

**Product Name:** ELA-32 (human)

**Catalog No.:** 6291

**Batch No.:** 4

CAS Number: 1680205-79-1

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>170</sub>H<sub>289</sub>N<sub>63</sub>O<sub>39</sub>S<sub>4</sub>  
**Batch Molecular Weight:** 3967.8  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 86%  
**Counter Ion:** TFA  
**Solubility:** Soluble to 1 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:**  
 Gln-Arg-Pro-Val-Asn-Leu-Thr-Met-Arg-Arg-  
 Lys-Leu-Arg-Lys-His-Asn-Cys-Leu-Gln-Arg-  
 Arg-Cys-Met-Pro-Leu-His-Ser-Arg-Val-Pro-  
 Phe-Pro

**2. ANALYTICAL DATA**

**HPLC:** Shows 96.5% purity  
**Mass Spectrum:** Consistent with structure

**3. AMINO ACID ANALYSIS DATA**

Amino Acid Theoretical			Actual		
Ala			Lys	2.00	1.98
Arg	7.00	7.00	Met	2.00	1.97
Asx	2.00	2.05	Phe	1.00	1.01
Cys	2.00	Detected	Pro	4.00	3.73
Glx	2.00	2.04	Ser	1.00	0.99
Gly			Thr	1.00	0.87
His	2.00	2.01	Trp		
Ile			Tyr		
Leu	4.00	3.91	Val	2.00	2.06

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

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**Description:**

Potent, high affinity apelin receptor agonist (IC<sub>50</sub> = 0.27 nM; K<sub>d</sub> = 0.51 nM). Exhibits no binding GPR15 and GPR25. Activates the PI3K/AKT pathway and promotes self-renewal of hESCs via cell-cycle progression and protein translation. Also potentiates the TGFβ pathway, priming hESCs toward the endoderm lineage. Stimulates angiogenesis in HUVEC cells. Relaxes mouse aortic vessels. Functions as an anorexigenic hormone through activation of the AVP and CRH neurons in the PVN. Negative control (Cat.No. 6292) also available.

**Physical and Chemical Properties:**

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Batch Molecular Weight: 3967.8

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Gln-Arg-Pro-Val-Asn-Leu-Thr-Met-Arg-Arg-

Lys-Leu-Arg-Lys-His-Asn-Cys-Leu-Gln-Arg-

Arg-Cys-Met-Pro-Leu-His-Ser-Arg-Val-Pro-

Phe-Pro

**Storage:** Store 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:** 86% (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.

**Licensing Information:**

Sold under agreement from the Agency for Science, Technology and Research (A\*STAR), ETPL, and affiliates including the Institute of Medical Biology.

**References:**

**Yang *et al*** (2017) Elabela/Toddler Is an endogenous agonist of the apelin APJ receptor in the adult cardiovascular system, and exogenous administration of the peptide compensates for the downregulation of its expression in pulmonary arterial hypertension. *Circulation* **135** 1160. PMID: 28137936.

**Chaves-Almagro *et al*** (2015) Apelin receptors: From signaling to antidiabetic strategy. *Eur.J.Pharmacol.* **763** 149. PMID: 26007641.

**Deng *et al*** (2015) Apela Regulates Fluid Homeostasis by Binding to the APJ Receptor to Activate G<sub>i</sub> Signaling. *J.Biol.Chem* **290** 18261. PMID: 25995451.

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