

Certificate of Analysis

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Product Name: [(pF)Phe⁴]Nociceptin(1-13)NH₂

Catalog No.: 1566

Batch No.: 2

CAS Number: 380620-88-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₆₁ H ₉₉ FN ₂₂ O ₁₅
Batch Molecular Weight:	1399.6
Physical Appearance:	White lyophilised solid
Net Peptide Content:	63%
Solubility:	Soluble to 2 mg/ml in water
Storage:	Desiccate at -20°C
Peptide Sequence:	Phe-Gly-Gly-(pF)Phe-Thr-Gly-Ala-Arg-Lys-Ser- Ala-Arg-Lys-NH ₂

2. ANALYTICAL DATA

HPLC: Shows >95% purity

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala				Leu			
Ala	2.00	1.90	Lys	2.00	2.00		
Arg	2.00	2.07	Met				
Asx			Phe	1.00	1.01		
Cys			Pro				
Glx			Ser	1.00	1.06		
Gly	3.00	2.90	Thr	1.00	1.00		
His			Trp				
Ile			Tyr				
			Val				

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

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Description:

Highly potent and selective nociceptin/orphanin FQ receptor (OP₄) agonist peptide (pK_i = 10.68; pEC₅₀ = 9.80). Displays > 8000-fold selectivity over δ, κ, and μ opioid receptors and has relatively long lasting pronociceptive, hypotensive, negative inotropic and feeding stimulation effects in vivo.

Physical and Chemical Properties:

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Batch Molecular Weight: 1399.6

Physical Appearance: White lyophilised solid

Peptide Sequence:

Phe-Gly-Gly-(pF)Phe-Thr-Gly-Ala-Arg-Lys-Ser-
Ala-Arg-Lys-NH₂

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 2 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: 63% (Remaining weight made up of counterions and residual water).

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:

Guerrini et al (2001) Structure-activity studies of the Phe⁴ residue of nociceptin(1-13)-NH₂: Identification of highly potent agonists of the nociceptin/orphanin FQ receptor. *J.Med.Chem.* **44** 3956. PMID: 11689082.

Rizzi et al (2002) Pharmacological characterisation of [(pX)Phe⁴]nociceptin(1-13)amide analogues. 2. In vivo studies. *Naunyn Schmiedebergs Arch.Pharmacol.* **365** 450. PMID: 12070758.

Bigoni et al (2002) Pharmacological characterisation of [(pX)Phe⁴]nociceptin(1-13)amide analogues. 1. In vitro studies. *Naunyn Schmiedebergs Arch.Pharmacol.* **365** 442. PMID: 12070757.

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