

G418

Antibiotic for Selection of Transfected Cells

Catalog #03812 250 mg



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FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.

Product Description

Antibiotic G418 is an aminoglycoside related to gentamicin and is toxic to bacteria, yeast, higher plants, mammalian cells, protozoans, and helminths. G418 binds to 80S ribosomes in prokaryotic and eukaryotic cells and inhibits protein synthesis, resulting in cell death. Resistance to the antibiotic is conferred by aminoglycoside-3-phosphotransferase. Vectors containing the G418 resistance gene (neo) are commonly used for transfecting eukaryotic cells, with selection of transfected cells achieved by culturing them in the presence of G418. Cells may exhibit variable resistance to the antibiotic and can take up to a week to die (adherent cells may be more sensitive).

The G418 antibiotic is suitable for use in cell culture for the selection and maintenance of G418-resistant clones when using ClonaCell™-TCS Medium (Catalog #03814), ClonaCell™-CHO CD Medium (Catalog #03815), ClonaCell™-CHO ACF Medium (Catalog #03816), ClonaCell™-CHO CD Liquid Medium (Catalog #03817), or other cell culture media.

Molecule Name: G418

Alternative Names: Geneticin; IUPAC: (2R,3S,4R,5R,6S)-5-Amino-6-[(1R,2S,3S,4R,6S)-4,6-diamino-3-[(2R,3R,4R,5R)-3,5-dihydroxy-5-methyl-4-methylaminooxan-2-yl]oxy-2-hydroxycyclohexyl]oxy- 2-(1-hydroxyethyl)oxane-3,4-diol

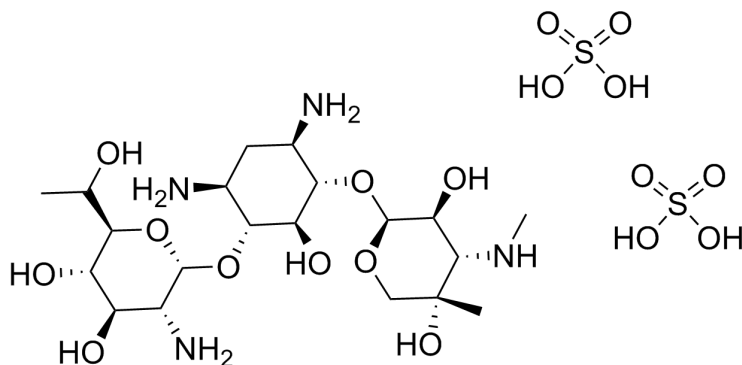
Chemical Name: O-2-Amino-2,7-dideoxy-D-glycero- α -D-gluco-heptopyranosyl-(1 \rightarrow 4)-O-(3-deoxy-4-C-methyl-3-(methylamino)- β -L-arabinopyranosyl- (1 \rightarrow 6))-D-streptamin

CAS Number: 108321-42-2

Chemical Formula: C₂₀H₄₀N₄O₁₀ • 2H₂SO₄

Molecular Weight: 692.71 g/mol

Structure:



Physical Appearance: White to off-white powder.

Storage: Store at 2 - 8°C.

Solubility: Soluble in water and aqueous buffers.

Please refer to the Safety Data Sheet (SDS) for hazard information.

Handling / Directions for Use

NOTE: G418 powder should be stored away from light. Avoid moisture uptake as this can decrease the product's potency.

1. Place G418 at room temperature (15 - 25°C) for 30 minutes before use.
2. Dissolve G418 in 1 mL of distilled water.

NOTE: If not used immediately, aliquot and store at -20°C. Once aliquots are thawed, do not re-freeze. Solutions should be sterilized by filtration, not by autoclaving.

NOTE: The effective concentration of G418 needed to kill cells varies by cell type. Typical concentrations used for mammalian cell selection are 0.2 - 2 mg/mL; the optimal concentration must be determined for each cell type.

For more information, refer to the Technical Manual: Semi-Solid Cloning Testing Guidelines - ClonaCell™-CHO (Document #28096), available on our website at www.stemcell.com or contact us to request a copy.

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