

Certificate of Analysis

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Product Name: L-R₄W₂

Catalog No.: 1577

Batch No.: 1

CAS Number: 206350-79-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₆H₇₁N₂₁O₆
Batch Molecular Weight: 1014.19
Physical Appearance: White lyophilised solid
Net Peptide Content: 80%
Solubility: Soluble to 1 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Arg-Arg-Arg-Arg-Trp-Trp-NH₂

2. ANALYTICAL DATA

HPLC: Shows >95% purity

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys		
Arg	4.00	4.00	Met		
Asx			Phe		
Cys			Pro		
Glx			Ser		
Gly			Thr		
His			Trp	2.00	
Ile			Tyr		
Leu			Val		

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

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Description:

Vanilloid TRPV1 (VR1) receptor antagonist peptide (IC₅₀ ~ 0.1 μM); blocks Ca²⁺ currents in dorsal root ganglion neurons. Analgesic in vivo.

Physical and Chemical Properties:

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Batch Molecular Weight: 1014.19

Physical Appearance: White lyophilised solid

Peptide Sequence:

Arg-Arg-Arg-Arg-Trp-Trp-NH₂

Storage: Desiccate 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: 80% (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 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:

Planells-Cases et al (2000) Arginine-rich peptides are blockers of VR-1 channels with analgesic activity. *FEBS Lett.* **481** 131. PMID: 10996311.

Himmel et al (2002) The arginine-rich hexapeptide R₄W₂ is a stereoselective antagonist at the vanilloid receptor 1: a Ca²⁺ imaging study in adult rat dorsal root ganglion neurons. *J.Pharmacol.Exp.Ther.* **301** 981. PMID: 12023528.

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