

Certificate of Analysis

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Product Name: Substance P

Catalog No.: 1156

Batch No.: 33

CAS Number: 33507-63-0

EC Number: 251-545-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆₃H₉₈N₁₈O₁₃S
Batch Molecular Weight: 1347.6
Physical Appearance: White lyophilised solid
Net Peptide Content: 71.1%
Counter Ion: TFA
Solubility: Soluble to 0.80 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Arg-Pro-Lys-Pro-Gln-Gln-Phe
 -Phe-Gly-Leu-Met-NH₂

2. ANALYTICAL DATA

HPLC: Shows 98.8% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala			Lys	1.00	1.08
Arg	1.00	1.07	Met	1.00	1.02
Asx			Phe	2.00	1.97
Cys			Pro	2.00	2.02
Glx	2.00	1.84	Ser		
Gly	1.00	1.02	Thr		
His			Trp		
Ile			Tyr		
Leu	1.00	1.01	Val		

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

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Description:

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: C₆₃H₉₈N₁₈O₁₃S

Batch Molecular Weight: 1347.6

Physical Appearance: White lyophilised solid

Peptide Sequence:

Arg-Pro-Lys-Pro-Gln-Gln-Phe
-Phe-Gly-Leu-Met-NH₂

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 0.80 mg/ml in water

Net Peptide Content: 71.1% (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:

Andoh *et al* (1998) Substance P induction of itch-associated response mediated by cutaneous NK₁ 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 NK₁ 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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