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TOCRIS

Print Date: Mar 8th 2024

Certificate of Analysis

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Product Name: **Exendin-4** **Catalog No.: 1933** **Batch No.: 15**

CAS Number: 141758-74-9

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{184}H_{282}N_{50}O_{60}S$

Batch Molecular Weight: 4186.61

Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: His-Gly-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Leu-Ser-Lys-Gln-Met-Glu-Glu-Glu-Ala-Val-Arg-Leu-Phe-Ile-Glu-Trp-Leu-Lys-Asn-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH_2

2. ANALYTICAL DATA

HPLC: Shows 98.8% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	2.00	1.94	Lys	2.00	2.00
Arg	1.00	1.01	Met	1.00	1.05
Asx	2.00	2.03	Phe	2.00	2.01
Cys			Pro	4.00	3.98
Glx	6.00	6.03	Ser	5.00	3.77
Gly	5.00	5.01	Thr	2.00	1.74
His	1.00	1.00	Trp	1.00	0.06
Ile	1.00	0.99	Tyr		
Leu	3.00	2.97	Val	1.00	0.96

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Product Name: **Exendin-4** **Catalog No.: 1933** **15**

CAS Number: 141758-74-9

Description:

Exendin-4 is a high affinity glucagon-like peptide 1 (GLP-1) receptor agonist (K_d = 136 pM); originally isolated from Heloderma suspectum venom. Exendin-4 potently induces cAMP formation without stimulating amylase release in pancreatic acini. Potentiates glucose-induced insulin secretion in isolated rat islets. Exendin-4 protects against glutamate-induced neurotoxicity, and in a mouse model of metabolic imblance it reduces neuroinflammation and enhances long-term-potentiation.

Physical and Chemical Properties:

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His-Gly-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Leu-Ser-Lys-Gln-Met-Glu-Glu-Glu-Ala-Val-Arg-Leu-Phe-Ile-Glu-Trp-Leu-Lys-Asn-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH_2

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 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:

Wang *et al* (2021) Exendin-4 improves long-term potentiation and neuronal dendritic growth in vivo and in vitro obesity condition. Sci.Rep. ***11*** 8326. PMID: 33859286.

Perry *et al* (2002) Protection and reversal of excitotoxic neuronal damage by glucagon-like peptide-1 and exendin-4. J.Pharmacol.Exp.Ther. ***302*** 881. PMID: 12183643.

Goke *et al* (1993) Exendin-4 is a high potency agonist and truncated exendin-(9-39)-amide an antagonist at the glucagon-like peptide 1-(7-36)-amide receptor of Ins-Secr.g β-cells. J.Biol.Chem. ***268*** 19650. PMID: 8396143.

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