Print Date: Jan 7th 2022

Certificate of Analysis

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Product Name: **GRP (human)** **Catalog No.: 1789** **Batch No.: 7**

CAS Number: 93755-85-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{130}H_{204}N_{38}O_{31}S_2$
Batch Molecular Weight:	2859.4
Physical Appearance:	White lyophilised solid
Net Peptide Content:	82.6%
Counter Ion:	TFA
Solubility:	Soluble to 1 mg/ml in water
Storage:	Store at -20°C
Peptide Sequence:	Val-Pro-Leu-Pro-Ala-Gly-Gly-Gly-Thr-Val-Leu-Thr-Lys-Met-Tyr-Pro-Arg-Gly-Asn-His-Trp-Ala-Val-Gly-His-Leu-Met-NH_2

2. ANALYTICAL DATA

HPLC:	Shows 95.1% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	2.00	1.93	Lys	1.00	1.00
Arg	1.00	1.00	Met	2.00	1.98
Asx	1.00	1.08	Phe		
Cys			Pro	3.00	2.98
Glx			Ser		
Gly	5.00	4.99	Thr	2.00	1.73
His	2.00	2.07	Trp	1.00	0.53
Ile			Tyr	1.00	1.02
Leu	3.00	3.01	Val	3.00	2.92

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Product Information

Product Name: **GRP (human)** **Catalog No.: 1789** **Batch No.: 7**

CAS Number: 93755-85-2

Description:

GRP (human) is a mammalian bombesin-like peptide neurotransmitter that is an agonist for the gastrin-releasing peptide receptor (GRPR). GRP has been reported to activate GABAergic interneurons in the amygdala leading to increased GABA release and fear suppression in mice in vivo. Also involved in mitogenesis, and GI tract and appetite regulation.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{130}H_{204}N_{38}O_{31}S_2$

Batch Molecular Weight: 2859.4

Physical Appearance: White lyophilised solid

Peptide Sequence:

Val-Pro-Leu-Pro-Ala-Gly-Gly-Gly-Thr-Val-Leu-Thr-Lys-Met-Tyr-Pro-Arg-Gly-Asn-His-Trp-Ala-Val-Gly-His-Leu-Met-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.

Net Peptide Content: 82.6% (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:

Dudai (2003) Neurobiology: Fear thou not. Nature ***421*** 325. PMID: 12540884.

Shumyatsky *et al* (2002) Identification of a signaling network in lateral nucleus of amygdala important for inhibiting memory specifically related to learned fear. Cell ***111*** 905. PMID: 12526815.

Woodruff *et al* (1996) Bombesin receptors in the brain. Ann.N.Y.Acad.Sci. ***780*** 223. PMID: 8602736.