Geneticin™ Selective Antibiotic (G418 Sulfate)

Catalog Numbers 10131035, 10131027, 11811023, 11811031, 11811098

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WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from thermofisher.com/support.

Product description

Geneticin™ Selective Antibiotic (G418 Sulfate) is an aminoglycoside antibiotic, related to Gentamicin, toxic to bacteria, yeast, protozoans and helminthes, and higher plant and mammalian cells. Geneticin™ Selective Antibiotic (G418 Sulfate), also known as G418 Sulfate, is produced by the bacterium *Micromonospora rhodorangea* and acts by binding the ribosome, thus inhibiting protein synthesis in both prokaryotic and eukaryotic cells. Geneticin™ Selective Antibiotic is used as a selective agent in molecular genetics experiments. Resistance to Geneticin™ Selective Antibiotic (G418 Sulfate) is conferred by the neomycin resistance genes, which are dominant and are located on both transposons Tn601 (903) (aminoglycoside phosphotransferase 3'[I] or APH [3']I) and Tn5 (aminoglycoside phosphotransferase 3'[II] or APH [3']II). Liquid Geneticin™ Selective Antibiotic (G418 Sulfate) is supplied as a clear, colorless solution containing 50 mg/mL active Geneticin™ Selective Antibiotic (G418 Sulfate).

Contents and storage

Catalog numbers that appear as links open the web pages for those products.

Contents	Cat. No.	Amount	Storage	Shelf Life[1]
Geneticin™ Selective Antibiotic (G418 Sulfate), liquid	10131-035	20 mL	2°C to 8°C. Protect from light.	24 months
	10131-027	100 mL		
Geneticin™ Selective Antibiotic (G418 Sulfate), powder	11811-023	1 g	15°C to 30°C.	3 years
	11811-031	5 g		
	11811-098	25 g		

[1] Shelf life duration is determined from Date of Manufacture.

Procedural guidelines

- Do not use Geneticin™ Selective Antibiotic (G418 Sulfate) with other antibiotic or antifungal preparations (e.g., Pen/Strep). These agents are competitive inhibitors of G418. Other antibiotics are potentially cross-reactive as well.
- Liquid Geneticin™ Selective Antibiotic (G418 Sulfate) is pre-solublized in cell culture grade water.
- Geneticin™ Selective Antibiotic (G418 Sulfate) powder is soluble in water. Stock solutions should be filter sterilized prior to storage at 2°C to 8°C. See the individual bottle label or lot certificate of analysis for microbiological potency.
- Once reconstituted, stock solutions of Geneticin™ Selective Antibiotic (G418 Sulfate) may be stored at 2°C to 8°C for up to 24 months.
- Geneticin™ Selective Antibiotic (G418 Sulfate) is stable for 8–10 days at 37°C.

Product use

The amount of Geneticin™ Selective Antibiotic (G418 Sulfate) required for selection of resistant cells varies with a number of factors, including cell type.

- For users who have traditionally used Geneticin™ Selective Antibiotic (G418 Sulfate) (liquid or powder) on the basis of microbiological potency, no change in the effective dose range is required when using either liquid or powder. Simply dilute to the proper concentration in culture medium.
- For users who have established the concentrations used for selection and maintenance based on the weight of powdered Geneticin™ Selective Antibiotic (G418 Sulfate), a 20–30% reduction in the amount of Geneticin™ Selective Antibiotic (G418 Sulfate)c needed should be realized when switching to liquid Geneticin™ Selective Antibiotic (G418 Sulfate).
- Good laboratory practice requires that the optimal concentration of biologically-active Geneticin™ Selective Antibiotic (G418 Sulfate) required to select and maintain cells must be determined for each set of growth conditions.

- Geneticin™ Selective Antibiotic (G418 Sulfate) is used in the concentration range of 100–200 µg/mL for bacteria, or 200–500 µg/mL for most mammalian cells. Concentrations of Geneticin™ Selective Antibiotic (G418 Sulfate) required for maintenance of selected cell lines are typically ≤50% that required for selection.
- It is recommended that whenever experimental conditions are altered, the optimal concentration of the product should be re-evaluated.

Related products

Unless otherwise indicated, all materials are available through **thermofisher.com**. "MLS" indicates that the material is available from **fisherscientific.com** or another major laboratory supplier.

Catalog numbers that appear as links open the web pages for those products.

Product	Cat. No.
Hygromycin B (50 mg/mL)	10687010
Distilled Water	15230001
Water For Injection (WFI) for Cell Culture, USP	A1287306

Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale at **www.thermofisher.com/us/en/home/global/terms-and-conditions.html**. If you have any questions, please contact Life Technologies at **www.thermofisher.com/support**.

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