

**Product Name:** MG 132

**Catalog No.:** 1748

**Batch No.:** 7

**CAS Number:** 133407-82-6

**IUPAC Name:** *N*-[(Phenylmethoxy)carbonyl]-L-leucyl-*N*-[(1*S*)-1-formyl-3-methylbutyl]-L-leucinamide

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>26</sub>H<sub>41</sub>N<sub>3</sub>O<sub>5</sub>·¼H<sub>2</sub>O

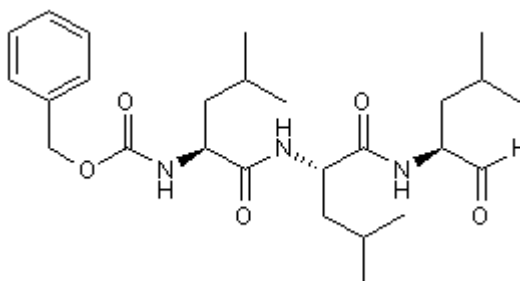
**Batch Molecular Weight:** 480.13

**Physical Appearance:** White solid

**Solubility:** ethanol to 100 mM  
DMSO to 100 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows >95% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Optical Rotation:** [α]<sub>D</sub> = -56.8 (Concentration = 1, Solvent = Chloroform)

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	65.04	8.71	8.75
Found	64.98	8.65	8.85

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**Description:**

Potent cell-permeable inhibitor of proteasome ( $IC_{50} = 100$  nM) and calpain ( $IC_{50} = 1.2$   $\mu$ M). Inhibits TNF- $\alpha$ -induced NF- $\kappa$ B activation and I $\kappa$ B $\alpha$  degradation. Induces neurite outgrowth in PC12 cells and has anticancer properties *in vitro*.

**Physical and Chemical Properties:**

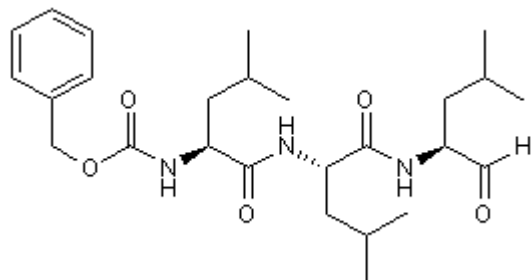
Batch Molecular Formula:  $C_{26}H_{41}N_3O_5 \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 480.13

Physical Appearance: White solid

**Minimum Purity:** >95%

**Batch Molecular Structure:**



**Storage:** Store at -20°C

**Solubility & Usage Info:**

ethanol to 100 mM

DMSO to 100 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Palombella et al** (1994) The ubiquitin-proteasome pathway is required for processing the NF- $\kappa$ B1 precursor protein and the activation of NF- $\kappa$ B. *Cell* **78** 773. PMID: 8087845.

**Tsubuki et al** (1996) Differential inhibition of calpain and proteasome activities by peptidyl aldehydes of di-Leucine and tri-Leucine. *J.Biochem.* **119** 572. PMID: 8830056.

**Banerjee and Liefshitz** (2001) Potential of the proteasome inhibitor MG-132 as an anticancer agent, alone and in combination. *Anticancer Res.* **21** 3941. PMID: 11911275.

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