

Certificate of Analysis

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Product Name: Substance P

Catalog No.: 1156

Batch No.: 35

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
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-NH₂

2. ANALYTICAL DATA

HPLC: Shows 97.8% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual		Amino Acid Theoretical		Actual	
Ala				Lys	1.00		1.00
Arg	1.00	1.00	Met	1.00		0.98	
Asx			Phe	2.00		2.02	
Cys			Pro	2.00		1.98	
Glx	2.00	2.06	Ser				
Gly	1.00	1.01	Thr				
His			Trp				
Ile			Tyr				
Leu	1.00	0.96	Val				

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

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Batch No.: 35

CAS Number: 33507-63-0

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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: C₆₃H₉₈N₁₈O₁₃S

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Peptide Sequence:

Arg-Pro-Lys-Pro-Gln-Gln-Phe
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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 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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