



## Product Information Sheet

### H370 Hygromycin B Solution (50 mg/mL in PBS)

Synonym: O-6-Amino-6-deoxy-L-glycero-D-galacto-heptopyranosylidene-(1→2-3)-O-β-D-talopyranosyl-(1→5)-2-deoxy-N<sup>3</sup>-methyl-D-Streptamine

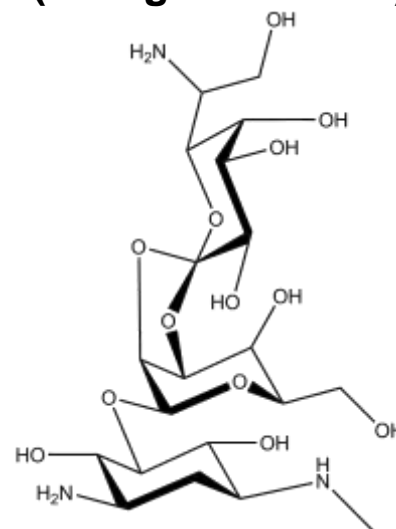
CAS: 31282-04-9

Formula: C<sub>20</sub>H<sub>37</sub>N<sub>3</sub>O<sub>13</sub>

MW: 527.52 g/mol

#### Properties:

Form:	Liquid
Appearance:	Clear, Colorless to Orange
Application:	Plant Tissue Culture Antibiotic
Solubility:	Miscible with water
Typical Working Concentration:	The optimal concentration for each application should be determined experimentally
Storage Temp:	2-8°C
Stock Solution	2-8°C; Do Not Freeze; Loss of activity upon freezing has been reported
Storage Temp:	upon freezing has been reported
Other Notes:	Minimum Activity: 900 U/mg



#### Application Notes:

Hygromycin B is an aminoglycoside antibiotic derived from *Streptomyces hygrosopicus*. Like other aminoglycoside antibiotics it inhibits protein synthesis by binding to bacterial ribosomes (Broderson *et al.* 2000). Hygromycin B is very potent at inhibiting protein synthesis because it contains a hydroxyl function at C-6' position rather than an amino function (Mingeot-Leclercq *et al.* 1999, Poehlsgaard and Douthwaite, 2005).

It is often used in plant tissue culture as a selection agent (Olhoft *et al.* 2003, Shimamoto *et al.* 1989).

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:

- Brodersen DE, Clemons WM, Carter AP, Morgan-Warren RJ, Wimberly BT, 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. 103:1143-1154  
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- Mingeot-Leclercq M, Glupczynski Y, and PM Tulkens (1999). Aminoglycosides: Activity and Resistance. *Antimicrob Agents Chemother*. Vol. 43(4):727-737
- Olhoft PM, Fligel LE, Donovan CM, and DA Somers (2003) Efficient soybean transformation using hygromycin B selection in the cotyledonary-node method. *Planta* Vol. 216(5):723-735
- Poehlsgaard J, and S Douthwaite (2005) The bacterial ribosome as a target for antibiotics. *Nat. Rev. Microbiol.* Vol. 3(11)870-881.
- Shimamoto K, Terada R, Izawa T, and H Fujimoto (1989) Fertile transgenic rice plants regenerated from transformed protoplasts. *Nature* Vol. 338:274-276.

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