

# PRODUCT INFORMATION



## Leptomycin B

Item No. 10004976

**CAS Registry No.:** 87081-35-4  
**Formal Name:** 19-[(2S,3S)-3,6-dihydro-3-methyl-6-oxo-2H-pyran-2-yl]-17-ethyl-6-hydroxy-3,5S,7S,9R,11,15R,hexamethyl-8-oxo-2E,10E,12E,16Z,18E-nonadecapentaenoic acid  
**Synonyms:** Elactocin, LMB, Mantuamycin, NSC 364372

**MF:** C<sub>33</sub>H<sub>48</sub>O<sub>6</sub>

**FW:** 540.7

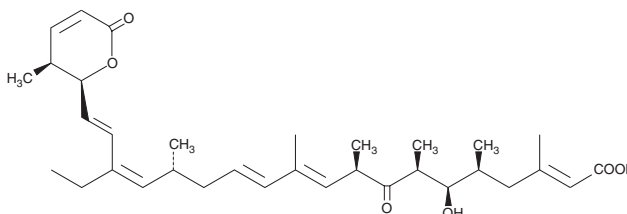
**Purity:** ≥98%

**Supplied as:** A solution in ethanol

**Storage:** -20°C

**Stability:** ≥2 years

**Item Origin:** Bacterium/*Streptomyces* sp.



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

### Laboratory Procedures

Leptomycin B is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as methanol purged with an inert gas can be used. The solubility of leptomycin B in this solvent is approximately 50 mg/ml.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

Leptomycin B is a potent inhibitor of the nuclear export of proteins. It directly blocks the interaction of CRM1 (exportin 1) with nuclear export signals (NES), preventing the export of a broad range of proteins.<sup>1</sup> Leptomycin B will also indirectly inhibit the export of mRNA from the nucleus by blocking the nuclear export of mRNA-binding proteins (export factors).<sup>2</sup> By blocking the nuclear export of p53, leptomycin B prevents entry of human normal fibroblasts into the S phase of the cell cycle, thus inhibiting proliferation.<sup>3</sup> Leptomycin B was originally identified as an antifungal agent and is isolated from *Streptomyces* sp.

### References

1. Kudo, N., Wolff, B., Sekimoto, T., *et al.* *Exp. Cell Res.* **242**, 540-547 (1998).
2. Nishi, K., Yoshida, M., Fujiwara, D., *et al.* *J. Biol. Chem.* **269**(9), 6320-6324 (1994).
3. Smart, P., Lane, E.B., Lane, D.P., *et al.* *Oncogene* **18**, 7378-7386 (1999).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM