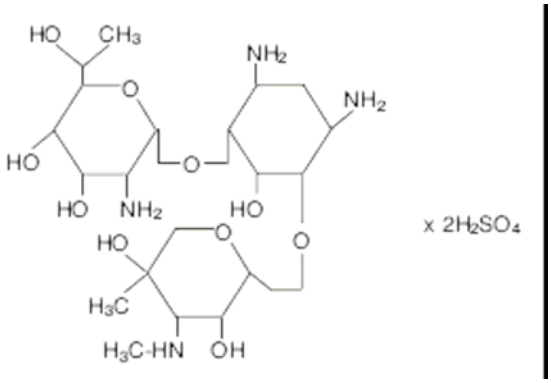
G418 Sulfate

For Research Use Only!

Aminoglycoside used as a selective agent of transfected mammalian, yeast, plant and bacteria cells. Resistance is conferred by the bacterial gene for aminoglycoside-3'-phophotransferase that can be expressed in eukaryotic cells. Related to Gentamycin.

Product Name:G418 Sulfate
Cat.No.:ZB058
Price:EUR400.00/10g
Formula:$C_{20}H_{40}O_{10}N_4.2H_2SO_4$,
M.W. :692.7
CAS:[108321-42-2]
Structure:



Appearance: White Solid
Solubility: Soluble in Water and Aqueous Buffers.
Purity: >700 μg/mg
Storage&Handling: Store in Tightly Sealed Vial. Protect from Light. Protect from Moisture.G418 is a hazardous compound. Avoid contact with eyes, skin and clothes, harmful if swallowed.

G418 Solutions are stable for 3 months if kept at -20°C. Working concentrations are 100 μg-5mg/ml. A concentration of ~400 μg/ml is needed for selection and ~200 μg/ml for maintenance in mammalian cells.

Conditions of Selection

Mammalian cells

The working concentration of G418 Sulfate for selection and maintenance of mammalian cell lines transfected with the *neo* gene varies with a multitude of factors including cell type. In a starting experiment we recommend to determine optimal concentrations of antibiotic required to kill your host cell line by treating the cells with several concentrations ranging from 100 μg/ml

to 1 mg/ml. After treatment, cell death occurs rapidly allowing the selection of transfected cells with plasmids carrying the *neo* gene in as little as 7 days post-transfection. Suggested working conditions for selection in some mammalian cells are listed below:

Cell Line	Specie	Tissue	Culture	G418(ug/ml)
HeLa	Human	Uterus	DMEM	200-800
293	Human	Kidney	DMEM	400-1000
B16	Mouse	Melanoma	RPMI	400-1000
CHO	Hamster	Ovary	Ham's	200-400

METHOD (Selection procedure for mammalian cells)

G418 sulfate is normally used at a concentration of 400 μg/ml. After transfection with a plasmid containing the *neo* gene, cells are incubated in their regular growth medium containing G418 to select for stable transfectants. 1- 48 hours post-transfection, pass cells (direct or diluted) in fresh medium containing G418 at the appropriate concentration.

Note: Antibiotics work best when cells are actively dividing. If the cells become too dense, the antibiotic efficiency will decrease. It is best to split cells such that they are not more than 25% confluent. 2- Remove and replace antibiotic containing medium every 3-4 days. 3- Evaluate cells for the formation of foci after 7 days of selection. Foci may require an additional week or more to develop depending on the host cell line and transfection/selection efficiency. 4- Transfer and pool 5-10 resistant clones to a 35mm cell culture plate and maintain on selection medium for an additional 7 days. This pooled culture will be expanded for subsequent ytotoxicity assays.

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