

Certificate of Analysis

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Product Name: Dynamin inhibitory peptide

Catalog No.: 1774

Batch No.: 7

CAS Number: 251634-21-6

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₇H₈₀N₁₈O₁₄
Batch Molecular Weight: 1121.26
Physical Appearance: White lyophilised solid
Net Peptide Content: 78%
Counter Ion: Acetate
Solubility: Soluble to 1 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Gln-Val-Pro-Ser-Arg-Pro-Asn-Arg-Ala-Pro

2. ANALYTICAL DATA

HPLC: Shows 95.8% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala		1.00	0.97	Lys			
Arg		2.00	1.86	Met			
Asx		1.00	1.00	Phe			
Cys				Pro	3.00		3.09
Glx	1.00	1.00		Ser	1.00		1.01
Gly				Thr			
His				Trp			
Ile				Tyr			
Leu				Val	1.00		1.07

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

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CAS Number: 251634-21-6

Description:

Peptide inhibitor of the GTPase dynamin; competitively blocks binding of dynamin to amphiphysin thus prevents endocytosis when administered intracellularly. Reduces GABA_A receptor internalization and increases miniature ISPC amplitude and frequency in neurons expressing GABA_A receptors. Cell-permeable version also available.

Physical and Chemical Properties:

Batch Molecular Formula: C₄₇H₈₀N₁₈O₁₄

Batch Molecular Weight: 1121.26

Physical Appearance: White lyophilised solid

Peptide Sequence:

Gln-Val-Pro-Ser-Arg-Pro-Asn-Arg-Ala-Pro

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

CAUTION - The terminal Gln residue of this product may rapidly form the pyroglutamate when in solution. We therefore recommend that solutions containing this product should be stored at -20°C and used as quickly as possible. 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: 78% (Remaining weight made up of counterions and residual water).

Counter Ion: Acetate

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:

Nong *et al* (2003) Glycine binding primes NMDA receptor internalization. *Nature* **422** 302. PMID: 12646920.

Kittler *et al* (2000) Constitutive endocytosis of GABA_A receptors by an association with the adaptin AP2 complex modulates inhibitory synaptic currents in hippocampal neurons. *J.Neurosci.* **20** 7972. PMID: 11050117.

Grabs *et al* (1997) The SH3 domain of amphiphysin binds the proline-rich domain of dynamin at a single site that defines a new SH3 binding consensus sequence. *J.Biol.Chem.* **272** 13419. PMID: 9148966.

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