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## **DATASHEET**

MG132

#### **Product overview**

 Name
 MG132

 Cat No
 HB4135

Alternative names Z-LLL-al, Z-Leu-Leu-CHO

**Biological action** Inhibitor Purity >95%

**Description** Potent, cell-permeable proteasome inhibitor. Calpain inhibitor. Apoptosis inducer.

### **Biological Data**

**Biological description** 

MG-132 is a potent, cell-permeable proteasome inhibitor ( $IC_{50} = 100 \text{ nM}$ ) which blocks the proteolytic activity of the 26S proteasome complex. It induces cell cycle arrest and triggers apoptosis to inhibit cell growth.

Shows anti-cancer activity in vivo and is also calpain inhibitor.

This is the (S),(S),(S)- stereoisomer.

# **Solubility & Handling**

Solubility overview Storage instructions Storage of solutions

**Shipping Conditions** 

**Important** 

Soluble in DMSO (100mM) and in ethanol (100mM)

-20°C (desiccate)

Prepare and use solutions on the same day if possible. Store solutions at -20 °C for up to one month if

storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.

Stable for ambient temperature shipping. Follow storage instructions on receipt.

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not

for human or veterinary use.

#### **Chemical Data**

Chemical name Molecular Weight Chemical structure  $\label{eq:n-constraint} N-[(Phenylmethoxy)carbonyl]-L-leucyl-N-[(1S)-1-formyl-3-methylbutyl]-L-leucinamide 475.62$ 

 $\begin{array}{lll} \textbf{SMILES} & & & & & & & & & & & & \\ \textbf{CC(C)C[C@@H](C=O)NC(=O)[C@H](CC(C)C)NC(=O)[C@H](CC(C)C)NC(=O)OCC1=CC=CC=C1} \\ \textbf{Source} & & & & & & & & & \\ \textbf{Synthetic} & & & & & & & \\ \end{array}$ 

Synthe

InChi InChi=1S/C26H41N3O5/c1-17(2)12-21(15-30)27-24(31)22(13-18(3)4)28-25(32)23(14-19(5)6)29-26(33)34-16-20-10-8-7-9-11-20/h7-11,15,17-19,21-23H,12-14,16H2,1-6H3,(H,27,31)(H,28,32)(H,29,33)

/t21-,22-,23-/m0/s1

InChiKey TZYWCYJVHRLUCT-VABKMULXSA-N

Chemical name MDL number Appearance

 $N-[(Phenylmethoxy) carbonyl]-L-leucyl-N-[(1S)-1-formyl-3-methylbutyl]-L-leucinamide \\ MFCD00674886$ 

MFCD006748 White solid

### References

The effect of MG132, a proteasome inhibitor on HeLa cells in relation to cell growth, reactive oxygen species and GSH.

Han et al (2009) Oncol Rep 22(1)

**PubMedID** 19513526

Potential of the proteasomal inhibitor MG-132 as an anticancer agent, alone and in combination.

Banerjeet and Liefshitz (2001) Anticancer Res 3941-7

PubMedID 11911275

Differential inhibition of calpain and proteasome activities by peptidyl aldehydes of di-leucine and tri-leucine.

Tsubuki et al (1996) J Biochem 119(3) **PubMedID**8830056