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Print Date: May 26th 2018

Certificate of Analysis

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Product Name: **pep2-AVKI** **Catalog No.: 1600** **Batch No.: 1**

CAS Number: 1315378-69-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{60}H_{93}N_{13}O_{17}$
Batch Molecular Weight:	1268.47
Physical Appearance:	White lyophilised solid
Net Peptide Content:	75%
Solubility:	Soluble to 2 mg/ml in water
Storage:	Desiccate at -20°C
Peptide Sequence:	Tyr-Asn-Val-Tyr-Gly-Ile-Glu-Ala-Val-Lys-Ile

2. ANALYTICAL DATA

HPLC: Shows >95% purity

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	1.00	1.09	Lys	1.00	0.99
Arg			Met		
Asx	1.00	0.98	Phe		
Cys			Pro		
Glx	1.00	1.01	Ser		
Gly	1.00	0.96	Thr		
His			Trp		
Ile	2.00	2.06	Tyr	2.00	2.01
Leu			Val	2.00	1.97

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

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Description:

Inhibitor peptide that selectively disrupts binding of the AMPA receptor subunit GluA2 (at the C-terminal PDZ site) to protein interacting with C kinase (PICK1). Does not affect binding of GluA2 to GRIP or ABP and does not increase AMPA current amplitude or affect long term depression (LTD).

Physical and Chemical Properties:

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Batch Molecular Weight: 1268.47

Physical Appearance: White lyophilised solid

Peptide Sequence:

Tyr-Asn-Val-Tyr-Gly-Ile-Glu-Ala-Val-Lys-Ile

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 2 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).

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:

Hanley *et al* (2002) NSF ATPase and α-/β-SNAPs disassemble the AMPA receptor-PICK1 complex. Neuron ***34*** 53. PMID: 11931741.

Kim *et al* (2001) Interaction of the AMPA receptor subunit GluR2/3 with PDZ domains regulates hippocampal long-term depression. Proc.Natl.Acad.Sci.U.S.A. ***98*** 11725. PMID: 11573007.

Daw *et al* (2000) PDZ proteins interacting with C-terminal GluR2/3 are involved in a PKC-dependent regulation of AMPA receptors at hippocampal synapses. Neuron ***28*** 873. PMID: 11163273.

Li *et al* (1999) AMPA receptor-PDZ interactions in facilitation of spinal sensory synapses. Nat.Neurosci. ***2*** 972. PMID: 10526335.