Revision 5

Store at -20C

#9676

Leptomycin B

50 µg

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Background

Leptomycin B (LMB), originally discovered and utilized as a potent anti-fungal antibiotic from Streptomyces sp., has more recently been identified to inhibit nuclear export of proteins and RNA containing a Nuclear Export Sequence (NES) (1). The mechanism behind LMB's potent inhibition is achieved by specifically binding to chromosomal region maintenance (CRM)/exportin 1 protein; CRM1 binds to ribonuclear proteins containing the NES (1,2). LMB has also been reported to inhibit the degradation and subsequently lead to accumulation of p53 within the nucleus (3) and has demonstrated specific anti-tumor properties, although toxic, at high doses (1-3).

Molecular Formula

$C_{33}H_{48}O_6$

Molecular Weight

540.73 g/mol

Purity

>98%

CAS

87081-35-4

Solubility

Soluble and stable in ethanol. Leptomycin B is not stable in DMSO; do not dilute in DMSO.

Storage

Store solution at -20ºC. Protect from light. If stored and handled appropriately, it will be stable for 12 months.

Directions for Use

Leptomycin B is supplied as a 200 µM solution in ethanol within a sealed container. Please use a needle and syringe to remove the solution from the vial. All dilutions, except the final dilution, must be performed in ethanol. Final dilutions can be performed in culture media. Working concentrations and length of treatment can vary depending on the desired effect, but 1-20 nM for 3 hours generally inhibits most nuclear export. Soluble and stable in ethanol. Leptomycin B is not stable in DMSO; do not dilute in DMSO.
In order to minimize evaporation, it is recommended that the LMB vial be kept on ice when in use.
Stability Warning: LMB in any quantity is unstable when dried down into a film. Thus, under no circumstances should the solvent be removed from solutions of LMB because rapid decomposition and loss of recoverable material will result.

Background References

1. Jang, B.C. et al. (2003) *J Biol Chem* 278, 2773-6.
2. Mutka, S.C. et al. (2009) *Cancer Res* 69, 510-7.
3. Hietanen, S. et al. (2000) *Proc Natl Acad Sci U S A* 97, 8501-6.

Trademarks and Patents

Limited Uses

commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.