

# Certificate of Analysis

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**Product Name:** des-His<sup>1</sup>-[Glu<sup>9</sup>]-Glucagon (1-29) amide

**Catalog No.:** 2216

**Batch No.:** 8

**CAS Number:** 110084-95-2

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>148</sub>H<sub>221</sub>N<sub>41</sub>O<sub>47</sub>S  
**Batch Molecular Weight:** 3358.68  
**Physical Appearance:** White lyophilised solid  
**Counter Ion:** TFA  
**Solubility:** Soluble to 1 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Ser-Gln-Gly-Thr-Phe-Thr-Ser-Glu-Tyr-Ser-Lys-Tyr-Leu-Asp-Ser-Arg-Arg-Ala-Gln-Asp-Phe-Val-Gln-Trp-Leu-Met-Asn-Thr-NH<sub>2</sub>

## 2. ANALYTICAL DATA

**HPLC:** Shows 98.6% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	1.00	0.98	Lys	1.00	1.01
Arg	2.00	2.01	Met	1.00	0.99
Asx	3.00	3.04	Phe	2.00	2.03
Cys			Pro		
Glx	4.00	3.99	Ser	4.00	2.88
Gly	1.00	1.04	Thr	3.00	2.61
His			Trp	1.00	0.04
Ile			Tyr	2.00	1.91
Leu	2.00	2.01	Val	1.00	1.00

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

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**CAS Number:** 110084-95-2

**Description:**

des-His<sup>1</sup>-[Glu<sup>9</sup>]-Glucagon (1-29) amide is a glucagon receptor antagonist ( $pA_2 = 7.2$  for inhibition of glucagon-induced adenylyl cyclase activation in rat liver membranes); displays no agonist activity. Enhances glucose-stimulated pancreatic insulin release in vitro. Blocks added glucagon-induced hyperglycemia in normal rabbits without affecting glycogenolysis in vivo. Also blocks endogenous glucagon-induced hyperglycemia in streptozocin diabetic rats.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>148</sub>H<sub>221</sub>N<sub>41</sub>O<sub>47</sub>S

Batch Molecular Weight: 3358.68

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

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

**Storage:** Store at -20°C

**Solubility & Usage Info:**

Soluble to 1 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and 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 µm filter to remove potential bacterial contamination whenever possible.

**References:**

**Huypens *et al*** (2000) Glucagon receptors on human islet cells contribute to glucose competence of Ins release. *Diabetologia* **43** 1012. PMID: 10990079.

**Unson *et al*** (1989) Biological activities of des-His<sup>1</sup>[Glu<sup>9</sup>]glucagon amide, a glucagon antagonist. *Peptides* **10** 1171. PMID: 2560175.

**Unson *et al*** (1987) Synthetic peptide antagonists of glucagon. *Proc.Natl.Acad.Sci.USA* **84** 4083.

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