

Certificate of Analysis

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Product Name: Conantokin-R

Catalog No.: 3125

Batch No.: 1

CAS Number: 202925-60-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₁₂₇ H ₂₀₁ N ₃₅ O ₄₉ S ₃
Batch Molecular Weight:	3098.4
Physical Appearance:	White lyophilised solid
Counter Ion:	Trifluoroacetate
Storage:	Store at -20°C
Peptide Sequence:	Gly-Glu-Gla-Gla-Val-Ala-Lys-Met-Ala-Ala- Gla-Leu-Ala-Arg-Gla-Asn-Ile-Ala-Lys-Gly- Cys-Lys-Val-Asn-Cys-Tyr-Pro

2. ANALYTICAL DATA

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

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Batch No.: 1

CAS Number: 202925-60-8

Description:

Potent, non-competitive NMDA receptor antagonist (IC_{50} = 93 nM) that has been suggested to have GluN2 (formally NR2) subunit selectivity. Inhibits inward currents evoked by NMDA in central nervous system neurons (IC_{50} = 350 nM) and exhibits broad anticonvulsant and antiparkinsonian activity in vivo at doses devoid of behavioral toxicity. Please refer to IUPHAR Guide to Pharmacology for the most recent naming conventions.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{127}H_{201}N_{35}O_{49}S_3$

Batch Molecular Weight: 3098.4

Physical Appearance: White lyophilised solid

Peptide Sequence:

Gly-Glu-Gla-Gla-Val-Ala-Lys-Met-Ala-Ala-
Gla-Leu-Ala-Arg-Gla-Asn-Ile-Ala-Lys-Gly-

└──────────┘
Cys-Lys-Val-Asn-Cys-Tyr-Pro

Storage: Store at -20°C

Solubility & Usage Info:

Most peptides are soluble in distilled water. If the peptide does not completely dissolve addition of 0.1M acetic acid (those containing Arg, Lys, His) or 0.1M ammonia (those containing Asp, Glu) may help. Occasionally 10% DMSO or DMF may be required for extremely insoluble peptides. In addition to these measures sonification may also be helpful.

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.

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 as 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.

Other Information:

This is a dual-use item with associated conditions of supply; the relevant licence/documentation from the appropriate governing body will be required.

Note on Biotubes:

Toxins are supplied in protective biotubes. These biotubes have a screw top lid, which is manually tightened and can be easily unscrewed. If the lid is particularly tight, a coin placed in the top slot may be used to unscrew it.

Licensing Information:

Sold under license from University of Utah

References:

Klein et al (2001) The amino acid residue at sequence position 5 in the conantokin peptides partially governs subunit-selective antagonism of recombinant N-methyl-D-aspartate receptors. *J.Biol.Chem.* **276** 26860. PMID: 11335724.

Bland et al (2000) Structure-function relationships of the NMDA-receptor antagonist peptide, conantokin-R. *FEBS Lett.* **470** 139. PMID: 10734223.

White et al (2000) In vitro and in vivo characterization of conantokin-R, a selective NMDA receptor antagonist isolated from the venom of the fish-hunting snail *Conus radiatus*. *J.Pharmacol.Expr.Ther.* **292** 425.

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