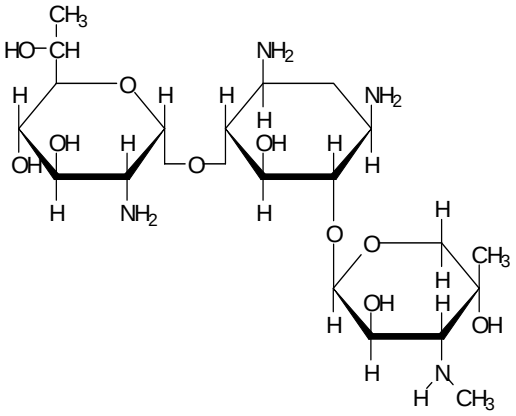
3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

G 418 disulfate salt

Product Codes **G 5013, G 8168, A 1720, G 1279, and A 8601**
Storage Temperature 2-8 °C

CAS# 108321-42-2



Product Description
Molecular weight: 692.7
Molecular formula: $C_{20}H_{40}N_4O_{10} \bullet 2H_2SO_4$
Specific Rotation: +104.4° (c = 0.3% in H_2O at 26 °C)

G 418 is an aminoglycoside antibiotic similar in structure to gentamycin. It exhibits toxicity towards both eukaryotic and prokaryotic cells. The optimal concentration for selection and maintenance must be determined for each cell line. For bacteria and algae, concentrations of 5 µg/ml or less are recommended. Animal cells may require up to 300-500 µg/ml. Typically, resistance is conferred by one of two dominant genes of bacterial origin, which can be expressed in eukaryotic cells. Cells that are multiplying will be affected sooner than those that are not. Cells in log phase may require three to seven days for selection. In general, concentrations of approximately 400 µg/ml for selection and 200 µg/ml for maintenance are required for mammalian cells.

Reagents
Products G 5013, A 1720, G 1279, and A 8601 are sold as powders. G 8168 is a 5% aqueous solution prepared from A 1720.

Products A 1720 and G 8168 are cell culture tested. Product G 1279 is tested for plant cell culture applications. A 8601 is Biotechnology Performance Certified grade.

Preparation Instructions
The G 418 powder is soluble in water at 50 mg/ml.

Storage/Stability
The G 418 powder is stable for three years as supplied when stored at 2-8 °C. The G 418 solution (Product Code G 8168) is stable for two years at 2-8 °C

References
1. Loebenberg, D., et al., G 418, a new micrommomospora-produced aminglycoside with activity apainst protozoa and helminths: antiparasitic activity. Antimicrob. Agents Chemother., **7**, 811 (1975).
2. Ursic, D., et al., A new antibiotic with known resistance factors, G 418, inhibits plant cells. Biochem. Biophys. Res. Commun., **101**, 1031 (1981).
3. Colbere-Garapin, F., et al., A new dominant hybrid selective marker for higher eukaryotic cells. J. Mol. Biol., **150**, 1 (1981).
4. Jimenez, A., and Davies, J., Expression of a transposable antibiotic resistance element in *Saccharomyces*. Nature, **287**, 869 (1980).
5. Hirth, K.P., et al., A DNA-mediated transformation system for *Dictyostelium discoideum*. Proc. Natl. Acad. Sci. USA, **79**, 7356 (1982).

LMY/MAM 7/03