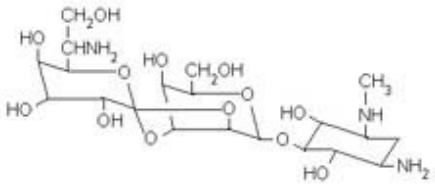
Product Information Sheet



H397
Hygromycin B

Synonyms:	O-6-Amino-6-deoxy-L-glycero-D-galacto-heptopyranosylidene-(1→2-3)-O-β-D-talopyranosyl-(1→5)-2-deoxy-N^3-methyl-D-Streptamine
CAS:	31282-04-9
Formula:	$C_{20}H_{37}N_3O_{13}$
Mol. Weight:	527.5

Properties

Form:	Powder
Appearance:	White to Yellow Powder
Application:	Plant Tissue Culture Selection Agent
Solubility:	Water, Buffer, or Other Aqueous Solution as Required
Storage Temp:	2 to 6 °C
Stock Solution Storage Temp:	2 to 6 °C; Do Not Freeze.
Typical Working Concentration:	20-200 µg/mL for plant cells 200-1000 µg/mL for fungi The optimum concentration for each specific application should be determined experimentally
Other Notes:	Average Activity: 1000 units/mg

Application Notes

Hygromycin B is an aminoglycoside antibiotic derived from *Streptomyces hygroscopicus* that is effective against bacteria, fungi, and higher eukaryotic cells. Unlike other aminoglycoside, hygromycin B is more potent because it contains a hydroxyl function at C-6' position rather than an amino function.[2] It inhibits polypeptide synthesis and translocation of mRNA and tRNAs of the bacteria ribosome.[3,4] It is often used in molecular biology as a selection agent.[5,6]

Please Note: It is the sole responsibility of the purchaser to determine the appropriateness of this product for the specific plants that are being cultured and applications that are being used.

References

1. *Merck* **13**, 4878
2. Marie-Paule Mingeot-Leclercq, Youri Glupczynski, and Paul M. Tulkens. 1999. Aminoglycosides: Activity and Resistance. *Antimicrob Agents Chemother.* Vol 43(4). Pp. 727-737.
3. Borovinskaya, Maria A, Shinichiro Shoji, Kurt Fredrick, and Jamie H.D. Cate. 2008. Structural basis for hygromycin B inhibition of protein biosynthesis. *RNA*. Vol 14. Pp. 1590-1599.
4. Ditlev E. Brodersen, William M. Clemons, Jr., Andrew P. Carter, Robert J. Morgan-Warren, Brian T. Wimberly, and V. Ramakrishnan. 2000. The Structural Basis for the Action of the Antibiotics Tetracycline, Pactamycin, and Hygromycin B on the 30S Ribosomal Subunit. *Cell.* Vol 103. Pp. 1143-1154.
5. Annie Rodolosse, Alain Barbat, Isabelle Chantret, Michel Lacasa, Edith Brot-Laroche, Alain Zweibaum, and Monique Rousset. 1997. Selecting agent hygromycin B alters expression of glucose-regulated genes in transfected Caco-2 cells. *Am J Physiol Gastrointest Liver Physiol.* 274:G931-G938.
6. Cordero Otero R and Gaillardin C. 1996. Efficient selection of hygromycin-B-resistant Yarrowia lipolytica transformants. *Appl Microbiol Biotechnol.* Vol46(2). Pp. 143-148.

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