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Print Date: Apr 30th 2020

Certificate of Analysis

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Product Name: **[Des-octanoyl]-Ghrelin (human)** **Catalog No.: 2260** **Batch No.: 8**

CAS Number: 313951-59-6

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{141}H_{235}N_{47}O_{41}$

Batch Molecular Weight: 3244.51

Physical Appearance: White lyophilised solid

Net Peptide Content: 71%

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Desiccate at -20°C

Peptide Sequence: Gly-Ser-Ser-Phe-Leu-Ser-Pro-Glu-His-Gln-Arg-Val-Gln-Gln-Arg-Lys-Glu-Ser-Lys-Lys-Pro-Pro-Ala-Lys-Leu-Gln-Pro-Arg

2. ANALYTICAL DATA

HPLC: Shows 99% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	1.00	1.00	Lys	4.00	4.00
Arg	3.00	2.84	Met		
Asx			Phe	1.00	1.02
Cys			Pro	4.00	4.02
Glx	6.00	5.90	Ser	4.00	4.07
Gly	1.00	1.05	Thr		
His	1.00	0.99	Trp		
Ile			Tyr		
Leu	2.00	1.76	Val	1.00	0.98

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Description:

Non-acylated, major circulating isoform of ghrelin that does not bind to the ghrelin receptor (GHS-R1a), nor induce growth hormone release. However, exerts negative inotropic effects in papillary muscle and displays cardioprotective activity. Inhibits cell proliferation in breast and prostate cancer cell lines. Promotes adipogenesis in vivo.

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Storage: Desiccate 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: 71% (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 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:

Cassoni *et al* (2004) Expression of ghrelin and biological activity of specific receptors for ghrelin and des-acyl ghrelin in human prostate neoplasms and related cell lines. Eur.J.Endocrinol. ***150*** 173. PMID: 14763915.

Thompson *et al* (2004) Ghrelin and des-octanoyl ghrelin promote adipogenesis directly *in vivo* by a mechanism independent of the type 1a GH secretagogue receptor. Endocrinology ***145*** 234. PMID: 14551228.

Bedendi *et al* (2003) Cardiac effects of ghrelin and its endogenous derivatives des-octanoyl ghrelin and des-Gln^{14}-ghrelin. Eur.J.Pharmacol. ***476*** 87. PMID: 12969753.

Baldanzi *et al* (2002) Ghrelin and des-acyl ghrelin inhibit cell death in cardiomyocytes and endothelial cells through ERK1/2 and PI 3-kinase/AKT. J.Cell Biol. ***159*** 1029. PMID: 12486113.