TOCRIS bioscience

Print Date: Oct 9th 2014

Certificate of Analysis

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Product Name: **[Nphe^1]Nociceptin(1-13)NH$_2$** **Catalog No.: 1308** **Batch No.: 10**

CAS Number: 267234-08-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{61}H_{100}N_{22}O_{15}$
Batch Molecular Weight:	1381.6
Physical Appearance:	White lyophilised solid
Net Peptide Content:	66%
Counter Ion:	Trifluoroacetate
Solubility:	Soluble to 1 mg/ml in 10% acetonitrile
Storage:	Desiccate at -20°C
Peptide Sequence:	N-(Bn)Gly-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-Ala-Arg-Lys-NH_2

2. ANALYTICAL DATA

HPLC:	Shows >96% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	2.00	1.96	Lys	2.00	2.04
Arg	2.00	1.96	Met		
Asx			Phe	1.00	0.98
Cys			Pro		
Glx			Ser	1.00	1.00
Gly	3.00	3.09	Thr	1.00	1.00
His			Trp		
Ile			Tyr		
Leu			Val		

Product Name: [Nphe^1]Nociceptin(1-13)NH_2 **Catalog No.: 1308** **Batch No.: 10**

CAS Number: 267234-08-2

Description:

Selective and competitive nociceptin receptor antagonist, devoid of any agonist activity. Binds selectively to recombinant nociceptin receptors (pK_i = 8.4), and competitively antagonizes the actions of nociceptin in vitro and in vivo.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{61}H_{100}N_{22}O_{15}$

Batch Molecular Weight: 1381.6

Physical Appearance: White lyophilised solid

Peptide Sequence:

N-(Bn)Gly-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-Ala-Arg-Lys-NH_2

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in 10% acetonitrile

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: 66% (Remaining weight made up of counterions and residual water).

Counter Ion: Trifluoroacetate

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:

Calo *et al* (2000) Characterization of [Nphe^1]nociceptin(1-13)NH_2, a new selective nociceptin receptor antagonist. Br.J.Pharmacol. ***129*** 1183. PMID: 10725267.

Hashimoto *et al* (2000) Antagonistic effects of [Nphe^1]nociceptin(1-13)NH_2 on nociceptin receptor mediated inhibition of cAMP formation in Chinese hamster ovary cells stably expressing the recombinant human nociceptin receptor. Neurosci.Lett. ***278*** 109. PMID: 10643813.

Pheng *et al* (2000) [Nphe^1]nociceptin-(1-13)NH_2 selectively antagonizes nociceptin effects in the rabbit isolated ileum. Eur.J.Pharmacol. ***397*** 383. PMID: 10844138.