

## Certificate of Analysis

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**Product Name:** Peptide5  
**CAS Number:** 916977-43-0

**Catalog No.:** 6394      **Batch No.:** 2

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>60</sub>H<sub>98</sub>N<sub>16</sub>O<sub>2</sub>S  
**Batch Molecular Weight:** 1395.59  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 71%  
**Counter Ion:** TFA  
**Solubility:** Soluble to 2 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Val-Asp-Cys-Phe-Leu-Ser-Arg-Pro-Thr-Glu-Lys-Thr

### 2. ANALYTICAL DATA

**HPLC:** Shows 96% purity  
**Mass Spectrum:** Consistent with structure

### 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Amino Acid Actual		
Ala			Lys	1.00	0.99
Arg	1.00	1.00	Met		
Asx	1.00	0.96	Phe	1.00	0.99
Cys	1.00	Detected	Pro	1.00	1.03
Glx	1.00	1.01	Ser	1.00	1.00
Gly			Thr	2.00	2.02
His			Trp		
Ile			Tyr		
Leu	1.00	1.08	Val	1.00	0.93

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

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**Product Name:** Peptide5

**Catalog No.:** 6394

**Batch No.:** 2

CAS Number: 916977-43-0

**Description:**

Connexin43 mimetic peptide. Reduces swelling, astrogliosis, neuroinflammation and neuronal cell death following spinal cord injury ex vivo and in vivo. Exhibits analgesic effects in models of neuropathic pain.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>60</sub>H<sub>98</sub>N<sub>16</sub>O<sub>2</sub>S

Batch Molecular Weight: 1395.59

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Val-Asp-Cys-Phe-Leu-Ser-Arg-Pro-Thr-Glu-Lys-Thr

**Storage:** Store 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:** 71% (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:**

**Kim et al** (2017) Characterising the mode of action of extracellular Connexin43 channel mimetic peptides in an *in vitro* ischemia injury model. *Biochem.Biophys.Acta.* **1861** 68. PMID: 27816754.

**Mao et al** (2017) Characterisation of Peptide5 systemic administration for treating traumatic spinal cord injured rats. *Exp.Brain.Res.* **235** 3033. PMID: 28725925.

**Tonkin et al** (2017) Attenuation of mechanical pain hypersensitivity by treatment with Peptide5, a connexin-43 mimetic peptide, involves inhibition of NLRP3 inflammasome in nerve-injured mice. *Exp.Neurol.* **300** 1. PMID: 29055716.

**O'Carroll et al** (2008) Connexin 43 mimetic peptides reduce swelling, astrogliosis and neuronal cell death after spinal cord injury. *Cell.Commun.Adhes.* **15** 27. PMID: 18649176.

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