

Product Name: Acetyl-Calpastatin (184-210) (human)

Catalog No.: 2950

Batch No.: 2

CAS Number: 123714-50-1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₄₂H₂₃₀N₃₆O₄₄S
Batch Molecular Weight: 3177.65
Physical Appearance: White lyophilised solid
Net Peptide Content: 79.6%
Counter Ion: TFA
Solubility: Soluble to 5 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Ac-Asp-Pro-Met-Ser-Ser-Thr-Tyr-Ile-Glu-Glu-Leu-Gly-Lys-Arg-Glu-Val-Thr-Ile-Pro-Pro-Lys-Tyr-Arg-Glu-Leu-Leu-Ala-NH₂

2. ANALYTICAL DATA

HPLC: Shows 95.1% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	1.00	1.16	Lys	2.00	2.01
Arg	2.00	2.03	Met	1.00	0.90
Asx	1.00	0.99	Phe		
Cys			Pro	3.00	3.20
Glx	4.00	3.97	Ser	2.00	1.62
Gly	1.00	1.00	Thr	2.00	1.74
His			Trp		
Ile	2.00	1.97	Tyr		
Leu	3.00	3.13	Val	1.00	1.01

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

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Description:

Selective calpain inhibitor. Strongly inhibits calpain I ($K_i = 0.2$ nM) and II but does not inhibit papain, trypsin and cathepsin L ($K_i = 6$ μ M). Increases secretion of amyloid β -protein (A β) 42, A β 40 and A β 42 ratio.

Physical and Chemical Properties:

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Batch Molecular Weight: 3177.65

Physical Appearance: White lyophilised solid

Peptide Sequence:

Ac-Asp-Pro-Met-Ser-Ser-Thr-Tyr-Ile-Glu-Glu-
Leu-Gly-Lys-Arg-Glu-Val-Thr-Ile-Pro-Pro-Lys-
Tyr-Arg-Glu-Leu-Leu-Ala-NH₂

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 5 mg/ml in water

Net Peptide Content: 79.6% (Remaining weight made up of counterions and residual water).

Counter Ion: TFA

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).

Peptides in solution are much less stable than in lyophilized form. This is especially true for peptides whose sequences contain amino acids such Cys, Met, Trp, Asn, Gln, and N-terminal Glu.

Therefore we recommend storing peptides in solution for as short a time as possible. Avoid repeated freeze thaw cycles by dividing the peptide solution into aliquots and storing the aliquots at -20°C. Any portion of an aliquot unused after thawing should be discarded.

Peptides stored in solution can occasionally be susceptible to bacterial degradation. We recommend using sterile solutions or passing the peptide solution through a 0.2 μ m filter to remove potential bacterial contamination whenever possible.

References:

Maki et al (1989) Inhibition of calpain by a synthetic oligopeptide corresponding to an exon of the human calpastatin gene. *J.Biol.Chem.* **264** 18866. PMID: 2553724.

Yamazaki et al (1997) Specific increase in amyloid β -protein 42 secretion ratio by calpain inhibition. *Biochem.* **36** 8377.

Fiorino et al (2007) A new cell-permeable calpain inhibitor. *J.Peptide Sci.* **13** 70.

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