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TOCRIS

Print Date: Mar 16th 2023

Certificate of Analysis

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Product Name: **Autocamtide-2-related inhibitory peptide** **Catalog No.: 1688** **Batch No.: 9**

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

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 99.1% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	3.00	2.97	Lys	2.00	2.01
Arg	2.00	1.94	Met		
Asx	1.00	1.04	Phe		
Cys			Pro		
Glx	2.00	2.03	Ser		
Gly			Thr		
His			Trp		
Ile			Tyr		
Leu	2.00	1.85	Val	1.00	1.02

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Product Name: **Autocamtide-2-related inhibitory peptide** **Catalog No.: 1688** **9**

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 (IC_{50} = 40 nM). Selective over PKC, PKA and CaM kinase IV (IC_{50} > 10 µM). Cell permeable derivative also available.

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

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.

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 Ca^{2+} mobilization. J.Biol.Chem. ***270*** 30257. PMID: 8530441.