



# MG-132

# Data Sheet

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<b>Catalog Number:</b>	MC11068	<b>Product Type:</b>	Small Molecule
<b>Bio-Activity:</b>	Proteasome inhibitor	<b>CAS #:</b>	133407-82-6
<b>Research Categories:</b>	Ubiquitin/proteasome, cell death, stem cells, cancer, diabetes, inflammation, heart disease	<b>Chemical Name:</b>	N-(Benzoyloxycarbonyl)leucinylleucinylleucinal
<b>Solubility:</b>	Soluble in DMSO (up to 45 mg/ml), in DMF (up to 45 mg/ml), or in Ethanol (up to 45 mg/ml).	<b>Molecular Formula:</b>	C <sub>26</sub> H <sub>41</sub> N <sub>3</sub> O <sub>5</sub>
<b>Purity:</b>	> 98%	<b>Molecular Weight:</b>	475.6
<b>Format:</b>	Powder	<b>Ship Temp:</b>	Ambient
<b>Storage:</b>	-20°C		

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## Application Notes

### Description/Data:

Specific inhibitor of the chymotrypsin-like activity of the 20S proteasome (IC<sub>50</sub>=100 nM with Z-LLL-AMC as substrate) [1]. Also inhibits calpain (IC<sub>50</sub>=1.25 μM) [1]. Suppresses gastric cancer cell proliferation and induces macro-autophagy [2]. Activates stress kinases and induces Hsp72 [3]. Induces neurite outgrowth [1]. Blocks NFκB activation by blocking IκB proteolysis (IC<sub>50</sub>=3 μM) [4]. Cell permeable.

### References:

- 1) Tsubuki et al. (1996), Differential inhibition of calpain and proteasome activities by peptidyl aldehydes of di-leucine and tri-leucine ; J. Biochem., 119 572
- 2) Wu et al. (2010), Macroautophagy and ERK phosphorylation counteract the antiproliferative effect of proteasome inhibitor in gastric cancer cells; Autophagy, 6 228
- 3) Meriin et al. (1998), Proteasome inhibitors activate stress kinases and induce Hsp72. Diverse effects on apoptosis; J. Biol. Chem., 273 6373
- 4) Fiedler et al. (1998), Inhibition of TNF-alpha-induced NF-κappaB activation and IL-8 release in A549 cells with the proteasome inhibitor MG-132; Am. J. Respir. Cell Mol. Biol., 19 259

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