

## Certificate of Analysis

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**Product Name:** Neuromedin S (rat)

**Catalog No.:** 3648

**Batch No.:** 1

**CAS Number:** 843782-19-4

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>193</sub>H<sub>307</sub>N<sub>57</sub>O<sub>49</sub>S  
**Batch Molecular Weight:** 4241.97  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 76%  
**Counter Ion:** TFA  
**Solubility:** Soluble to 0.50 mg/ml in 20% acetonitrile / water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Leu-Pro-Arg-Leu-Leu-His-Thr-Asp-Ser-Arg-Met-Ala-Thr-Ile-Asp-Phe-Pro-Lys-Lys-Asp-Pro-Thr-Thr-Ser-Leu-Gly-Arg-Pro-Phe-Phe-Leu-Phe-Arg-Pro-Arg-Asn-NH<sub>2</sub>

### 2. ANALYTICAL DATA

**HPLC:** Shows 96% purity  
**Mass Spectrum:** Consistent with structure

### 3. AMINO ACID ANALYSIS DATA

| Amino Acid Theoretical Actual |      |      | Amino Acid Theoretical Actual |      |      |
|-------------------------------|------|------|-------------------------------|------|------|
| Ala                           | 1.00 | 1.08 | Lys                           | 2.00 | 2.00 |
| Arg                           | 5.00 | 5.23 | Met                           | 1.00 | 0.98 |
| Asx                           | 4.00 | 4.05 | Phe                           | 4.00 | 4.01 |
| Cys                           |      |      | Pro                           | 5.00 | 5.03 |
| Glx                           |      |      | Ser                           | 2.00 | 1.96 |
| Gly                           | 1.00 | 1.00 | Thr                           | 4.00 | 3.57 |
| His                           | 1.00 | 0.99 | Trp                           |      |      |
| Ile                           | 1.00 | 0.93 | Tyr                           |      |      |
| Leu                           | 5.00 | 5.05 | Val                           |      |      |

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

**bio-techne.com**  
[info@bio-techne.com](mailto:info@bio-techne.com)  
[techsupport@bio-techne.com](mailto:techsupport@bio-techne.com)

**North America**  
 Tel: (800) 343 7475

**China**  
[info.cn@bio-techne.com](mailto: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](http://www.tocris.com/distributors)  
 Tel: +1 612 379 2956

## Product Information

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**Product Name:** Neuromedin S (rat)

**Catalog No.:** 3648

**Batch No.:** 1

**CAS Number:** 843782-19-4

### Description:

Potent, endogenous neuromedin U receptor agonist ( $EC_{50}$  values are 65 and 91 pM at  $NMU_1$  and  $NMU_2$  respectively). Induces phase shifts in the circadian rhythm of locomotor activity following i.c.v. administration. Potent endogenous anorexigenic peptide.

### Physical and Chemical Properties:

Batch Molecular Formula:  $C_{193}H_{307}N_{57}O_{49}S$

Batch Molecular Weight: 4241.97

Physical Appearance: White lyophilised solid

### Peptide Sequence:

Leu-Pro-Arg-Leu-Leu-His-Thr-Asp-Ser-Arg-  
Met-Ala-Thr-Ile-Asp-Phe-Pro-Lys-Lys-Asp-  
Pro-Thr-Thr-Ser-Leu-Gly-Arg-Pro-Phe-Phe-  
Leu-Phe-Arg-Pro-Arg-Asn-NH<sub>2</sub>

**Storage:** Store at -20°C

### Solubility & Usage Info:

Soluble to 0.50 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:** 76% (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:

**Mori et al** (2005) Identification of neuromedin S and its possible role in the mammalian circadian oscillator system. *EMBO J.* **24** 325. PMID: 15635449.

**Ida et al** (2005) Neuromedin S is a novel anorexigenic hormone. *Endocrinology* **146** 4217. PMID: 15976061.

**Mitchell et al** (2009) Emerging pharmacology and physiology of neuromedin U and the structurally related peptide neuromedin S. *Br.J.Pharmacol.* **158** 87. PMID: 19519756.

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#### bio-techne.com

info@bio-techne.com  
techsupport@bio-techne.com

#### North America

Tel: (800) 343 7475

#### China

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