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Certificate of Analysis

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Product Name: **[Arg^{14},Lys^{15}]Nociceptin** **Catalog No.: 1590** **Batch No.: 3**

CAS Number: 236098-40-1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{82}H_{137}N_{31}O_{22}$
Batch Molecular Weight:	1909.18
Physical Appearance:	White lyophilised solid
Net Peptide Content:	65.1%
Counter Ion:	TFA
Solubility:	Soluble to 1 mg/ml in water
Storage:	Desiccate at -20°C
Peptide Sequence:	Phe-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-Ala-Arg-Lys-Arg-Lys-Asn-Gln

2. ANALYTICAL DATA

HPLC:	Shows 95.2% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	2.00	2.39	Lys	3.00	3.31
Arg	3.00	3.36	Met		
Asx	1.00	1.00	Phe	2.00	1.98
Cys			Pro		
Glx	1.00	1.08	Ser	1.00	1.04
Gly	3.00	3.10	Thr	1.00	0.98
His			Trp		
Ile			Tyr		
Leu			Val		

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Product Name: **[Arg^{14},Lys^{15}]Nociceptin** **Catalog No.: 1590** **Batch No.: 3**

CAS Number: 236098-40-1

Description:

Highly potent and selective NOP receptor agonist (EC_{50} = 1 nM). Displays > 875-fold selectivity over opioid receptors (IC_{50} values are 0.32, 280, > 10000 and 1500 for NOP, μ, δ and κ receptors respectively). Longer lasting and 30-fold more potent than nociceptin in vivo; pronociceptive and inhibits locomotor activity.

Physical and Chemical Properties:

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Batch Molecular Weight: 1909.18

Physical Appearance: White lyophilised solid

Peptide Sequence:

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

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: 65.1% (Remaining weight made up of counterions and residual 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 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:

Okada *et al* (2000) Highly potent nociceptin analog containing the Arg-Lys triple repeat. Biochem.Biophys.Res.Commun. ***278*** 493. PMID: 11097863.

Rizzi *et al* (2002) [Arg^{14},Lys^{15}]Nociceptin, a highly potent agonist of the nociceptin/orphanin FQ receptor: in vitro and in vivo studies. J.Pharmacol.Exp.Ther. ***300*** 57. PMID: 11752097.

Calo *et al* (2002) Pharmacological profile of nociceptin/orphanin FQ receptors. Clin.Exp.Pharmacol.Physiol. ***29*** 223. PMID: 11906488.