireland Toll Free 1800 409445
 techservice@merckbiosciences.co.uk

All Other Countries
Contact Your Local Distributor
 www.calbiochem.com
 technical@calbiochem.com

A Brand of EMD Biosciences, Inc., an Affiliate of Merck KGaA, Darmstadt, Germany
 www.calbiochem.com

FOR RESEARCH USE ONLY. NOT FOR HUMAN OR DIAGNOSTIC USE.