Product Data Sheet

Chemical Properties

Product Name: MG-115
Cas No.: 133407-86-0
M.Wt: 461.59
Formula: C25H39N3O5
Synonyms: Carbobenzoxy-L-leucyl-L-leucyl-L-norvalinal, Z-LL-Nva-CHO, Proteasome Inhibitor XII, MG115

Chemical Name: benzyl
N-[((2S)-4-methyl-1-[[((2S)-4-methyl-1-oxo-1-[[((2S)-1-oxopentan-2-yl]amino]pentan-2-yl]amino]-1-oxopentan-2-yl]carbamate

Canonical SMILES: CCCCC(C=O)NC(=O)C(CC(C)C)NC(=O)C(CC(C)C)NC(=O)OCC1=CC=CC=C1

Solubility: >23.1mg/mL in DMSO
Storage: Store at -20°C
General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Proteasome
Pathways: Ubiquitination/Proteasome >> Proteasome

Description:
MG-115 (Z-Leu-Leu-Nva-H) is a potent, reversible peptide aldehyde inhibitor of proteasome chymotrypsin-like and caspase-like activities. It induces p53 dependent apoptosis. Blockade of
proteasomal degradation by MG115 can activate autophagy.

Treatment with proteasome inhibitors Z-Leu-Leu-Nva-H (MG-115) or Z-Leu-Leu-Leu-H (MG-132) prevented the accelerated degradation of these mutant receptors, resulting in increased amounts of the mutant receptors in the COS-7 cells [1].

A potent, reversible proteasome inhibitor with Ki of 21 nM for 20S proteasome and 35 nM for 26S proteasome. The inhibition of proteasome was through specific inhibition of chymotrypsin-like activity of the proteasome. Also shown to induce apoptosis in Rat-1 and PC12 cells via a p3-independent pathway.

Reference:

Protocol

Cell experiment:

Cell lines Transfected COS-7 cells expressing mutant or wild-type insulin receptors

Preparation method Soluble in DMSO. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions 50 μM; 2 hrs

Applications In the Leu1193 and Asp1179 mutant cell lines, MG-115 increased the intensities of the bands of the insulin proreceptors and the mature β-subunits to 3- and 4.2-fold, respectively. However, in the wild-type cell lines, there was no change in the intensities of these bands. The results suggested that both Leu1193 and Asp1179 mutant insulin proreceptors were degraded by the proteasome in the cytosol.

Reference:

Product Validation
Treatment of MG115 increases cell viability

Treatment of MG115 affects cell growth

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.