Leptomycin B
Nuclear export inhibitor
Catalog code: inh-lep-5
https://www.invivogen.com/leptomycin-b

For research use only
Version 22L22-MM

PRODUCT INFORMATION

Contents
- 5 x 5 µg of Leptomycin B provided as 930 µL of a 10 µM solution (5.4 µg/ml in ethanol)

Note: This product is packaged under argon gas.

Storage and stability
- Leptomycin B is shipped at room temperature. Upon receipt, store at -20°C.

STABILITY WARNING: Leptomycin B in any quantity is unstable when dried down into a film. Thus, under no circumstances should the solvent be removed from solutions of Leptomycin B, because rapid decomposition and loss of recoverable material will result.

Quality Control:
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

DESCRIPTION

Leptomycin B (LMB), an antifungal antibiotic from Streptomyces species, is a specific inhibitor of nuclear export. Its cellular target is the chromosomal region maintenance 1 protein (CRM1), also known as exportin 1 or Xpo1. Notably, CRM1 is the major receptor for the export of proteins out of the nucleus and is also required for the transport of RNA containing a nuclear export signal (NES). Hence, LMB is a valuable tool for studying nucleocytoplasmic translocation of proteins and ribonucleoprotein complexes. Specifically, LMB blocks nuclear export by binding to CRM1 at Cys528 residing in its NES-binding groove and inhibits the binding of the cargo to CRM1. By inhibiting nuclear export LMB can cause the nuclear accumulation of proteins that shuttle between the cytosol and nucleus such as the DNA sensor cGAS, the serine kinase IRAK-1 and the NOD-like receptor (NLR) family member NLRC5.

Of note, by inducing the nuclear accumulation of cGAS, LMB impairs the production of interferons in response to DNA stimulation. LMB has also been reported to inhibit the degradation and subsequently lead to the accumulation of p53 within the nucleus. Moreover, research has demonstrated that LMB displays anti-tumor properties by inhibiting the proliferation, migration, and invasion of carcinoma cells.

2. Liu G. et al., 2008. Interleukin-1 receptor-associated kinase (IRAK)-1 and the NOD-like receptor (NLR) family member NLRC5.

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<td>H-151</td>
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InvivoGen USA (Toll-Free): 888-457-5873
InvivoGen USA (International): +1 (858) 457-5873
InvivoGen Europe: +33 (0) 5-62-71-69-39
InvivoGen Asia: +852 3622-3480
E-mail: info@invivogen.com

www.invivogen.com