

Certificate of Analysis

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Product Name: α -CGRP (human)

Catalog No.: 3012

Batch No.: 10

CAS Number: 90954-53-3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₆₃H₂₆₇N₅₁O₄₉S₂
Batch Molecular Weight: 3789.33
Physical Appearance: White lyophilised solid
Counter Ion: Trifluoroacetate
Solubility: Soluble to 0.50 mg/ml in water
Storage: Store at -20°C
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-NH₂

2. ANALYTICAL DATA

HPLC: Shows 97.6% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala	4.00	3.87	Lys	2.00	2.00		
Arg	2.00	2.00	Met				
Asx	4.00	4.12	Phe	2.00	2.03		
Cys	2.00	0.91	Pro	1.00	1.01		
Glx			Ser	3.00	2.27		
Gly	4.00	4.02	Thr	4.00	3.48		
His	1.00	1.03	Trp				
Ile			Tyr				
Leu	3.00	2.93	Val	5.00	4.57		

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

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Description:

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

Physical and Chemical Properties:

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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-NH₂

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: Trifluoroacetate

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 μ m filter to remove potential bacterial contamination whenever possible.

References:

Gray et al (2021) α -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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