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TOCRIS

Print Date: Jul 29th 2024

Certificate of Analysis

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Product Name: **COG 133** **Catalog No.: 3405** **Batch No.: 8**

CAS Number: 514200-66-9

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{97}H_{181}N_{37}O_{19}$

Batch Molecular Weight: 2169.73

Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Ac-Leu-Arg-Val-Arg-Leu-Ala-Ser-His-Leu-Arg-Lys-Leu-Arg-Lys-Arg-Leu-Leu-NH_2

2. ANALYTICAL DATA

HPLC: Shows 98.5% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	1.00	1.03	Lys	2.00	2.01
Arg	5.00	4.96	Met		
Asx			Phe		
Cys			Pro		
Glx			Ser	1.00	1.01
Gly			Thr		
His	1.00	0.99	Trp		
Ile			Tyr		
Leu	6.00	6.03	Val	1.00	0.97

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Product Name: COG 133 **Catalog No.:** 3405 **8**

CAS Number: 514200-66-9

Description:

COG 133 is an apolipoprotein (ApoE) peptide fragment that functions via the low-density lipoprotein receptor-related protein (LRP). Substantially reduces the symptoms of experimental autoimmune encephalomyelitis, a model of human multiple sclerosis, and suppresses inflammation, demyelination and infiltration of cells into the spinal cord. Also acts as a non-competitive antagonist at α7 nicotinic acetylcholine receptors (IC_{50} = 445 nM).

Physical and Chemical Properties:

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Ac-Leu-Arg-Val-Arg-Leu-Ala-Ser-His-Leu-Arg-Lys-Leu-Arg-Lys-Arg-Leu-Leu-NH_2

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and 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:

Sheng *et al* (2008) *N*-MthD.-aspartate receptor inhibition by an apolipoprotein E-derived peptide relies on low-density lipoprotein receptor-associated protein. Neuropharmacology ***55*** 204. PMID: 18602124.

Gay *et al* (2006) Apolipoprotein E-derived peptides block α7 neuronal nicotinic acetylcholine receptors expressed in *Xenopus oocytes*. J.Pharmacol.Exp.Ther. ***316*** 835. PMID: 16249370.

Li *et al* (2006) Apolipoprotein E-derived peptides ameliorate clinical disability and inflammatory infiltrates into the spinal cord in a murine model of multiple sclerosis. J.Pharmacol.Exp.Ther. ***318*** 956. PMID: 16740622.