bio-techne
TOCRIS

Print Date: Aug 15th 2025

Certificate of Analysis

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Product Name: **Hygromycin B** **Catalog No.: 4137** **Batch No.: 7**

CAS Number: 31282-04-9 EC Number: 250-545-5

IUPAC 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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{20}H_{37}N_3O_{13}$

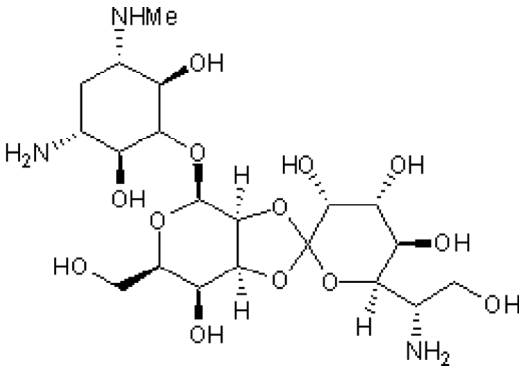
Batch Molecular Weight: 527.52

Physical Appearance: Cream solid

Solubility: water to 50 mg/ml

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 95.4% purity

Potency : 1296 units/mg

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Hygromycin B is an aminoglycoside antibiotic. Active against both prokaryotic and eukaryotic cells. Inhibits protein synthesis by binding to the 30S subunit and inhibiting the ribosomal translocation step of elongation.

Physical and Chemical Properties:

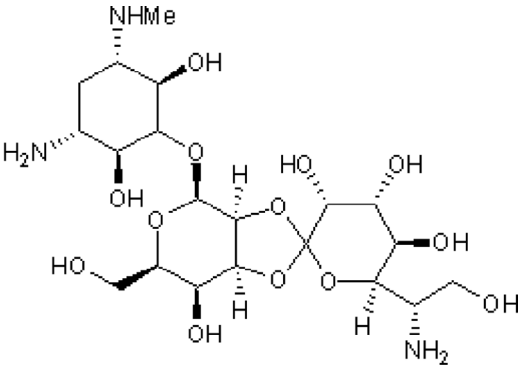
Batch Molecular Formula: $C_{20}H_{37}N_3O_{13}$

Batch Molecular Weight: 527.52

Physical Appearance: Cream solid

Minimum Purity: ≥90%

Batch Molecular Structure:



Storage: Store at +4°C. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

water to 50 mg/ml

Hygromycin B is an antibiotic isolated from *Streptomyces hygroscopicus* and has a potency of >1000µ/mg. Aqueous solutions of Hygromycin B may lose activity if frozen but are stable for at least one month at room temperature.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Ganoza and Kiel (2001) A ribosomal ATPase is a target for hygromycin B inhibition on *Escherichia coli* ribosomes. Antimicrob.Agents Chemother. ***45*** 2813. PMID: 11557474.

Brodersen *et al* (2000) The structural basis for the action of the antibiotics tetracycline, pactamycin, and hygromycin B on the 30S ribosomal subunit. Cell ***103*** 1143. PMID: 11163189.

Blochlinger and Diggelmann (1984) Hygromycin B phosphotransferase as a selectable marker for DNA transfer experiments with higher eukaryotic cells. Mol.Cell.Biol. ***4*** 2929. PMID: 6098829.