

Certificate of Analysis

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Product Name: Nociceptin
CAS Number: 170713-75-4

Catalog No.: 0910 **Batch No.:** 19

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₇₉H₁₂₉N₂₇O₂₂
Batch Molecular Weight: 1809
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Phe-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-
Ala-Arg-Lys-Leu-Ala-Asn-Gln

2. ANALYTICAL DATA

HPLC: Shows 97.3% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	3.00	2.92	Lys	2.00	2.03
Arg	2.00	2.03	Met		
Asx	1.00	1.01	Phe	2.00	1.99
Cys			Pro		
Glx	1.00	1.02	Ser	1.00	0.67
Gly	3.00	3.01	Thr	1.00	0.83
His			Trp		
Ile			Tyr		
Leu	1.00	0.98	Val		

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

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Product Name: Nociceptin

Catalog No.: 0910

19

CAS Number: 170713-75-4

Description:

Nociceptin is an endogenous ligand for the NOP opioid receptor ($pK_i = 8.6$). Has no significant activity at μ , δ or κ opioid receptors ($pK_i < 6$).

Physical and Chemical Properties:

Batch Molecular Formula: $C_{79}H_{129}N_{27}O_{22}$

Batch Molecular Weight: 1809

Physical Appearance: White lyophilised solid

Peptide Sequence:

Phe-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-
Ala-Arg-Lys-Leu-Ala-Asn-Gln

Storage: Store at $-20^{\circ}C$

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.

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 $45-60^{\circ}C$ 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 $-20^{\circ}C$. 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 $0.2 \mu m$ filter to remove potential bacterial contamination whenever possible.

References:

Guerrini *et al* (2000) Structure-activity relationships of nociceptin and related peptides: comparison with dynorphin A. *Peptides* **21** 923. PMID: 10998526.

Henderson and McKnight (1997) The orphan opioid receptor and its endogenous ligand-nociceptin/orphanin FQ. *TIPS* **18** 293. PMID: 9277133.

Meunier *et al* (1995) Isolation and structure of the endogenous agonist of opioid receptor-like ORL_1 receptor. *Nature* **377** 532. PMID: 7566152.

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