biosera

Technical Data Sheet

Date: 11/04/2013

G418 Sulfate
Cat No : PM-A4215

Molecular Formula:	$C_{20}H_{40}N_4O_{10}.2H_2SO_4$
Molecular Weight:	692.7 g/mol
CAS No:	108321-42-2
Synonym:	Geneticin Disulfate
Colour:	White to white with a faint yellow cast powder
Odor:	Odorless powder
Storage conditions:	+2-8°C
Shelf life:	36 months

Solubility and solution stability :
The G 418 Sulfate is soluble in water at 50 mg/ml which yields a clear to very lightly hazy colorless solution.
Aquaous solutions stored frozen at –20°C to –70°C should be stable for approximately 6 months (8 days at 37°C).

Recommended use:
For in vitro laboratory use only, not for drug human or veterinary use. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.
Recommended for use in selection applications at 100-800 µg/ml
Typically a stock solution of 10-50mg/ml active drug is prepared in a highly buffered solution (e.g. 100mM HEPES, pH 7.3, or cell culture medium).

Applications:
For use in the selection and maintenance of eucaryotic cells stably transfected with neomycin resistance genes.
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, 5µg/ml or less are recommended. Animal cells may require up to 300-500µg/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 effected sooner than those that are not. Cells in log phase may require three to seven days for selection. In general, concentrations of approximately 400µg/ml for selection and 200µg/ml for maintenance are required for mammalian cells

Mode of Action:
Blocks polypeptide synthesis and inhibits chain elongation

References :

1. Biological activity: Antimicrob. Ag. and Chemomether., 6, 579 (1974)
2. Antiparasitic activity: Antimicrob. Ag. and Chemomether., 7, 811 (1975)
3. Known resistance factors and inhibition of plant cells: Biochem. Biophys. Res. Commun., 101, 1031 (1981).
4. Dominant hybrid selective marker for higher eukaryotic cells: J. Mol. Biol., 150, 1 (1981).
5. Expression of a transposable antibiotic resistance element in Saccharomyces: Nature, 287, 869 (1980).
6. DNA-mediated transformation system of Dictyostelium discoideum which leads to geneticin resistance: Proc. Nat. Acad. Sci. (USA), 79, 7356 (1982).