

# Certificate of Analysis

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**Product Name:**  $\alpha$ -CGRP (human)

**Catalog No.:** 3012

**Batch No.:** 13

CAS Number: 90954-53-3

## 1. PHYSICAL AND CHEMICAL PROPERTIES

<b>Batch Molecular Formula:</b>	C <sub>163</sub> H <sub>267</sub> N <sub>51</sub> O <sub>49</sub> S <sub>2</sub>
<b>Batch Molecular Weight:</b>	3789.33
<b>Physical Appearance:</b>	White lyophilised solid
<b>Counter Ion:</b>	TFA
<b>Solubility:</b>	Soluble to 0.50 mg/ml in water
<b>Storage:</b>	Store at -20°C
<b>Peptide Sequence:</b>	Ala-Cys-Asp-Thr-Ala-Thr-Cys-Val-Thr-His-Arg-Leu-Ala-Gly-Leu-Leu-Ser-Arg-Ser-Gly-Gly-Val-Val-Lys-Asn-Asn-Phe-Val-Pro-Thr-Asn-Val-Gly-Ser-Lys-Ala-Phe-NH <sub>2</sub>

## 2. ANALYTICAL DATA

<b>HPLC:</b>	Shows 97.2% purity
<b>Mass Spectrum:</b>	Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual	Amino Acid Theoretical		Actual
Ala	4.00	3.88	Lys	2.00	2.04
Arg	2.00	1.99	Met		
Asx	4.00	4.04	Phe	2.00	1.99
Cys	2.00	0.94	Pro	1.00	1.03
Glx			Ser	3.00	2.37
Gly	4.00	4.05	Thr	4.00	3.49
His	1.00	1.00	Trp		
Ile			Tyr		
Leu	3.00	2.97	Val	5.00	4.39

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

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**Description:**

$\alpha$ -CGRP (human) is an endogenous calcitonin gene-related peptide receptor (CGRP) agonist. It is a long-lasting vasodilator.  $\alpha$ -CGRP (human) also reduces the secretion of both mouse Ins1 and Ins2 proteins and remodels amylin fibrillization in mouse pancreatic  $\beta$ -cells.

**Physical and Chemical Properties:**

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Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Ala-Cys-Asp-Thr-Ala-Thr-Cys-Val-Thr-His-Arg-Leu-Ala-Gly-Leu-Leu-Ser-Arg-Ser-Gly-Gly-Val-Val-Lys-Asn-Asn-Phe-Val-Pro-Thr-Asn-Val-Gly-Ser-Lys-Ala-Phe-NH<sub>2</sub>

**Storage:** Store at -20°C

**Solubility & Usage Info:**

Soluble to 0.50 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.

**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  $\mu$ m filter to remove potential bacterial contamination whenever possible.

**References:**

**Gray et al** (2021)  $\alpha$ -CGRP disrupts amylin fibrillization and regulates insulin secretion: implications on diabetes and migraine. *Chem.Sci.* **12** 5853. PMID: 34168810.

**Kee et al** (2018) The role of calcitonin gene related peptide (CGRP) in neurogenic vasodilation and its cardioprotective effects. *Front Physiol.* **9** 1249. PMID: 30283343.

**Poyner et al** (2002) International union of pharmacology XXXII. The mammalian calcitonin gene-related peptides, adrenomedullin, amylin, and calcitonin receptors. *Pharmacol.Revs.* **54** 233.

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