

Product Name: Conantokin G

Catalog No.: 4136

Batch No.: 1

CAS Number: 93438-65-4

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{88}H_{138}N_{26}O_{44}$
Batch Molecular Weight: 2264.21
Physical Appearance: White lyophilised solid
Net Peptide Content: 100%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Gly-Glu-Gla-Gla-Leu-Gln-Gla-Asn-Gln-Gla
Leu-Ile-Arg-Gla-Lys-Ser-Asn-NH₂

2. ANALYTICAL DATA

HPLC: Shows 98.3% purity
Mass Spectrum: Consistent with structure

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

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Description:

NR2B-selective, competitive antagonist of the NMDA receptor. Blocks NMDA-evoked current in mouse cortical neurons (IC_{50} = 480 nM); also inhibits NMDA-evoked responses in oocytes expressing NR2B, but not NR2A, subunits (IC_{50} ~300 nM). Exhibits neuroprotective properties in vivo and in vitro.

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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: 100% (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 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.

References:

Donevan and McCabe (2000) Conantokin G is an NR2B-selective competitive antagonist of N-methyl-D-aspartate receptors. *Mol.Pharmacol.* **58** 614. PMID: 10953056.

Bush et al (2000) Selective antagonism of nigral neuropeptide responses to methamphetamine by conantokin G, a naturally occurring conopeptide. *Eur.J.Pharmacol.* **387** 55. PMID: 10633160.

Williams et al (2000) Neuroprotective efficacy and therapeutic window of the high-affinity N-methyl-D-aspartate antagonist conantokin-G: in vitro (primary cerebellar neurons) and in vivo (rat model of transient focal brain ischemia) studies. *J.Pharmacol.Exp.Ther.* **294** 378. PMID: 10871336.

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