

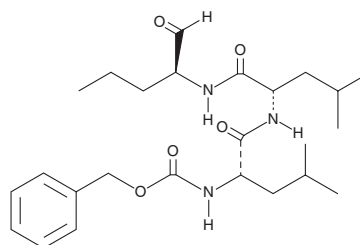
# PRODUCT INFORMATION



## (S)-MG115

Item No. 15413

**CAS Registry No.:** 133407-86-0  
**Formal Name:** N-[(phenylmethoxy)carbonyl]-L-leucyl-  
N-[(1S)-1-formylbutyl]-L-leucinamide  
**MF:** C<sub>25</sub>H<sub>39</sub>N<sub>3</sub>O<sub>5</sub>  
**FW:** 461.6  
**Purity:** ≥95%  
**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

(S)-MG115 is supplied as a crystalline solid. A stock solution may be made by dissolving the (S)-MG115 in the solvent of choice, which should be purged with an inert gas. (S)-MG115 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (S)-MG115 in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

(S)-MG115 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (S)-MG115 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. (S)-MG115 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

(S)-MG115 is a potent and reversible proteasome inhibitor, targeting the chymotryptic site on the 20S particle ( $K_i = 21$  nM).<sup>1</sup> It reduces the degradation of ubiquitin-conjugated proteins in extracts.<sup>1</sup> (S)-MG115 also blocks the degradation of long- and short-lived proteins in intact cells as well as the proteolytic generation of diverse proteins, including NF- $\kappa$ B, antigens, and p53.<sup>1-3</sup> Proteasome inhibitors, including (S)-MG115, can induce a heat shock response and apoptosis, particularly in cancer cells.<sup>3-5</sup>

### References

1. Rock, K.L., Gramm, C., Rothstein, L., *et al.* Inhibitors of the proteasome block the degradation of most cell proteins and the generation of peptides presented on MHC class I molecules. *Cell* **78(5)**, 761-771 (1994).
2. Palombella, V.J., Rando, O.J., Goldberg, A.L., *et al.* The ubiquitin-proteasome pathway is required for processing the NF- $\kappa$ B1 precursor protein and the activation of NF- $\kappa$ B. *Cell* **78(5)**, 773-785 (1994).
3. Lopes, U.G., Erhardt, P., Yao, R., *et al.* p53-dependent induction of apoptosis by proteasome inhibitors. *J. Biol. Chem.* **272(20)**, 12893-12896 (1997).
4. Bush, K.T., Goldberg, A.L., and Nigam, S.K. Proteasome inhibition leads to a heat-shock response, induction of endoplasmic reticulum chaperones, and thermotolerance. *J. Biol. Chem.* **272(14)**, 9086-9092 (1997).
5. Gartel, A.L. A new target for proteasome inhibitors: FoxM1. *Expert Opin. Investig. Drugs* **19(2)**, 235-242 (2010).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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