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Print Date: Oct 25th 2021

Certificate of Analysis

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Product Name: **RFRP 3 (human)** **Catalog No.: 4683** **Batch No.: 3**

CAS Number: 311309-27-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{45}H_{72}N_{14}O_{10}$

Batch Molecular Weight: 969.15

Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 2 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Val-Pro-Asn-Leu-Pro-Gln-Arg-Phe-NH_2

2. ANALYTICAL DATA

HPLC: Shows 99.3% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys		
Arg	1.00	1.04	Met		
Asx	1.00	0.99	Phe	1.00	1.01
Cys			Pro	2.00	1.96
Glx	1.00	1.01	Ser		
Gly			Thr		
His			Trp		
Ile			Tyr		
Leu	1.00	0.99	Val	1.00	1.00

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Product Name: **RFRP 3 (human)** **Catalog No.: 4683** **Batch No.: 3**

CAS Number: 311309-27-0

Description:

RFRP 3 (human) is an agonist of the $NPFF_1$ receptor (IC_{50} = 0.7 nM for inhibition of forskolin-induced cAMP production). Homolog of gonadotropin-inhibitory hormone (GnIH); inhibits activity of gonadotropin-releasing hormone (GnRH) neurons.

Physical and Chemical Properties:

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Batch Molecular Weight: 969.15

Physical Appearance: White lyophilised solid

Peptide Sequence:

Val-Pro-Asn-Leu-Pro-Gln-Arg-Phe-NH_2

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 2 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: 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:

Rizwan *et al* (2012) RFamide-related peptide-3 receptor gene expression in GnRH and kisspeptin neurons and GnRH-dependent mechanism of action. Endocrinology ***153*** 3770. PMID: 22691552.

Ubuka *et al* (2009) Identification of human GnIH homologs, RFRP-1 and RFRP-3, and the cognate receptor, GPR147 in the human hypothalamic pituitary axis. PLoS One ***4*** e8400. PMID: 20027225.

Hinuma *et al* (2000) New neuropeptides containing carboxy-terminal RFamide and their receptor in mammals. Nat.Cell Biol. ***2*** 703. PMID: 11025660.