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Print Date: Jan 15th 2016

Certificate of Analysis

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Product Name: **C3bot (154-182)** **Catalog No.: 4123** **Batch No.: 1**
CAS Number: 1246280-79-4

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{137}H_{221}N_{37}O_{40}S$
Batch Molecular Weight:	3058.54
Physical Appearance:	White lyophilised solid
Net Peptide Content:	91%
Counter Ion:	TFA
Solubility:	Soluble to 5 mg/ml in water
Storage:	Store at -20°C
Peptide Sequence:	Val-Ala-Lys-Gly-Ser-Lys-Ala-Gly-Tyr-Ile-Asp-Pro-Ile-Ser-Ala-Phe-Ala-Gly-Gln-Leu-Glu-Met-Leu-Leu-Pro-Arg-His-Ser-Thr

2. ANALYTICAL DATA

HPLC:	Shows 98% purity
Mass Spectrum:	Consistent with structure

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Product Name: **C3bot (154-182)** **Catalog No.: 4123** **Batch No.: 1**

CAS Number: 1246280-79-4

Description:

Transferase-deficient neurotrophic fragment of clostridial C3 protein. Promotes axonal and dendritic growth and branching of hippocampal neurons at submicromolar concentrations. Also promotes reinnervation of target tissues in organotypical hippocampal/entorhinal slice cultures. Reduces levels of active neuronal RhoA by a non-enzymatic mechanism. Enhances functional recovery and regeneration in a mouse model of spinal cord injury.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{137}H_{221}N_{37}O_{40}S$

Batch Molecular Weight: 3058.54

Physical Appearance: White lyophilised solid

Peptide Sequence:

Val-Ala-Lys-Gly-Ser-Lys-Ala-Gly-Tyr-Ile-Asp-Pro-Ile-Ser-Ala-Phe-Ala-Gly-Gln-Leu-Glu-Met-Leu-Leu-Pro-Arg-His-Ser-Thr

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 5 mg/ml in water

Net Peptide Content: 91% (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:

Holtje *et al* (2009) A 29-amino acid fragment of Clostridium botulinum C3 protein enhances neuronal outgrowth, connectivity, and reinnervation. FASEB J. ***23*** 1115. PMID: 19047066.

Boato *et al* (2010) C3 peptide enhances recovery from spinal cord injury by improved regenerative growth of descending fiber tracts. J.Cell Science ***123*** 1652.

Just *et al* (2011) Therapeutic effects of Clostridium botulinum C3 exoenzyme. Naunyn-Schmied.Arch.Pharmacol. ***383*** 247.

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