



Product Information Sheet

H397

Hygromycin B

Synonym: 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

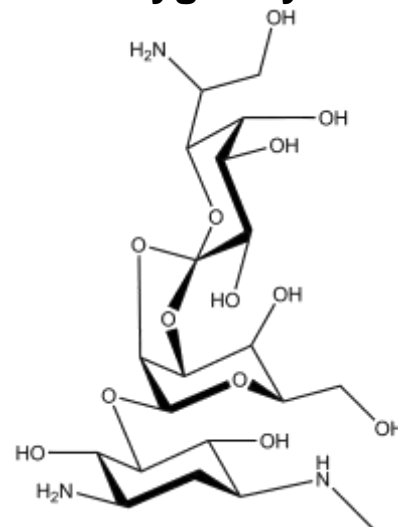
CAS: 31282-04-9

Formula: C₂₀H₃₇N₃O₁₃

MW: 527.52 g/mol

Properties:

Form: Powder
Appearance: White to Tan Powder
Application: Plant Tissue Culture Antibiotic
Solubility: 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 hygroscopicus*. 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:

Broderson 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, Flagel 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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