

Certificate of Analysis

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Product Name: [Phe¹Ψ(CH₂-NH)Gly²]Nociceptin(1-13)NH₂

Catalog No.: 1092

Batch No.: 9

CAS Number: 213130-17-7

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆₁H₁₀₂N₂₂O₁₄
Batch Molecular Weight: 1367.6
Physical Appearance: White lyophilised solid
Net Peptide Content: 69%
Counter Ion: Acetate
Solubility: Soluble to 0.70 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Phe(Ψ(CH₂-NH))-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-Ala-Arg-Lys-NH₂

2. ANALYTICAL DATA

HPLC: Shows >95% purity

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	2.00	2.00	Lys	2.00	1.96
Arg	2.00	2.05	Met		
Asx			Phe	2.00	0.87
Cys			Pro		
Glx			Ser	1.00	0.99
Gly	3.00	1.93	Thr	1.00	0.93
His			Trp		
Ile			Tyr		
Leu			Val		

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

Product Information

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Description:

Potent agonist of the nociceptin (ORL₁) receptor, demonstrated both in vitro and in vivo. Selective, competitive antagonism at the nociceptin receptor has also been reported (pA₂ = 7.02 and 6.75 in the guinea pig ileum and mouse vas deferens respectively).

Physical and Chemical Properties:

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Batch Molecular Weight: 1367.6

Physical Appearance: White lyophilised solid

Peptide Sequence:

Phe(Ψ(CH₂-NH))-Gly-Gly-Phe-Thr-Gly-Ala-
Arg-Lys-Ser-Ala-Arg-Lys-NH₂

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 0.70 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: 69% (Remaining weight made up of counterions and residual water).

Counter Ion: Acetate

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 (1997) Address and message sequences for the nociceptin receptor: a structure-activity study of nociceptin (1-13)-peptide amide. *J. Med. Chem.* **40** 1789. PMID: 9191955.

Guerrini et al (1998) A new selective antagonist of the nociceptin receptor. *Br. J. Pharmacol.* **123** 163. PMID: 9489602.

Xu et al (1998) [Phe¹ω(CH₂-NH)Gly²-nociceptin-(1-13)NH₂, a proposed antagonist of the nociceptin receptor, is a potent and stable agonist in the rat spinal cord. *Neurosci. Lett.* **249** 127. PMID: 9682833.

Okawa et al (1999) Comparison of the effects of [Phe¹ω(CH₂-NH)Gly²-nociceptin-(1-13)NH₂ in rat brain, rat vas deferens and CHO cells expressing recombinant human nociceptin receptors. *Br. J. Pharmacol.* **127** 123. PMID: 10369464.

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