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Print Date: Jan 15th 2016

Certificate of Analysis

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Product Name: **Neuropeptide SF (mouse, rat)** **Catalog No.: 3647** **Batch No.: 1**
CAS Number: 230960-31-3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{40}H_{65}N_{13}O_{10}$
Batch Molecular Weight:	888.03
Physical Appearance:	White lyophilised solid
Net Peptide Content:	74%
Counter Ion:	TFA
Solubility:	Soluble to 1 mg/ml in 20% acetonitrile / water
Storage:	Store at -20°C
Peptide Sequence:	Ser-Leu-Ala-Ala-Pro-Gln-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	2.00	1.95	Lys		
Arg	1.00	1.08	Met		
Asx			Phe	1.00	0.99
Cys			Pro	1.00	1.00
Glx	1.00	1.01	Ser	1.00	1.00
Gly			Thr		
His			Trp		
Ile			Tyr		
Leu	1.00	0.97	Val		

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CAS Number: 230960-31-3

Description:

Neuropeptide FF receptor agonist (K_i values are 48.4 and 12.1 nM for NPFF1 and NPFF2, respectively). Potentiates the antinociceptive action of morphine in vivo and reverses the loss of morphine potency in tolerant animals. Also increases the amplitude of the sustained current of heterologously expressed acid sensing ion channel 3 (ASIC3) (EC_{50} ~ 50 µM).

Physical and Chemical Properties:

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Batch Molecular Weight: 888.03

Physical Appearance: White lyophilised solid

Peptide Sequence:

Ser-Leu-Ala-Ala-Pro-Gln-Arg-Phe-NH_2

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in 20% acetonitrile / 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: 74% (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:

Gouarderes *et al* (2002) Quantitative autoradiographic distribution of $NPFF_1$ neuropeptide FF receptor in the rat brain and comparison with $NPFF_2$ receptor by using [^{125}I]YVP and [^{125}I]EYF as selective radioligands. Neurosci. ***115*** 349.

Deval *et al* (2003) Effects of neuropeptide SF and related peptides on acid sensing ion channel 3 and sensory neuron excitability. Neuropharmacology ***44*** 662. PMID: 12668052.

Jhamandas *et al* (2006) Facilitation of spinal morphine analgesia in normal and morphine tolerant animals by neuropeptide SF and related peptides. Peptides ***27*** 953. PMID: 16515821.