

# Certificate of Analysis

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**Product Name:** [Sar<sup>9</sup>,Met(O<sub>2</sub>)<sup>11</sup>]-Substance P

**Catalog No.:** 1178

**Batch No.:** 21

CAS Number: 110880-55-2

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>64</sub>H<sub>100</sub>N<sub>18</sub>O<sub>15</sub>S  
**Batch Molecular Weight:** 1393.68  
**Physical Appearance:** White lyophilised solid  
**Counter Ion:** TFA  
**Solubility:** Soluble to 1 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Arg-Pro-Lys-Pro-Gln-Gln-Phe-Phe-Sar-  
 Leu-Met-(O<sub>2</sub>)-NH<sub>2</sub>

## 2. ANALYTICAL DATA

**HPLC:** Shows 97.9% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala			Lys	1.00	0.99
Arg	1.00	0.99	Met	1.00	Detected
Asx			Phe	2.00	2.04
Cys			Pro	2.00	1.91
Glx	2.00	2.01	Ser		
Gly			Thr		
His			Trp		
Ile			Tyr		
Leu	1.00	0.97	Val		

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

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**Catalog No.:** 1178

**21**

CAS Number: 110880-55-2

**Description:**

[Sar<sup>9</sup>,Met(O<sub>2</sub>)<sup>11</sup>]-Substance P is a potent selective NK<sub>1</sub> tachykinin receptor agonist.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>64</sub>H<sub>100</sub>N<sub>18</sub>O<sub>15</sub>S

Batch Molecular Weight: 1393.68

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Arg-Pro-Lys-Pro-Gln-Gln-Phe-Phe-Sar-  
Leu-Met-(O<sub>2</sub>)-NH<sub>2</sub>

**Storage:** Store at -20°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.

**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:**

**Cellier *et al*** (1999) Characterisation of central and peripheral effects of septide with the use of five tachykinin NK<sub>1</sub> receptor antagonists in the rat. *Br.J.Pharmacol.* **127** 717. PMID: 10401563.

**Li and Zhao** (1998) Small sensory neurons in the rat dorsal root ganglia express functional NK-1 tachykinin receptor. *Eur.J.Neurosci.* **10** 1292. PMID: 9749783.

**King *et al*** (1997) Profile of neuronal excitation following selective activation of the neurokinin-1 receptor in rat deep dorsal horn in vitro. *Brain Res.* **767** 55. PMID: 9365015.

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