

MG-132

26S proteasome inhibitor & autophagy inducer

Catalog code: tlr1-mg132

<https://www.invivogen.com/mg-132>

For research use only

Version 20C31-MM

PRODUCT INFORMATION

Contents

5 mg MG-132

Storage and stability:

- MG-132 is shipped at room temperature. Upon receipt, store at -20°C. Solid product is stable for 1 year when properly stored.
- Upon resuspension, prepare aliquots of MG-132 and store at -20°C. Resuspended MG-132 is stable for 1 month when properly stored.

Quality control:

- The biological activity has been confirmed using cellular assays.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

DESCRIPTION

MG-132 is a peptide aldehyde (Z-Leu-Leu-Leu-al) that selectively blocks the proteolytic activity of the 26S proteasome. This potent inhibitor is used as a tool for disrupting the proteasome-regulated degradation of intracellular proteins, such as IκB. Inhibition of IκB proteasomal degradation by MG-132 leads to the suppression of NF-κB activation. Furthermore, by blocking proteasomal degradation MG-132 can induce autophagy².

1. Lee DH. & Goldberg AL., 1998. Proteasome inhibitors: valuable new tools for cell biologists. Trends Cell Biol. 8(10):397-403. 2. Ge PF. et al., 2009. Inhibition of autophagy induced by proteasome inhibition increases cell death in human SHG-44 glioma cells. Acta Pharmacol Sin. 30(7):1046-52. 3. Lee AH. et al., 2003. Proteasome inhibitors disrupt the unfolded protein response in myeloma cells. PNAS. 100(17):9946-51. 4. Guzman ML. et al., 2001. Nuclear factor-kappaB is constitutively activated in primitive human acute myelogenous leukemia cells. Blood. 98(8):2301-7.

CHEMICAL PROPERTIES

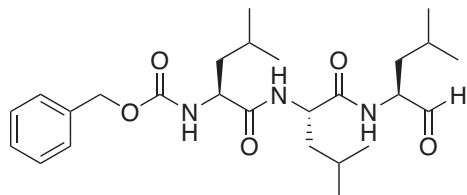
CAS number: 133407-82-6

Formula: C₂₆H₄₁N₃O₅

Molecular weight: 475.62

Solubility: 20 mg/ml in DMSO

Structure:



METHODS

Preparation of stock solution at 20 mg/ml (42 mM)

1. Add 250 µl DMSO to 5 mg MG-132.
2. Vortex until complete solubilization.
3. Prepare aliquots of MG-132 and store at -20°C.
4. Once MG-132 is solubilized, dilute 1 in 100 using sterile culture medium to obtain a solution at 200 µg/ml (420 µM). Do not store dilutions for more than one day.

Note: Dilutions in water may cause the product to precipitate.

Working concentration: 0.2 - 20 µM (95 ng/ml - 9.5 µg/ml)

PROTOCOLS

For reference only; as described in the indicated publications.

Cell Culture Assay²

Cells: Human SHG-44 glioma cells

Working concentration: 6 µM

Incubation time: 48 h

Method: Cell viability assay, transmission electron microscopy

Cell Culture Assay³

Cells: NIH 3T3 or J558 myeloma cells

Working concentration: 0.2 - 20 µM

Incubation time: 1- 4 h

Method: Western Blot and RT-PCR analysis

Cell Culture Assay⁴

Cells: Primary human acute myelogenous leukemia (AML) cells

Working concentration: 1 µM

Incubation time: 6 h

Method: Electrophoretic mobility shift assays (EMSA), Western Blot and RT-PCR analysis

RELATED PRODUCTS

Product	Description	Cat. Code
Everolimus	Autophagy inducer	tlr1-eve
Metformin	Autophagy inducer	tlr1-metf
Rapamycin	Autophagy inducer	tlr1-rap
Z-VAD-FMK	Autophagy inducer	tlr1-vad

TECHNICAL SUPPORT

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