Hygromycin B

Antibiotic for selecting transfected prokaryotic and eukaryotic cells

Catalog #03813 100 mg

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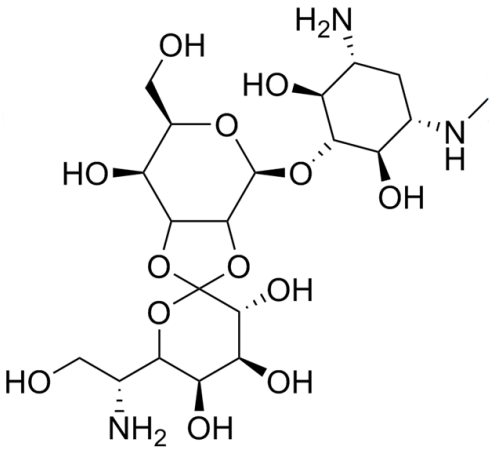
Product Description

Hygromycin B, an aminoglycoside antibiotic, inhibits the growth of prokaryotic and eukaryotic cells. Specifically, it inhibits protein synthesis by interfering with translocation of the 70S ribosome subunit and inducing misreading of the mRNA template. Hygromycin B has been used to select transfectants in a wide variety of cells including bacteria, protozoans, yeast, fungi, plants, and mammalian cells. Resistance to Hygromycin B is conferred by a gene coding for a phosphotransferase that phosphorylates Hygromycin B, thereby inactivating it. Hygromycin B is an effective agent for the selection and maintenance of bacterial and eukaryotic cells stably transfected with vectors containing E. coli Hygromycin B resistance gene (hyg or hph).

This antibiotic is suitable for use in cell culture for the selection of hygromycin-resistant clones when using ClonaCell™-TCS Medium (Catalog #03814), and for the selection of any hygromycin-resistant transfected cell type.

Molecule Name:	Hygromycin B
Alternative Names:	E.C. 250-545-5; Hygromix; (3' R,3aS,4S,4' R,5' R,6R,6' R,7S,7aS)-4-{[(1R,2S,3R,5S,6R)-3-amino-2,6-dihydroxy-5-(methylamino)cyclohexyl]oxy}-6'-[(1S)-1-amino-2-hydroxyethyl]-6-(hydroxymethyl)-tetrahydro-3aH-spiro[[1,3]dioxolo[4,5-c]pyran-2,2'-oxane]-3',4',5',7-tetrol
Chemical Name:	O-6-Amino-6-deoxy-L-glycero-D-galacto-heptopyranosylidene-(1-2-3)-O-β-D-talopyranosyl (1-5)-2-deoxy-N3-methyl-D-streptamine
CAS Number:	31282-04-9
Chemical Formula:	$C_{20}H_{37}N_3O_{13}$
Molecular Weight:	527.52 g/mol
Structure:	



Physical Appearance:	White powder. Brown-colored solution when dissolved.
Storage:	Store at 2 - 8°C.
Solubility:	Soluble in water, ethanol, methanol, and buffer solutions.

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

Handling / Directions for Use

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

   NOTE: If not used immediately, solution may be stored at 2 - 8°C for at least 4 weeks. Alternatively, aliquot and store at -20°C. After thawing the aliquots, do not re-freeze. Sterilize solutions by filtration, not by autoclaving.

   NOTE: The effective concentration of Hygromycin B needed to kill cells varies by cell type. Typical concentrations used for mammalian cell selection are 0.05 - 1 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 at www.stemcell.com or contact us to request a copy.