

# Certificate of Analysis

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**Product Name:** Substance P  
CAS Number: 33507-63-0

**Catalog No.:** 1156 **Batch No.:** 37  
EC Number: 251-545-8

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>63</sub>H<sub>98</sub>N<sub>18</sub>O<sub>13</sub>S  
**Batch Molecular Weight:** 1347.6  
**Physical Appearance:** White lyophilised solid  
**Counter Ion:** TFA  
**Solubility:** Soluble to 0.80 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Arg-Pro-Lys-Pro-Gln-Gln-Phe  
-Phe-Gly-Leu-Met-NH<sub>2</sub>

## 2. ANALYTICAL DATA

**HPLC:** Shows 96.9% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

| Amino Acid Theoretical |      |      | Actual |      |      |
|------------------------|------|------|--------|------|------|
| Ala                    |      |      | Lys    | 1.00 | 1.00 |
| Arg                    | 1.00 | 0.97 | Met    | 1.00 | 0.98 |
| Asx                    |      |      | Phe    | 2.00 | 2.00 |
| Cys                    |      |      | Pro    | 2.00 | 1.99 |
| Glx                    | 2.00 | 2.03 | Ser    |      |      |
| Gly                    | 1.00 | 1.02 | Thr    |      |      |
| His                    |      |      | Trp    |      |      |
| Ile                    |      |      | Tyr    |      |      |
| Leu                    | 1.00 | 1.00 | Val    |      |      |

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

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**Product Name:** Substance P**Catalog No.:** 1156**37**

CAS Number: 33507-63-0

EC Number: 251-545-8

**Description:**

Substance P is a sensory neuropeptide and inflammatory mediator. Exerts excitatory effects on central and peripheral neurons, constricts bronchioles and is involved in pain transmission.

**Physical and Chemical Properties:**Batch Molecular Formula: C<sub>63</sub>H<sub>98</sub>N<sub>18</sub>O<sub>13</sub>S

Batch Molecular Weight: 1347.6

Physical Appearance: White lyophilised solid

**Peptide Sequence:**Arg-Pro-Lys-Pro-Gln-Gln-Phe  
-Phe-Gly-Leu-Met-NH<sub>2</sub>**Storage:** Store at -20°C**Solubility & Usage Info:**

Soluble to 0.80 mg/ml in 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:**

**Andoh et al** (1998) Substance P induction of itch-associated response mediated by cutaneous NK<sub>1</sub> tachykinin receptors in mice. *J.Pharmacol.Exp.Ther.* **286** 1140. PMID: 9732370.

**Walsh et al** (1995) Substance P-induced inflammatory responses in guinea-pig skin: the effect of specific NK<sub>1</sub> receptor antagonists and the role of endogenous mediators. *Br.J.Pharmacol.* **114** 1343. PMID: 7541689.

**Pernow et al** (1983) Substance P. *Pharmacol.Rev.* **35** 85. PMID: 6196797.

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