(R)-MG-132

Cat. No.: HY-13259C

CAS No.: 1211877-36-9

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

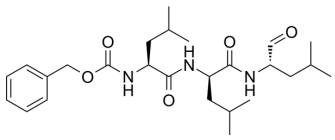
Molecular Weight: 475.62

Target: Proteasome

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (210.25 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1025 mL	10.5126 mL	21.0252 mL
	5 mM	0.4205 mL	2.1025 mL	4.2050 mL
	10 mM	0.2103 mL	1.0513 mL	2.1025 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (5.26 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.26 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.83 mg/mL (1.75 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(R)-MG-132 ((S,R,S)-(-)-MG-132) is the enantiomer of MG-132. (R)-MG-132 is a proteasome inhibitor with weaker cell cytotoxicity than MG-132[1].

IC_{50} & Target

Proteasome[1]

In Vitro

(R)-MG-132, the stereoisomer of MG-132, is studied as a potential inhibitor of chymotrypsin-like, trypsin-like, and peptidylglutamyl peptide hydrolyzing activities of proteasome[1].
MG-132 and (R)-MG-132 are investigated for inhibition of ChTL, trypsin-like (TL) and peptidylglutamyl peptide hydrolyzing

(PGPH) activities of purified 20S proteasomes isolated from human erythrocytes. For MG-132, the IC_{50}s of 0.89 μM, 104.43 μM, and 5.7 μM for ChTL, TL, and PGPH, respectively. For (R)-MG-132, the IC_{50}s of 0.22 μM, 34.4 μM, and 2.95 μM for ChTL, TL, and PGPH, respectively[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Struct Mol Biol. 2020 Oct;27(10):875-885.
- Oxid Med Cell Longev. 2022 Sep 15;2022:2198923.
- Cell, Molecular & Developmental Biology. 2020 Oct.

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REFERENCES

[1]. Mroczkiewicz M, et al. Studies of the synthesis of all stereoisomers of MG-132 proteasome inhibitors in the tumor targeting approach. J Med Chem. 2010 Feb 25;53(4):1509-18.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA