

Certificate of Analysis

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Product Name: pep2m
CAS Number: 243843-42-7

Catalog No.: 1595 **Batch No.:** 2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₉H₉₂N₁₈O₁₃S
Batch Molecular Weight: 1173.44
Physical Appearance: White lyophilised solid
Net Peptide Content: 67%
Counter Ion: Trifluoroacetate
Solubility: Soluble to 2 mg/ml in 20% acetonitrile
Storage: Desiccate at -20°C
Peptide Sequence: Lys-Arg-Met-Lys-Val-Ala-Lys-Asn-Ala-Gln

2. ANALYTICAL DATA

HPLC: Shows 97% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala	2.00	1.95	Lys	3.00	3.03		
Arg	1.00	1.06	Met	1.00	0.96		
Asx	1.00	1.01	Phe				
Cys			Pro				
Glx	1.00	1.01	Ser				
Gly			Thr				
His			Trp				
Ile			Tyr				
Leu			Val	1.00	0.98		

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Description:

Peptide inhibitor of the interaction between the C-terminus of the GluA2 (AMPA receptor) subunit and N-ethylmaleimide-sensitive fusion protein (NSF), a protein that regulates AMPA receptor function. Reduces postsynaptic currents in CA1 neurons, AMPA-mediated currents in cultured hippocampal neurons and AMPA receptor surface expression. Control Peptide also available.

Physical and Chemical Properties:

Batch Molecular Formula: C₄₉H₉₂N₁₈O₁₃S
Batch Molecular Weight: 1173.44
Physical Appearance: White lyophilised solid

Peptide Sequence:

Lys-Arg-Met-Lys-Val-Ala-Lys-Asn-Ala-Gln

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 2 mg/ml in 20% acetonitrile

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: 67% (Remaining weight made up of counterions and residual water).

Counter Ion: Trifluoroacetate

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:

Collingridge and Isaac (2003) Functional roles of protein interactions with AMPA and kainate receptors. *Neurosci.Res.* **47** 3. PMID: 12941441.

Luscher et al (1999) Role of AMPA receptor cycling in synaptic transmission and plasticity. *Neuron* **24** 649. PMID: 10595516.

Luthi et al (1999) Hippocampal LTD expression involves a pool of AMPARs regulated by the NSF-GluR2 interaction. *Neuron* **24** 389. PMID: 10571232.

Noel et al (1999) Surface expression of AMPA receptors in hippocampal neurons is regulated by an NSF-dependent mechanism. *Neuron* **23** 365. PMID: 10399941.

Nishimune et al (1998) NSF binding to GluR2 regulates synaptic transmission. *Neuron* **21** 87. PMID: 9697854.

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