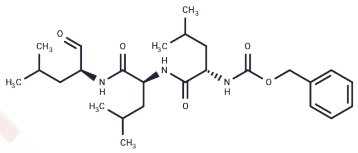
Data Sheet (Cat.No.T2154)

TargetMol

MG-132

Chemical Properties



CAS No. : 133407-82-6

Formula: C26H41N3O5

Molecular Weight: 475.62

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	MG-132 (Z-Leu-Leu-Leu-al) is a 26S proteasome inhibitor (IC50=100 nM) that is cell-permeable and reversible. MG-132 acts as an autophagy activator and also induces apoptosis.
Targets(IC50)	Apoptosis,Proteasome,Autophagy
In vitro	**METHODS**: Human cervical cancer cells HeLa were treated with MG-132 (0.5-30 μM) for 24 h, and cell growth inhibition was detected by MTT. **RESULTS**: MG-132 dose-dependently inhibited HeLa cell growth with an IC50 of approximately 5 μM. [1] **METHODS**: Human mesothelioma cells NCI-H2452 were treated with MG-132 (0.25-2 μM) for 36 h, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: MG-132 treatment induces cleavage of caspases 3 and 7, Bid, and PARP in NCI-H2452 cells. MG-132 induces a caspase-dependent apoptosis. [2] **METHODS**: Human melanoma cells MeWo were treated with MG-132 (0.01-1 μM) for 24 h, and the cell cycle profiles were analyzed by Flow Cytometry. **RESULTS**: MG-132 induces cell cycle arrest at G2 phase in MeWo cells. [3]
In vivo	**METHODS**: To detect anti-tumor activity in vivo, MG-132 (1 mg/kg) was injected intravenously into C.B-17/lcr-scid/scidJcl mice harboring the human cervical cancer tumors HeLa, CaSki, or C33A twice a week for 4 weeks. **RESULTS**: MG-132 significantly inhibited the growth of human cervical cancer tumors, indicating antitumor activity in vivo. [4] **METHODS**: To investigate the effects of long-term treatment with MG-132 on cardiac hypertrophy and its associated molecular mechanisms, MG-132 (0.1 mg/kg) was injected intraperitoneally into rats with an abdominal aortic band (AAB) once daily for 8 weeks. **RESULTS**: MG-132 treatment significantly attenuated left ventricular myocyte area, left ventricular weight/body weight, and lung weight/body weight ratios, decreased left ventricular diastolic diameter and wall thickness, and increased the shortening fraction in AAB rats. MG-132 treatment significantly reversed the elevated levels of ERK1/2 and JNK1 phosphorylation in AAB rats. [5]

Solubility Information

Solubility	H2O: Insoluble, Ethanol: 47.5 mg/mL (99.87 mM),Sonication is recommended. DMSO: 240 mg/mL (504.6 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 9 mg/mL (18.92 mM),Suspension. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1025 mL	10.5126 mL	21.0252 mL
5 mM	0.4205 mL	2.1025 mL	4.205 mL
10 mM	0.2103 mL	1.0513 mL	2.1025 mL
50 mM	0.0421 mL	0.2103 mL	0.4205 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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