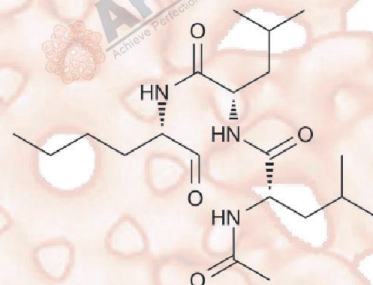


Product Data Sheet

Calpain Inhibitor I, ALLN

| | |
|------------------|---|
| Cat. No.: | A2602 |
| CAS No.: | 110044-82-1 |
| Formula: | C ₂₀ H ₃₇ N ₃ O ₄ |
| M.Wt: | 383.54 |
| Synonyms: | Ac-LLnL-CHO, MG-101, MG101, N-Acetyl-L-leucyl-L-leucyl-L-norleucin al, N-Acetyl-Leu-Leu-Nle-al, Calpain Inhibitor I |
| Target: | Proteases |
| Pathway: | Calpains |
| Storage: | Store at -20°C |



Solvent & Solubility

insoluble in H₂O; ≥14.03 mg/mL in EtOH; ≥19.1 mg/mL in DMSO

In Vitro

| Preparing Stock Solutions | Mass | | | |
|---------------------------|---------|-----------|------------|------------|
| | Solvent | 1mg | 5mg | 10mg |
| Concentration | 1 mM | 2.6073 mL | 13.0364 mL | 26.0729 mL |
| | 5 mM | 0.5215 mL | 2.6073 mL | 5.2146 mL |
| | 10 mM | 0.2607 mL | 1.3036 mL | 2.6073 mL |

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

Calpain I/II/ B/L inhibitor

IC₅₀ & Target

190 nM(Ki) (calpain I), 220 nM(Ki) (calpain II), 150 nM(Ki) (cathepsin B), 500 nM(Ki) (cathepsin L)

Cell Viability Assay

In Vitro

| | |
|---------------------|--|
| Cell Line: | DLD1-TRAIL/R cells |
| Preparation method: | The solubility of this compound in DMSO is >10 mM. 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: | 0, 10, 20 and 50 µM; 96 hrs |
| Applications: | In DLD1-TRAIL/R cells, Calpain Inhibitor I combined with Ad/gTRAIL induced cell death dramatically while Calpain Inhibitor I or Ad/gTRAIL alone only had minimal killing effects. |
| Animal experiment | |
| Animal models: | Splanchnic artery occlusion (SAO)-shocked rats |
| Dosage form: | 15 mg/kg; i.p. |
| Applications: | Calpain Inhibitor I, given intraperitoneally 30 mins before ischemia at a dose of 15 mg/kg, significantly reduced IκB-α degradation, the intensity of P-selectin/ICAM-1 in the reperfused ileum, neutrophil infiltration as well as malondialdehyde levels. Meanwhile, pretreatment of Calpain Inhibitor I markedly improved mean arterial blood pressure and the histological status of the reperfused tissue. |
| Other notes: | Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal. |

In Vivo

Product Citations

1. Ednie AR, Parrish AR, et al. "Reduced hybrid/complex N-glycosylation disrupts cardiac electrical signaling and calcium handling in a model of dilated cardiomyopathy." J Mol Cell Cardiol. 2019 Jul;132:13-23.PMID:31071333
2. YU HUANG. "STUDY OF REGULATED CELL DEATH IN TWO SYSTEMS: PD-1 IN NATURAL KILLER CELLS AND RIP3 IN NEURONS."The University of Texas. 2018.
3. KoraMagazi A, Wang D, et al. "Rhein triggers apoptosis via induction of endoplasmic reticulum stress, caspase-4 and intracellular calcium in primary human hepatic HL-7702 cells." Biochem Biophys Res Commun. 2016 Apr 22;473(1):230-236.PMID:27003256

See more customer validations on www.apexbt.com.

References

- [1]. Zhu H1, Zhang L, Huang X, Davis JJ, Jacob DA, Teraishi F, Chiao P, Fang B. Overcoming acquired resistance to TRAIL by chemotherapeutic agents and calpain inhibitor I through distinct mechanisms. Mol Ther. 2004 May;9(5):666-73.
- [2]. Marzocco S1, Di Paola R, Autore G, Mazzon E, Pinto A, Caputi AP, Thiemermann C, Cuzzocrea S. Calpain inhibitor I reduces intestinal ischemia-reperfusion injury in the rat. Shock. 2004 Jan;21(1):38-44.

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 APEX BIO products are stable

under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm 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.



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