

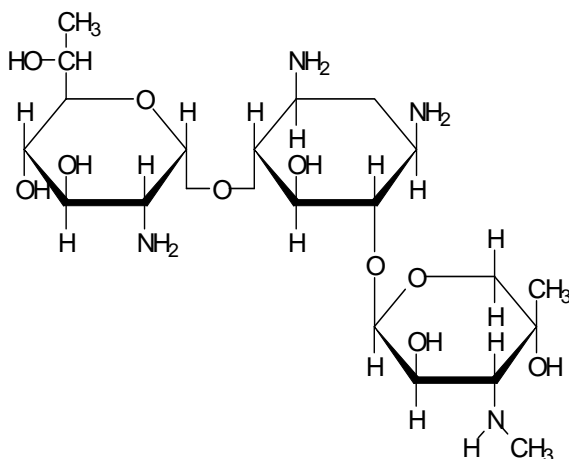
Product Information

ANTIBIOTIC G418

Product Number **A 1720**

CAS#: 108321-42-2

Product Description



Molecular weight: 692.7

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

Antibiotic G418 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 $\mu\text{g/ml}$ or less are recommended. Animal cells may require up to 300-500 $\mu\text{g/ml}$.

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 $\mu\text{g/ml}$ for selection and 200 $\mu\text{g/ml}$ for maintenance are required for mammalian cells.

Preparation Instructions

Sigma tests the solubility in water at 50 mg/ml which yields a clear to very slightly hazy, colorless solution.

Aqueous solutions stored at 2-8 °C should be stable for at least two years.

Storage/Stability

Minimum shelf-life is expected to be three years when stored properly at 2-8 °C.

References

Biological activity: *Antimicrob. Ag. and Chemother.*, **6**, 579 (1974).

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Known resistance factors and inhibition of plant cells: *Biochem. Biophys. Res. Commun.*, **101**, 1031 (1981).
Dominant hybrid selective marker for higher eukaryotic cells: *J. Mol. Biol.*, **150**, 1 (1981).

Expression of a transposable antibiotic resistance element in *Saccharomyces*: *Nature*, **287**, 869 (1980).
DNA-mediated transformation system of *Dictyostelium discoideum*, which leads to G418 resistance: *Proc. Nat. Acad. Sci. (USA)*, **79**, 7356 (1982).

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