**PRODUCT INFORMATION**

(R)-MG132  
Item No. 13697

CAS Registry No.: 1211877-36-9  
Formal Name: N-[(phenylmethoxy)carbonyl]-L-leucyl-N-[(1R)-1-formyl-3-methylbutyl]-L-leucinamide  
MF: C26H41N3O5  
FW: 475.6  
Purity: ≥98%  
Supplied as: A crystalline solid  
Storage: -20°C  
Stability: ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

**Laboratory Procedures**

(R)-MG132 is supplied as a crystalline solid. A stock solution may be made by dissolving the (R)-MG132 in the solvent of choice, which should be purged with an inert gas. (R)-MG132 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (R)-MG132 in ethanol is approximately 25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

**Description**

The ubiquitin-proteasome pathway plays an integral role in the selective degradation of intracellular proteins. While important for clearing damaged or misfolded proteins, this proteolytic pathway also regulates the availability of key proteins involved in the control of inflammatory processes, cell cycle regulation, and gene expression.1,2 (R)-MG132 is a potent, reversible, and cell permeable proteasome inhibitor. After treatment for one hour at 100 nM, it inhibits 50% and 31% of proteasome activity in lysates of J558L multiple myeloma cells and EMT6 breast cancer cells, respectively.3 The (R)-MG132 stereoisomer is a more effective inhibitor of chymotrypsin-like (ChTL), trypsin-like (TL), and peptidylglutamyl peptide hydrolyzing proteasome (PGPH) activities compared to (S)-MG132 (IC50s = 0.22 versus 0.89 µM (ChTL); 34.4 versus 104.43 µM (TL); 2.95 versus 5.70 µM (PGPH), respectively).3

**References**