Print Date: Nov 7th 2018

Certificate of Analysis

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Product Name: **Prion Protein 106-126 (human)** **Catalog No.: 3491** **Batch No.: 2**

CAS Number: 148439-49-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{80}H_{138}N_{26}O_{24}S_2$

Batch Molecular Weight: 1912.26

Physical Appearance: White lyophilised solid

Net Peptide Content: 77%

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Desiccate at -20°C

Peptide Sequence: Lys-Thr-Asn-Met-Lys-His-Met-Ala-Gly-Ala-Ala-Ala-Ala-Gly-Ala-Val-Val-Gly-Gly-Leu-Gly

2. ANALYTICAL DATA

HPLC: Shows 97.2% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	6.00	5.70	Lys	2.00	2.00
Arg			Met	2.00	1.89
Asx	1.00	0.98	Phe		
Cys			Pro		
Glx			Ser		
Gly	5.00	5.06	Thr	1.00	1.08
His	1.00	1.05	Trp		
Ile			Tyr		
Leu	1.00	1.07	Val	2.00	1.77

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CAS Number: 148439-49-0

Description:

Prion peptide fragment that shares many physiochemical features with PrP^{Sc}. Exhibits neurotoxicity caused by amplification of PrP^{C}-associated signaling responses and induces NF-κB-mediated apoptosis in the mouse neuroblastoma cell line N2a. Forms β-sheet-rich, insoluble, protease-resistant fibrils and is used as a model to study prion diseases in vitro.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{80}H_{138}N_{26}O_{24}S_2$

Batch Molecular Weight: 1912.26

Physical Appearance: White lyophilised solid

Peptide Sequence:

Lys-Thr-Asn-Met-Lys-His-Met-Ala-Gly-Ala-Ala-Ala-Ala-Gly-Ala-Val-Val-Gly-Gly-Leu-Gly

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: 77% (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:

Bai *et al* (2008) p75NTR activation of NF-κB is involved in PrP106-126-induced apoptosis in mouse neuroblastoma cells. Neurosci.Res. ***62*** 9. PMID: 18602709.

Pietri *et al* (2006) Overstimulation of PrPC signaling pathways by prion peptide 106-126 causes oxidative injury of bioaminergic neuronal cells. J.Biol.Chem. ***281*** 28470. PMID: 16864581.

Forloni *et al* (1993) Neurotoxicity of a prion protein fragment. Nature ***362*** 543. PMID: 8464494.