# (R)-MG-132

**Cat. No.:** HY-13259C

**CAS No.:** 1211877-36-9

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

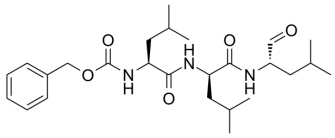
**Molecular Weight:** 475.62

**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. (R)-MG-132 stereoisomer is a more potent proteasome inhibitor 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.
- 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.



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