

Certificate of Analysis

Product Name: Neuropeptide S (human)

Catalog No.: 2587

Batch No.: 1

CAS Number: 412938-67-1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₉₃ H ₁₅₅ N ₃₁ O ₂₈ S
Batch Molecular Weight:	2187.5
Physical Appearance:	White lyophilised solid
Net Peptide Content:	66%
Counter Ion:	TFA
Solubility:	Soluble to 1 mg/ml in water
Storage:	Store at -20°C
Peptide Sequence:	Ser-Phe-Arg-Asn-Gly-Val-Gly-Thr-Gly-Met-Lys-Lys-Thr-Ser-Phe-Gln-Arg-Ala-Lys-Ser

2. ANALYTICAL DATA

HPLC:	Shows 96.5% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	1.00	0.97	Lys	3.00	3.02
Arg	2.00	1.97	Met	1.00	0.99
Asx	1.00	1.04	Phe	2.00	2.00
Cys			Pro		
Glx	1.00	1.03	Ser	3.00	2.21
Gly	3.00	2.96	Thr	2.00	1.74
His			Trp		
Ile			Tyr		
Leu			Val	1.00	1.04

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

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Description:

Potent endogenous neuropeptide S receptor agonist ($EC_{50} = 9.4$ nM). Increases locomotor activity and wakefulness in mice. Also reduces anxiety-like behavior in mice.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{93}H_{155}N_{31}O_{28}S$

Batch Molecular Weight: 2187.5

Physical Appearance: White lyophilised solid

Peptide Sequence:

Ser-Phe-Arg-Asn-Gly-Val-Gly-Thr-Gly-Met-
Lys-Lys-Thr-Ser-Phe-Gln-Arg-Ala-Lys-Ser

Storage: Store at $-20^{\circ}C$

Solubility & Usage Info:

Soluble to 1 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: 66% (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 $45-60^{\circ}C$ 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 $-20^{\circ}C$. 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 $0.2 \mu m$ filter to remove potential bacterial contamination whenever possible.

References:

Xu *et al* (2004) Neuropeptide S: a neuropeptide promoting arousal and anxiolytic-like effects. *Neuron* **43** 487. PMID: 15312648.

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