Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

MG-132

Catalog No: tcsc0471

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
133407-82-6

Formula:
$C_{26}H_{41}N_3O_5$

Pathway:
Metabolic Enzyme/Protease;Autophagy

Target:
Proteasome;Autophagy

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 160 mg/mL (336.40 mM)

Observed Molecular Weight:
475.62

Product Description

MG-132 is a potent, non-specific **20S proteasome** inhibitor, with **IC_{50}** of 24.2 nM for the β5 **chymotrypsin**-like active site.

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IC50 & Target: IC50: 24.2 nM (chymotrypsin-like activity)[1]

In Vitro: Dose-dependent inhibition of cell growth is observed in HeLa cells with an IC_{50} of approximately 5 μM MG132 for 24 h. MG132 inhibits the growth of HeLa cells via inducing the cell cycle arrest as well as triggering apoptosis[2]. MG-132 inhibits C6 glioma cell proliferation in a time- and dose-dependent manner (the IC_{50} value at 24 h is 18.5 μM). MG-132 (18.5 μM) suppresses the proteasome activity by about 70% at 3 h. MG-132 induces apoptosis via down-regulation of antiapoptotic proteins Bcl-2 and XIAP, up-regulation of pro-apoptotic protein Bax and caspase-3, and production of cleaved C-terminal 85 kDa PARP. MG-132 also causes a more than 5-fold increase of reactive oxygen species[3]. The IC_{50} of MG-132 against HeLa, CaSki, and C33A cervical cancer cells viability after 48 h of incubation is 2.1, 3.2, and 5.2 μM, respectively[4].

In Vivo: The in vivo antitumor activity of MG-132 against cervical cancer is examined using s.c. xenograft models. MG-132 is injected at 1 mg/kg using the following schedule: days 1, 4, 8, 12, 15 18, 23, and 26 for mice bearing HeLa tumors. The growth inhibition rates of MG132 compared to control is 49%[4]. MG-132 (i.p., 0.1 mg/kg/day) attenuates pressure-overload-induced cardiac hypertrophy and improves cardiac function in abdominal aortic banding (AAB) rats through regulation of ERK1/2 and JNK1 signaling pathways[5].