Technical Data Sheet

Hygromycin B

for cell biology

Order number: **1358**

Hygromycin B belongs to the aminoglycoside antibiotics and was originally isolated from the bacterium *Streptomyces hygroscopicus*. Hygromycin B is toxic and acts not only against bacteria but also against fungi and higher eukaryotic cells (anthelmintic). Like all aminoglycosides, Hygromycin B inhibits protein synthesis: the antibiotic interacts with 16S rRNA, causing translation inhibition in addition to miscoding.
Hygromycin B is very soluble in water, aqueous solutions, ethanol and methanol.

Application

In biological research, Hygromycin B is mainly used as a selection agent for transformed cells. Hygromycin B resistance is mediated by a plasmid that codes for hygromycin phosphotransferase (hph gene of *E. coli*) in addition to the actual target gene.
The final concentration in the medium varies depending on the organism, cell type and media composition (pH and salt concentration). Therefore, it is generally recommended to first determine the optimal working concentration. As a guideline, use 20-200 µg/mL for prokaryotes and plants, 200-1000 µg/mL for fungi, and 150-400 µg/mL for mammalian cells.
Stock solution: 50-400 mg/mL in water, PBS, HEPES or other buffer solutions.
Working concentration: 20-1000 µg/ml.

Storage and Activity

Store Hygromycin B cool (2 to 8 °C), dry and in a dark place. The solid form thus remains stable for many years. Stock solutions of Hygromycin B (e.g., 50 mg/ml in PBS) will stay active for about 2 years if frozen at -20 °C, or consistently stored at 2 to 8 °C. At 37°C, Hygromycin B in solution is stable for up to 4 weeks.
Caution: Hygromycin B solutions must not be autoclaved!
The activity (or potency) of Hygromycin B for cell biology is min. 1000 U/mg. This corresponds to min. 893 µg/mg.

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