

Product Information

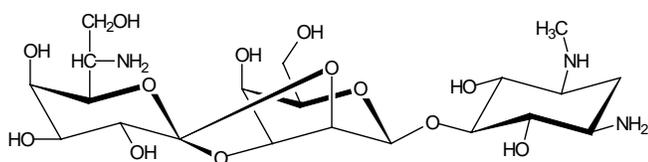
HYGROMYCIN B

from *Streptomyces hygroscopicus*

Product Numbers **H0654, H3274, H5527, H7772 and H9773**

CAS #: 31282-04-09

Product Description



H7772, H3274, H9773: Lyophilized powder
H0654: Aqueous solution 0.2 micron filtered
H5527: Aqueous solution, gamma-irradiated
Molecular formula: $C_{20}H_{37}N_3O_{13}$
Formula weight: 527.54
Melting point: 160-180°C (with decomposition).
 pK_a : 7.1 and 8.8.

Hygromycin B is an antibiotic substance isolated from *Streptomyces hygroscopicus*. Its mode of action is the inhibition of protein synthesis, by inducing the misreading of the mRNA template in the prokaryote (e.g. *E. coli*, at 100 µg/ml), lower eukaryotes (e.g., yeast, at 200 µg/ml) and higher eukaryotes (e.g., mammalian cells in culture). It selectively penetrates cells that have been rendered permeable by virus infection and combined with its ability to inhibit translation, it is an effective antiviral agent.

Hygromycin B has been used in a variety of cell culture applications to select drug-resistant stable transfectants after transfer of the hygromycin phosphotransferase gene.²⁻⁵ Specific references include transformation of *Aspergillus* species,^{6,7} *Agaricus bisporus*,⁸ *Agrobacterium*,⁹ *Histoplasma capsulatum*,¹⁰ and

Penicillium urticae.¹¹ For use as a selection agent, the suggested concentration range is 100-800 µg/ml; specifically, 100 µg/ml for prokaryotes; 200 µg/ml for lower eukaryotes, and 150-400 µg/ml for higher eukaryotes.

For protocols that describe usage of Hygromycin B in units, 1×10^6 units is approximately equal to 900 mg H7772, but each lot should be titered for each application.

Preparation Instructions

Hygromycin B is soluble in water at >50 mg/mL.² It is also soluble in methanol or ethanol. Solutions should be sterilized by filtration, not by autoclaving. Hygromycin B is dissolved in water at 50 mg/mL, then sterile-filtered to produce H 0654, or γ -irradiated to produce H 5527.

Hygromycin B solutions have been reported to lose activity on freezing. Since solutions are stable refrigerated, freezing should be avoided.

Storage/Stability

Hygromycin B products should be stored as supplied at 2-8°C. The dry solid is stable for at least five years if stored at 2-8°C. Hygromycin B solutions (Prod. Nos. H0654 and H5527) are stable as supplied for two years if stored at 2-8°C.

References

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