FT-N13965

G418 sulfate

Selective antibiotic in molecular and cell biology

Product Description

Name: **G418 sulfate**
Geneticin
Catalog #: N13965 5 g
MW: 692.7g/mol
CAS: [108321-42-2] ; $C_{20}H_{40}N_4O_{10}$ x $2H_2SO_4$
Storage: Powder: +15°C to +25°C
Solution: +2°C to +8°C
Shelf life: 2 years

For Research Use Only

Introduction

G418 is an antibiotic which is related to Gentamycin. Its most common use is not as a standard antibiotic but as a selection agent in molecular biology studies. G418 interferes with the function of 80S ribosomes in eukaryotic and prokaryotic cells. G-418 blocks polypeptide synthesis by binding irreversibly to 80S ribosomes and inhibiting the elongation step. It is quite toxic to bacteria, yeast and mammalian cells. G-418 is usually more effective in multiplying cells than in those which are not dividing. A multiplying cell will require 3 to 7 days for death to occur. Resistance to this compound is conferred by one of two dominant bacterial genes, Tn5 or Tn601, which can be expressed in eukaryotic cells.

Applications

- Selection antibiotic
- Neomycin transferase inactivates G-418
- Transfections with the neomycin gene are resistant to G-418
- Transient and stable transfection

Directions for use

Guidelines for use

The optimal concentration of G418 required to select and maintain cells must be determined experimentally for any given set of growth conditions and should be re-established any time those conditions are altered. In general, concentrations of 400 to 1100 mg/ml of G418 have been used for selection of mammalian cells, while concentrations of 200 to 300 mg/ml are used for maintenance.
The G418 solution may easily be diluted to reach any desired final antibiotic concentration.

Recommended final concentration: 100 µg/ml – 1mg/ml

Activity (Powder) > 600 µg/mg
Endotoxin < 10 EU/ml

Technical and Scientific Information

References

- **Alves S.** *et al*., Molecular Analysis of Maltotriose Active Transport and Fermentation by Saccharomyces cerevisiae Reveals a Determinant Role for the AGT1 Permease, *Appl. Envir. Microbiol.*, 74: 1494 - 1501 (2008) Article
- **Faulkner L**. *et al*., An analysis of the role of a retroendocytosis pathway in ABCA1-mediated cholesterol efflux from macrophages, J. Lipid Res., 49: 1322 - 1332 (2008) Article
- **Hershkovitz O.** *et al.*, Altered glycosylation of recombinant NKp30 hampers binding to heparan sulfate: a lesson for the use of recombinant immunoreceptors as an immunological tool, *Glycobiology*, 18: 28 - 41 (2008) Article
- **Levigne S.** *et al*., Role of the {alpha}-Helix 163-170 in Factor Xa Catalytic Activity, *J. Biol. Chem*., 282: 31569 - 31579 (2007) Article

Related / associated products and documents
See BioSciences Innovations catalogue and e-search tool.

- Penicillin, streptomycin solution, IS3510
- Coelenterazine H, R30783

Other Information

For in vitro R&D use only

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