

PRODUCT INFORMATION



Hygromycin A

Item No. 35565

CAS Registry No.: 6379-56-2
Formal Name: 5-deoxy-5-[[[(2E)-3-[4-[(6-deoxy-β-D-arabino-hexofuranos-5-ulos-1-yl)oxy]-3-hydroxyphenyl]-2-methyl-1-oxo-2-propen-1-yl]amino]-1,2-O-methylene-D-neo-inositol

Synonyms: (-)-Hygromycin A, Totomycin

MF: C₂₃H₂₉NO₁₂

FW: 511.5

Purity: ≥95%

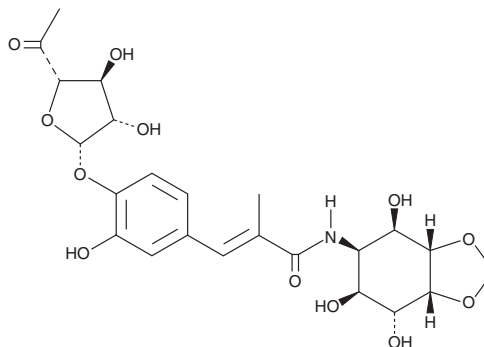
UV/Vis.: λ_{max}: 218, 274 nm

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

Item Origin: Bacterium/*Streptomyces hygro*



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

Laboratory Procedures

Hygromycin A is supplied as a solid. A stock solution may be made by dissolving the hygromycin A in the solvent of choice, which should be purged with an inert gas. Hygromycin A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of hygromycin A in these solvents is approximately 12, 10, and 16 mg/ml, respectively.

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 A can be prepared by directly dissolving the solid in aqueous buffers. The solubility of hygromycin A in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Hygromycin A is an antibiotic originally isolated from *S. hygroscopicus*.¹ It is active against numerous spirochete bacteria, including *T. pallidum*, *L. biflexa*, and four strains of *B. burgdorferi* (MICs = 0.03-4 μg/ml for all). Hygromycin A binds to the peptidyl transferase center (PTC) in the 70S ribosomal subunit to inhibit protein synthesis. It completely eliminates bacterial infection in skin biopsies from *B. burgdorferi*-infected mice in a model of acute Lyme disease when administered at doses ranging from 50 to 250 mg/kg twice per day.

Reference

1. Leimer, N., Wu, X., Imai, Y., et al. A selective antibiotic for Lyme disease. *Cell* **184**(21), 5405-5418.e16 (2021).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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