# PRODUCT INFORMATION

## (S)-MG115

*Item No. 15413*

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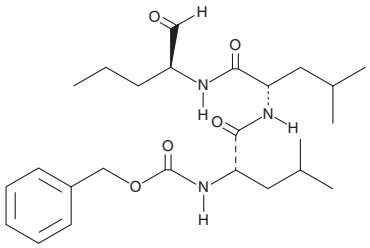
|---|---|
| **CAS Registry No.:** | 133407-86-0 |
| **Formal Name:** | N-[(phenylmethoxy)carbonyl]-L-leucyl-N-[(1S)-1-formylbutyl]-L-leucinamide |
| **MF:** | $C_{25}H_{39}N_3O_5$ |
| **FW:** | 461.6 |
| **Purity:** | ≥95% |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥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).[1] It reduces the degradation of ubiquitin-conjugated proteins in extracts.[1] (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-κB, antigens, and p53.[1-3] Proteasome inhibitors, including (S)-MG115, can induce a heat shock response and apoptosis, particularly in cancer cells.[3-5]

### References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2. Palombella, V.J., Rando, O.J., Goldberg, A.L., *et al.* The ubiquitin-proteasome pathway is required for processing the NF-κB1 precursor protein and the activation of NF-κB. *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).





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