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Certificate of Analysis

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Product Name: **Hemopressin (rat)** **Catalog No.: 1764** **Batch No.: 2**
CAS Number: 568588-77-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{53}H_{77}N_{13}O_{12}$
Batch Molecular Weight:	1088.27
Physical Appearance:	White lyophilised solid
Net Peptide Content:	74%
Counter Ion:	Trifluoroacetate
Solubility:	Soluble to 2 mg/ml in 20% acetonitrile
Storage:	Desiccate at -20°C
Peptide Sequence:	Pro-Val-Asn-Phe-Lys-Phe-Leu-Ser-His

2. ANALYTICAL DATA

HPLC:	Shows >99% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys	1.00	1.03
Arg			Met		
Asx	1.00	1.00	Phe	2.00	1.97
Cys			Pro	1.00	1.03
Glx			Ser	1.00	0.97
Gly			Thr		
His	1.00	0.99	Trp		
Ile			Tyr		
Leu	1.00	1.03	Val	1.00	1.01

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CAS Number: 568588-77-2

Description:

Bioactive endogenous peptide substrate for endopeptidase 24.15 (ep24.15), neurolysin (ep24.16) and ACE. K_i values are 27.76, 3.43 and 1.87 µM respectively. Potent hypotensive in vivo. Also acts as a selective CB_1 receptor inverse agonist. Displays antinociceptive activity and induces hypophagia in vivo.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{53}H_{77}N_{13}O_{12}$

Batch Molecular Weight: 1088.27

Physical Appearance: White lyophilised solid

Peptide Sequence:

Pro-Val-Asn-Phe-Lys-Phe-Leu-Ser-His

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 2 mg/ml in 20% 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: 74% (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:

Rioli *et al* (2003) Novel natural peptide substrates for endopeptidase 24.15, neurolysin, and angiotensin-converting enzyme. J.Biol.Chem. ***278*** 8547. PMID: 12500972.

Heimann *et al* (2007) Hemopressin is an inverse agonist of CB_1 cannabinoid receptors. Proc.Natl.Acad.Sci.U.S.A. ***104*** 20588. PMID: 18077343.

Todd *et al* (2010) The peptide hemopressin acts through CB_1 cannabinoid receptors to reduce food intake in rats and mice. J.Neurosci. ***30*** 7369. PMID: 20505104.

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