

Product Name: Liraglutide
CAS Number: 204656-20-2

Catalog No.: 6517 **Batch No.:** 7

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₇₂H₂₆₅N₄₃O₅₁
Batch Molecular Weight: 3751.24
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in 0.01M PBS (pH 7.4)
Storage: Store at -20°C
Peptide Sequence: His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-(γ-Glu-palmitoyl)-Glu-Phe-Ile-Ala-Trp-Leu-Val-Arg-Gly-Arg-Gly

2. ANALYTICAL DATA

HPLC: Shows 98.9 % purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	4.00	4.21	Lys	1.00	1.02
Arg	2.00	1.96	Met		
Asx	1.00	1.06	Phe	2.00	1.97
Cys			Pro		
Glx	5.00	4.97	Ser	3.00	2.99
Gly	4.00	4.02	Thr	2.00	1.92
His	1.00	0.99	Trp	1.00	Detected
Ile	1.00	1.00	Tyr	1.00	1.03
Leu	2.00	1.97	Val	2.00	2.01

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

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Description:

Liraglutide is a highly potent, long-acting GLP-1 receptor agonist (EC₅₀ = 61 pM). Acylated derivative of GLP-1 (7-37) (Cat. No. 5374). Inhibits food and water intake, causing lasting and reversible weight loss in normal and obese rats. In an animal model of Alzheimer's disease, Liraglutide decreases levels of A β and soluble amyloid, and reduces neuroinflammation.

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Peptide Sequence:

His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-
Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-
(γ -Glu-palmitoyl)-Glu-Phe-Ile-Ala-Trp-Leu-
Val-Arg-Gly-Arg-Gly

Storage: Store at -20°C**Solubility & Usage Info:**

Soluble to 1 mg/ml in 0.01M PBS (pH 7.4)

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 μ m filter to remove potential bacterial contamination whenever possible.

References:

Paladugu et al (2021) Liraglutide has anti-inflammatory and anti-amyloid properties in streptozotocin-induced and 5xFAD mouse models of Alzheimer's disease. *Int.J.Mol.Sci.* **22** 860. PMID: 33467075.

McClellan et al (2011) The diabetes drug liraglutide prevents degenerative processes in a mouse model of Alzheimer's disease. *J.Neurosci.* **31** 6587. PMID: 21525299.

Larsen et al (2001) Systemic administration of the long-acting GLP-1 derivative NN2211 induces lasting and reversible weight loss in both normal and obese rats. *Diabetes* **50** 2530. PMID: 11679431.

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