

Certificate of Analysis

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Product Name: Autocamtide-2-related inhibitory peptide

Catalog No.: 1688

Batch No.: 8

CAS Number: 167114-91-2

1. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---------------------------------|--|
| Batch Molecular Formula: | C ₆₄ H ₁₁₆ N ₂₂ O ₁₉ |
| Batch Molecular Weight: | 1497.76 |
| Physical Appearance: | White lyophilised solid |
| Net Peptide Content: | 70.5% |
| Counter Ion: | TFA |
| Solubility: | Soluble to 1 mg/ml in water |
| Storage: | Store at -20°C |
| Peptide Sequence: | Lys-Lys-Ala-Leu-Arg-Arg-Gln-Glu-Ala- Val-Asp-Ala-Leu |

2. ANALYTICAL DATA

| | |
|-----------------------|---------------------------|
| HPLC: | Shows 98.2% purity |
| Mass Spectrum: | Consistent with structure |

3. AMINO ACID ANALYSIS DATA

| Amino Acid Theoretical Actual | | | Amino Acid Theoretical Actual | | |
|-------------------------------|------|------|-------------------------------|------|------|
| Ala | 3.00 | 2.92 | Lys | 2.00 | 2.07 |
| Arg | 2.00 | 2.05 | Met | | |
| Asx | 1.00 | 0.98 | Phe | | |
| Cys | | | Pro | | |
| Glx | 2.00 | 2.04 | Ser | | |
| Gly | | | Thr | | |
| His | | | Trp | | |
| Ile | | | Tyr | | |
| Leu | 2.00 | 1.85 | Val | 1.00 | 1.09 |

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

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Product Name: Autocamtide-2-related inhibitory peptide

Catalog No.: 1688

8

CAS Number: 167114-91-2

Description:

Autocamtide-2-related inhibitory peptide is a selective and potent calmodulin-dependent protein kinase II (CaM kinase II) inhibitor (IC₅₀ = 40 nM). Selective over PKC, PKA and CaM kinase IV (IC₅₀ > 10 μM). Cell permeable derivative also available.

Physical and Chemical Properties:

Batch Molecular Formula: C₆₄H₁₁₆N₂₂O₁₉

Batch Molecular Weight: 1497.76

Physical Appearance: White lyophilised solid

Peptide Sequence:

Lys-Lys-Ala-Leu-Arg-Arg-Gln-Glu-Ala-
Val-Asp-Ala-Leu

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Net Peptide Content: 70.5% (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 μm filter to remove potential bacterial contamination whenever possible.

References:

Ishida et al (1995) A novel highly specific and potent inhibitor of calmodulin-dependent protein kinase II. *Biochem.Biophys.Res.Commun.* **212** 806. PMID: 7626114.

Ishida and Fujisawa (1995) Stabilization of calmodulin-dependent protein kinase II through the autoinhibitory domain. *J.Biol.Chem.* **270** 2163. PMID: 7836445.

Takasawa et al (1995) Requirement of calmodulin-dependent protein kinase II in cyclic ADP-ribose-mediated intracellular Ca²⁺ mobilization. *J.Biol.Chem.* **270** 30257. PMID: 8530441.

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