

Product Name: Spinorphin

Catalog No.: 2931

Batch No.: 3

CAS Number: 137201-62-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₅H₆₄N₈O₁₀
Batch Molecular Weight: 877.05
Physical Appearance: White lyophilised solid
Net Peptide Content: 86%
Counter Ion: Acetate salt
Solubility: Soluble to 1 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Leu-Val-Val-Tyr-Pro-Trp-Thr

2. ANALYTICAL DATA

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

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala				Lys			
Arg				Met			
Asx				Phe			
Cys				Pro	1.00		1.01
Glx				Ser			
Gly				Thr	1.00		0.93
His				Trp			
Ile				Tyr	1.00		1.06
Leu	1.00		0.99	Val	2.00		1.69

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

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Description:

Endogenous peptide; inhibits enkephalin-degrading enzymes (aminopeptidase, dipeptidyl aminopeptidase III, neprilysin) and angiotensin-converting enzyme. Displays antinociceptive effects in mice.

Physical and Chemical Properties:

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Batch Molecular Weight: 877.05

Physical Appearance: White lyophilised solid

Peptide Sequence:

Leu-Val-Val-Tyr-Pro-Trp-Thr

Storage: Desiccate 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.

Net Peptide Content: 86% (Remaining weight made up of counterions and residual water).

Counter Ion: Acetate salt

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:

Honda et al (2001) Spinorphin, an endogenous inhibitor of enkephalin-degrading enzymes, potentiates Leu-enkephalin-induced anti-allodynic and antinociceptive effects in mice. *Jpn.J.Pharmacol.* **87** 261. PMID: 11829145.

Liang et al (2001) The endogenous opioid spinorphin blocks fMet-Leu-Phe-induced neutrophil chemotaxis by acting as a specific antagonist at the N-formylpeptide receptor subtype FPR. *J.Immunol.* **167** 6609. PMID: 11714831.

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