Print Date: Jul 27th 2020

Certificate of Analysis

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Product Name: **Calpeptin** **Catalog No.: 0448** **Batch No.: 4**

CAS Number: 117591-20-5

IUPAC Name: *N*-Benzyloxycarbonyl-L-leucylnorleucinal

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{20}H_{30}N_2O_4$

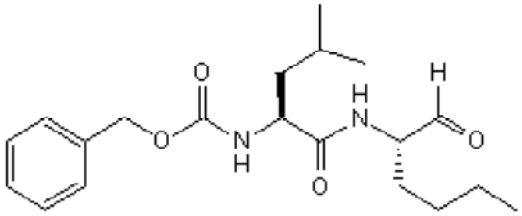
Batch Molecular Weight: 362.46

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Desiccate at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.25 (Ethyl acetate)

Melting Point: Between 103 - 105°C

^{1}H NMR: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	
Theoretical	66.27	8.34	7.73	0 0 0
Found	66.15	8.44	7.65	0 0 0

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

Product Information

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CAS Number: 117591-20-5

IUPAC Name: *N*-Benzyloxycarbonyl-L-leucylnorleucinal

Description:

Potent, cell-permeable inhibitor of the Ca^{2+}-dependent protease, calpain. Prevents collagen- and thrombin-induced platelet aggregation, probably by blocking calpain induced phospholipase C and thromboxane synthase activation. Potent cathepsin L inhibitor. Recently shown to preferentially inhibit a subset of protein-tyrosine phosphatases. Also inhibits SARS-CoV-2 M^{pro} in vitro (IC_{50} = 10.7 µM) and inhibits viral replication.

Physical and Chemical Properties:

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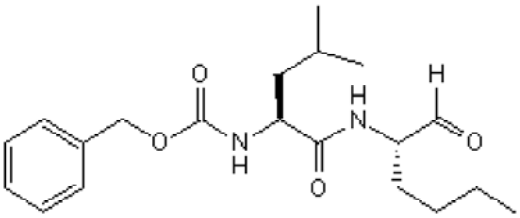

Storage: Desiccate at +4°C

Solubility & Usage Info:

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Ma *et al* (2020) Boceprevir, GC-376, and calpain inhibitors II, XII inhibit SARS-CoV-2 viral replication by targeting the viral main protease. Cell Res.. PMID: 32541865.

Schoenwaelder and Burridge (1999) Evidence for a calpeptin-sensitive protein-tyrosine phosphatase upstream of the small GTPase Rho. J.Biol.Chem. ***274*** 14359. PMID: 10318859.

Mehdi (1991) Cell-penetrating inhibitors of calpain. TiBS ***16*** 150. PMID: 1877091.

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