Print Date: Oct 13th 2021

Certificate of Analysis

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Product Name: **UFP-101** **Catalog No.: 1552** **Batch No.: 9**

CAS Number: 849024-68-6

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{82}H_{138}N_{32}O_{21}$

Batch Molecular Weight: 1908.19

Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: N-(Bn)Gly-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-Ala-Arg-Lys-Arg-Lys-Asn-Gln-NH_2

2. ANALYTICAL DATA

HPLC: Shows 97.6% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	2.00	1.90	Lys	3.00	2.93
Arg	3.00	3.06	Met		
Asx	1.00	1.00	Phe	1.00	1.01
Cys			Pro		
Glx	1.00	1.01	Ser	1.00	1.00
Gly	4.00	3.08	Thr	1.00	0.99
His			Trp		
Ile			Tyr		
Leu			Val		

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

Product Name: **UFP-101** **Catalog No.: 1552** **Batch No.: 9**

CAS Number: 849024-68-6

Description:

UFP-101 is a potent, selective and competitive silent antagonist for the NOP opioid receptor. Binds to NOP with high affinity (pK_i = 10.24) and displays > 3000-fold selectivity over δ, μ and κ opioid receptors. Antinociceptive and opposes the action of nociceptin in vivo.

Physical and Chemical Properties:

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Batch Molecular Weight: 1908.19

Physical Appearance: White lyophilised solid

Peptide Sequence:

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

Storage: Store 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.

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:

Gavioli *et al* (2003) Blockade of nociceptin/orphanin FQ-NOP receptor signalling produces antidepressant-like effects: pharmacological and genetic evidences from the mouse forced swimming test. Eur.J.Neurosci. ***17*** 1987. PMID: 12752799.

Marti *et al* (2003) Pharmacological profiles of presynaptic nociceptin/orphanin FQ receptors modulating 5-hydroxytryptamine and noradrenaline release in the rat neocortex. Br.J.Pharmacol. ***138*** 91. PMID: 12522077.

McDonald *et al* (2003) UFP-101, a high affinity antagonist for the nociceptin/orphanin FQ receptor: radioligand and $GTP\gamma^{35}$ binding studies. Naunyn Schmiedebergs Arch.Pharmacol. ***367*** 183. PMID: 12595960.