

# Certificate of Analysis

**Product Name:** Autocamtide-2-related inhibitory peptide, myristoylated      **Catalog No.:** 5959      **Batch No.:** 2  
**CAS Number:** 201422-04-0

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>78</sub>H<sub>142</sub>N<sub>22</sub>O<sub>20</sub>  
**Batch Molecular Weight:** 1708.12  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 75%  
**Counter Ion:** TFA  
**Solubility:** Soluble to 1 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Myr-Lys-Lys-Ala-Leu-Arg-Arg-Gln-Glu-Ala-Val-Asp-Ala-Leu

## 2. ANALYTICAL DATA

**HPLC:** Shows 97.6% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala	3.00	2.86	Lys	2.00	1.91
Arg	2.00	2.08	Met		
Asx	1.00	1.04	Phe		
Cys			Pro		
Glx	2.00	1.94	Ser		
Gly			Thr		
His			Trp		
Ile			Tyr		
Leu	2.00	2.11	Val	1.00	1.04

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

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**Description:**

Autocamtide-2-related inhibitory peptide, myristoylated is a CaM kinase II inhibitor; enhanced cell permeable derivative of Autocamtide-2-related inhibitory peptide (Cat No. 1688). Pretreatment blocks reinstatement of morphine-seeking behavior in vivo.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>78</sub>H<sub>142</sub>N<sub>22</sub>O<sub>20</sub>  
Batch Molecular Weight: 1708.12  
Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Myr-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 in lyophilized form. It may appear as a solid, gel or film and 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:** 75% (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 as 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:**

**Liu et al** (2012) Inhibition of CaMKII activity in the nucleus accumbens shell blocks the reinstatement of morphine-seeking behavior in rats. *Neurosci.Lett.* **518** 167. PMID: 22579819.

**Laabich et al** (2000) Neuroprotective effect of AIP on *N*-methyl-*D*-aspartate-induced cell death in retinal neurons. *Brain Res.Mol.Brain Res.* **85** 32. PMID: 11146104.

**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.

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**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