Product Data Sheet

Chemical Properties

Product Name: Hygromycin B
Cas No.: 31282-04-9
M.Wt: 527.5
Formula: C20H37N3O13
Synonyms: N/A
Chemical Name: (3'R,3aS,4S,4'R,5'R,6R,6'R,7S,7aS)-4-[(1R,2S,3R,5S,6R)-3-amino-2,6-dihydroxy-5-(methylamino)cyclohexyl]oxy-6'][(1S)-1-amino-2-hydroxyethyl]-6-(hydroxymethyl)spiro[4,6,7,7a-tetrahydro-3aH-[1,3]dioxolo[4,5-c]pyran-2,2'-oxane]-3',4',5',7-tetrol
Canonical SMILES: CNC1CC(C(C1O)OC2C3C(C(C(O2)CO)O)OC4(O3)C(C(C(O4)C(CO)N(O)O)O)O)N
Solubility: ≥26.375mg/mL in H2O
Storage: Store at -20°C
General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Microbiology & Virology
Pathways: Antibiotic
Description:

Hygromycin B is a selective antibiotic. Antibiotics are a type of antimicrobial used in the treatment and prevention of bacterial infection. Hygromycin B is an antibiotic that is effective on most bacteria, fungi and higher eukaryotes.
Hygromycin B has a single binding site within the 30S subunit, which is in consistent with its monophasic effect. The binding site is located in the major groove of the helix with a highly sequence-specific way. Hygromycin B inhibits protein synthesis by inhibiting the translocation step of elongation and causing mistranslation of mRNA in the 70S ribosome [1]. Hygromycin B selectively inhibited activity of the ribosomal ATPase (RbbA) on 70S ribosomes and releases RbbA from 70S ribosomes at physiological concentrations. RbbA enhances the reactivity of A889 and G890 of the 16S rRNA switch helix region. Also, Hygromycin B protects G1494 and A1408 in the decoding region.

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.