

Certificate of Analysis

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Product Name: PKA inhibitor fragment (6-22) amide

Catalog No.: 1904

Batch No.: 10

CAS Number: 121932-06-7

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₈₀ H ₁₃₀ N ₂₈ O ₂₄
Batch Molecular Weight:	1868.08
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:	Thr-Tyr-Ala-Asp-Phe-Ile-Ala-Ser-Gly-Arg- Thr-Gly-Arg-Arg-Asn-Ala-Ile-NH ₂

2. ANALYTICAL DATA

HPLC:	Shows 97.5% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual		Amino Acid Theoretical		Actual	
Ala	3.00	2.87	Lys				
Arg	3.00	3.06	Met				
Asx	2.00	1.99	Phe	1.00	1.03		
Cys			Pro				
Glx			Ser	1.00	0.92		
Gly	2.00	2.04	Thr	2.00	1.90		
His			Trp				
Ile	2.00	2.00	Tyr	1.00	0.76		
Leu			Val				

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Product Name: PKA inhibitor fragment (6-22) amide

Catalog No.: 1904

Batch No.: 10

CAS Number: 121932-06-7

Description:

PKA inhibitor fragment (6-22) amide is a potent inhibitor of cAMP-dependent protein kinase (PKA) ($K_i = 2.5$ nM); derived from the active portion of the heat-stable PKA inhibitor protein PKI.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{80}H_{130}N_{28}O_{24}$

Batch Molecular Weight: 1868.08

Physical Appearance: White lyophilised solid

Peptide Sequence:

Thr-Tyr-Ala-Asp-Phe-Ile-Ala-Ser-Gly-Arg-
Thr-Gly-Arg-Arg-Asn-Ala-Ile-NH₂

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: 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:

Otmakhova et al (2000) Inhibition of the cAMP pathway decreases early long-term potentiation at CA1 hippocampal synapses. *J.Neurosci.* **20** 4446. PMID: 10844013.

Glass et al (1989) Protein kinase inhibitor-(6-22)-amide peptide analogs with standard and nonstandard amino acid substitutions for phenylalanine 10. *J.Biol.Chem.* **264** 14579. PMID: 2760075.

Glass et al (1989) Primary structural determinants essential for potent inhibition of cAMP-dependent protein kinase by inhibitory peptides corresponding to the active portion of the heat-stable inhibitor protein. *J.Biol.Chem.* **264** 8802. PMID: 2722799.

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