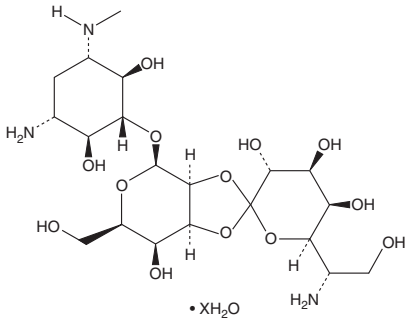
PRODUCT INFORMATION

Hygromycin B (hydrate)

Item No. 14291



Formal Name:	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, hydrate
MF:	$C_{20}H_{37}N_3O_{13} \bullet XH_2O$
FW:	527.5
Purity:	≥85%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Hygromycin B (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the hygromycin B (hydrate) in the solvent of choice, which should be purged with an inert gas. Hygromycin B (hydrate) is soluble in the organic solvent DMSO at a concentration of approximately 3.3 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of hygromycin B (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of hygromycin B (hydrate) in PBS (pH 7.2) is approximately 3.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Hygromycin B is an aminoglycoside antibiotic that has been found in *S. hygroscopicus*.[1,2] It is active against *E. coli* (MIC = 150 µg/ml) and cytotoxic to both prokaryotic and eukaryotic cells *via* inhibition of protein synthesis.[3-5] Hygromycin B has commonly been used in molecular and cell biology applications to select for transformed cells expressing the *E. coli* hygromycin resistance genes *hyg* or *hph*.[3,4]

References

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2. Cabañas, M.J., Vázquez, D., and Modolell, J. Dual interference of hygromycin B with ribosomal translocation and with aminoacyl-tRNA recognition. *Eur. J. Biochem.* **87**, 21-27 (1978).
3. Kaster, K.R., Burgett, S.G., Rao, R.N., *et al.* Analysis of a bacterial hygromycin B resistance gene by transcriptional and translational fusions and by DNA sequencing. *Nucleic Acids Res.* **11(19)**, 6895-6911 (1983).
4. Blochlinger, K. and Diggelmann, H. Hygromycin B phosphotransferase as a selectable marker for DNA transfer experiments with higher eucaryotic cells. *Mol. Cell. Biol.* **4(12)**, 2929-2931 (1984).
5. McGaha, S.M. and Champney, W.S. Hygromycin B inhibition of protein synthesis and ribosome biogenesis in *Escherichia coli*. *Antimicrob. Agents Chemother.* **51(2)**, 591-596 (2006).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM