



Spectral Data - Hygromycin B<sup>®</sup>  
Hygromycin B, EvoPure<sup>®</sup>  
**PRODUCT DATA SHEET**  
issue date 06/24/2018

<b>Product Name:</b>	Hygromycin B, EvoPure <sup>®</sup>
<b>Product Number:</b>	H010
<b>CAS Number:</b>	31282-04-9
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>37</sub> N <sub>3</sub> O <sub>13</sub>
<b>Molecular Weight:</b>	527.52
<b>Form:</b>	Powder
<b>Appearance:</b>	Off-white to tan powder
<b>Solubility:</b>	Water: Freely Soluble
<b>Source:</b>	<i>Streptomyces Hygroscopicus</i>
<b>Water Content (Karl Fisher):</b>	≤15%
<b>Melting Point:</b>	160-180°C
<b>Storage Conditions:</b>	2-8°C

**Description:** Hygromycin B, EvoPure<sup>®</sup> is a high purity (>99.0%) form of hygromycin B. Hygromycin B is a unique aminoglycoside antibiotic derived from *Streptomyces hygroscopicus* and is routinely used as a selective agent in cell culture or microbiology applications to isolate hygromycin B resistant cells after transfection or transformation, respectively.

**Custom Manufacturing and Testing:** TOKU-E Company is able to perform specific tests beyond standard specifications including endotoxin content, arsenic content, cell line testing, spectral analysis, and more. TOKU-E Company has custom manufacturing capabilities and is able to produce custom grade hygromycin B suitable for use in nearly all cell culture applications including use as an ancillary material for upstream pharmaceutical manufacturing. For more information, please [contact us](#).

This product is considered a dangerous good. Quantities above 1 g may be subject to additional shipping fees. Please contact us for specific questions.

For more hygromycin B products, [click here](#).

For more information on hygromycin B, EvoPure<sup>®</sup>, [click here](#).

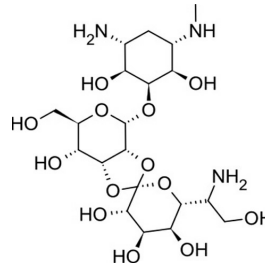
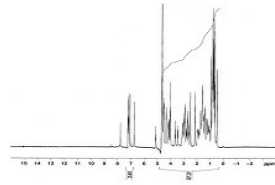
**Mechanism of Action:** Hygromycin B inhibits protein synthesis by strengthening the interaction of tRNA binding in the ribosomal A-site. Hygromycin B also prevents mRNA and tRNA translocation by an unknown mechanism. These are unique mechanisms for an aminoglycoside antibiotic and they differ from the mode of action neomycin, gentamicin, and G418.

**Spectrum:** Hygromycin B is effective against eukaryotic and prokaryotic cells.

**Microbiology Applications** Hygromycin B can be used as a selection agent to isolate hygromycin b resistant bacteria and fungi.

**Technical Data:**

### HNMR Spectra



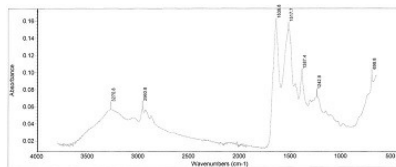
[Click to enlarge](#)

**Solvent:** D2O

**Instrument:** Mercury 300

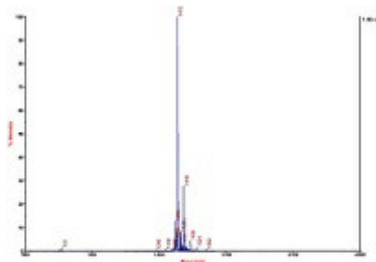
**Frequency:** 300 MHz

### FTIR Spectra



[Click to enlarge](#)

### Mass Spectra



[Click to enlarge](#)

**Polarity/Scan Type:** Positive

**Solvent:** Water

**Solution Concentration:** 10 mg/mL

**References:**

Dai S., Zheng P., Marmey P., Zhang S., Tian W., Chen S., Beachy R.N. and Fauquet C. Comparative analysis of transgenic rice plants obtained by Agrobacterium-mediated transformation and particle bombardment. *Molecular Breeding* 7: 25–33, 2001. © 2001 Kluwer Academic Publishers.

Schindler, D. "Studies on the Mode of Action of Hygromycin B, an Inhibitor of Translocation in Eukaryotes." *Nucleic Acids and Protein Synthesis* 521.2 (1978): 459-69. [www.ncbi.gov](http://www.ncbi.gov). Web. 6 Sept. 2012.

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