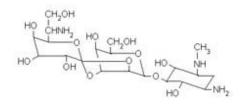


## **PhytoTechnology Laboratories®**

**Product Information Sheet** 



Hygromycin B

Synonyms: O-6-Amino-6-deoxy-L-glycero-D-galacto-heptopyranosylidene-(1→2-3)-O-β-D-talopyranosyl-

 $(1\rightarrow 5)$ -2-deoxy-N<sup>3</sup>-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

Water, Buffer, or Other Aqueous Solution as Required Solubility:

Storage Temp: 2 to 6 °C

Stock Solution

2 to 6 °C; Do Not Freeze.

Storage Temp: Typical Working

20-200 µg/mL for plant cells Concentration: 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.<sup>2</sup> 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
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- 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.
- Cordero Otero R and Gaillardin C. 1996. Efficient selection of hygromycin-B-resistant Yarrowia lipolytica transformants. Appl Microbiol Biotechnol. Vol46(2). Pp. 143-148.

## **India Contact**