

Geneticin Solution (G 418 Sulfate Solution) (50 mg/ml)

Contains 50 mg/mL active Geneticin® antibiotics
in cell/tissue culture grade water

Catalog Number **LS 205-01**

Storage Temperature -5~-20°C

Product Description

Microbial contamination results in the lethal errors in cell and tissue culture. Animal cell divides into two daughter cells in several hours to days, however microbes such as bacteria, fungi, or yeasts are doubled in decades of minutes to hours. Hence, overgrowth of these microbes inhibits the growth, proliferation, and function of animal cells. Microbial components or products can result in the toxic effect to animal cells. Generally, in culture medium, antibiotics are added for inhibition of microbial growth. 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.

LS 205-01 contains 50 mg/mL active Geneticin® antibiotics in cell/tissue culture grade water (**LS 016-01**).

Storage/Stability

Geneticin solution should be stored at -5~-20°C. Deterioration of the liquid may be recognized by (1) precipitate or particulate matter throughout the solution, (2) cloudy appearance, (3) color change, and/or (4) pH change. The nature of supplements added may affect storage conditions and shelf life of the medium. Product label bears expiration date.

Precautions

For *In Vitro* Use Only

Product Profile

Appearance	Clear colorless solution
Endotoxin	≤ 10 EU/ml
Sterility	Sterilized by 0.2 µm filtration system. Sterility tests are performed in accordance with protocols described in USP.

References

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