

Certificate of Analysis

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Product Name: RFRP 3 (human)

Catalog No.: 4683

Batch No.: 2

CAS Number: 311309-27-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₅H₇₂N₁₄O₁₀
Batch Molecular Weight: 969.15
Physical Appearance: White lyophilised solid
Net Peptide Content: 73%
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-NH₂

2. ANALYTICAL DATA

HPLC: Shows 98.2% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual		Amino Acid Theoretical		Actual	
Ala				Lys			
Arg	1.00	0.94	Met				
Asx	1.00	1.02	Phe	1.00	1.01		
Cys			Pro	2.00	2.06		
Glx	1.00	1.03	Ser				
Gly			Thr				
His			Trp				
Ile			Tyr				
Leu	1.00	0.99	Val	1.00	0.96		

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

bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel: +1 612 379 2956

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Description:

Agonist of the NPFF₁ receptor (IC₅₀ = 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-NH₂

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.

Net Peptide Content: 73% (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 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:

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.

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