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Certificate of Analysis

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Product Name: **RFRP-1 (human)** **Catalog No.: 5677** **Batch No.: 1**

CAS Number: 311309-25-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{67}H_{10}1N_{19}O_{14}S$
Batch Molecular Weight:	1428.72
Physical Appearance:	White lyophilised solid
Net Peptide Content:	72%
Counter Ion:	TFA
Storage:	Store at -20°C
Peptide Sequence:	Met-Pro-His-Ser-Phe-Ala-Asn-Leu-Pro-Leu-Arg-Phe-NH_2

2. ANALYTICAL DATA

HPLC:	Shows 98% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	1.00	0.99	Lys		
Arg	1.00	1.07	Met	1.00	1.01
Asx	1.00	0.98	Phe	2.00	2.14
Cys			Pro	2.00	2.03
Glx			Ser	1.00	0.99
Gly			Thr		
His	1.00	0.99	Trp		
Ile			Tyr		
Leu	2.00	2.01	Val		

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Product Name: **RFRP-1 (human)** **Catalog No.: 5677** **Batch No.: 1**

CAS Number: 311309-25-8

Description:

Potent endogenous NPFF receptor agonist (EC_{50} values are 0.0011 and 29 nM for NPFF2 and NPFF1, respectively). Attenuates contractile function of isolated rat and rabbit cardiac myocytes. Reduces heart rate, stroke volume, ejection fraction and cardiac output, and increases plasma prolactin levels in rats. GnIH homolog.

Physical and Chemical Properties:

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Batch Molecular Weight: 1428.72

Physical Appearance: White lyophilised solid

Peptide Sequence:

Met-Pro-His-Ser-Phe-Ala-Asn-Leu-Pro-Leu-Arg-Phe-NH_2

Storage: Store at -20°C

Solubility & Usage Info:

Most peptides are soluble in distilled water. If the peptide does not completely dissolve addition of 0.1M acetic acid (those containing Arg, Lys, His) or 0.1M ammonia (those containing Asp, Glu) may help. Occasionally 10% DMSO or DMF may be required for extremely insoluble peptides. In addition to these measures sonification may also be helpful.

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: 72% (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:

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

Gouardères *et al* (2006) Functional differences between NPFF1 and NPFF2 receptor coupling: high intrinsic activities of RFamide-related peptides on stimulation of [^{35}S]GTPγS binding. Neuropharmacology ***52*** 376. PMID: 17011599.

Nichols *et al* (2010) Human RFamide-related peptide-1 diminishes cellular and integrated cardiac contractile performance. Peptides ***31*** 2067. PMID: 20797420.