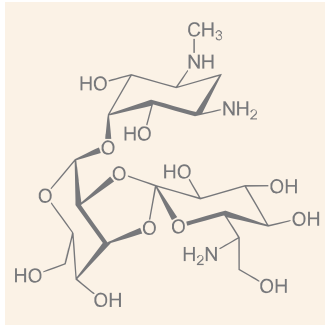


## Hygromycin B

### Molecular structure



### Product Description

Hygromycin B is an aminoglycoside antibiotic used for the selection and maintenance of prokaryotic and eukaryotic cells transformed with hph, the hygromycin B resistance gene. Produced by *Streptomyces hygrosopicus*, this bacteriocidal antibiotic inhibits protein synthesis in bacteria, fungi, and higher eukaryotic cells that do not carry the hph gene.

Inhibition of protein synthesis is due to mistranslation resulting from the disruption of translocation at the 70S ribosome. The gene hph encodes a 39 kDa protein (hygromycin phosphotransferase) that inactivates hygromycin B through phosphorylation and restores protein synthesis.

The appropriate working concentration of hygromycin B for selection will vary with cell type, media, growth conditions, and the cell's metabolic rate and cycle stage. For example, cell sensitivity is dependent on the pH of the medium, such that sensitivity increases directly with pH. Antibiotic potency is also dependent on cell density; a higher dosage may be required to kill susceptible cells in high density cultures. This characteristic may be due to detoxification from limited endogenous phosphotransferase.

To overcome these variables and ensure success, the working concentration should ideally be determined experimentally for each unique culture system, as well as whenever new variables are introduced. The working concentration may be determined by performing a dose response curve.

### Product Specification

**Mode of Action:** Binds to the 30S ribosomal subunit and affects the fidelity of translation

**Spectrum:** Gram (+) bacteria

Gram (-) bacilli aerobes and facultative anaerobes only; higher and lower eukaryotes

**Microbiological Potency:** 50mg/mL in PBS

**Conferred Resistance:** Aminoglycoside-modifying enzymes, a change in cell permeability, or a change in ribosomal structure

**Molecular weight:** 527.54

**Formula:** C<sub>20</sub>H<sub>37</sub>N<sub>10</sub>O<sub>13</sub>

**Appearance:** Amber coloured liquid (light yellow to dark brown)

**Working Concentration:** 50 µg/mL to 1mg/mL

**Storage and Stability:** Refrigerated 2°C to -8°C

Protect from light

DO NOT AUTOCLAVE

## Ordering information

Cat. No.	Description	Unit Size	Qty/Pk
30-240-CR	Hygromycin B solution	20 mL	1

**For Research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.**

## Support

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