

## Certificate of Analysis

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**Product Name:** [Ala<sup>11,22,28</sup>]VIP

**Catalog No.:** 1386

**Batch No.:** 3

**CAS Number:** 291524-04-4

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>139</sub>H<sub>231</sub>N<sub>43</sub>O<sub>39</sub>S  
**Batch Molecular Weight:** 3160.68  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 71.3%  
**Counter Ion:** TFA salt  
**Storage:** Desiccate at -20°C  
**Peptide Sequence:** His-Ser-Asp-Ala-Val-Phe-Thr-Asp-Asn-Tyr-  
 Ala-Arg-Leu-Arg-Lys-Gln-Met-Ala-Val-Lys-  
 Lys-Ala-Leu-Asn-Ser-Ile-Leu-Ala-NH<sub>2</sub>

### 2. ANALYTICAL DATA

**HPLC:** Shows 95.6% purity  
**Mass Spectrum:** Consistent with structure

### 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	5.00	5.00	Lys	3.00	3.15
Arg	2.00	2.03	Met	1.00	0.93
Asx	4.00	4.03	Phe	1.00	0.96
Cys			Pro		
Glx	1.00	1.11	Ser	2.00	1.85
Gly			Thr	1.00	1.01
His	1.00	1.03	Trp		
Ile	1.00	1.04	Tyr	1.00	0.92
Leu	3.00	3.07	Val	2.00	1.98

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

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**Description:**

Potent and highly selective agonist for the human VPAC<sub>1</sub> receptor (K<sub>i</sub> values are 7.4 and 2352 nM for binding to human recombinant VPAC<sub>1</sub> and VPAC<sub>2</sub> receptors respectively).

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**Peptide Sequence:**

His-Ser-Asp-Ala-Val-Phe-Thr-Asp-Asn-Tyr-  
Ala-Arg-Leu-Arg-Lys-Gln-Met-Ala-Val-Lys-  
Lys-Ala-Leu-Asn-Ser-Ile-Leu-Ala-NH<sub>2</sub>

**Storage:** Desiccate at -20°C**Solubility & Usage Info:**

Most peptides are soluble in distilled water. If the peptide does not completely dissolve addition of 0.1M acetic acid (those containing Arg, Lys, His) or 0.1M ammonia (those containing Asp, Glu) may help. Occasionally 10% DMSO or DMF may be required for extremely insoluble peptides. In addition to these measures sonification may also be helpful.

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:** 71.3% (Remaining weight made up of counterions and residual water).**Counter Ion:** TFA salt**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:**

**Nicole et al** (2000) Identification of key residues for interaction of vasoactive intestinal peptide with human VPAC<sub>1</sub> and VPAC<sub>2</sub> receptors and development of a highly selective VPAC<sub>1</sub> agonist. *J.Biol.Chem.* **275** 24003. PMID: 10801840.

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