bio-techne
TOCRIS

Print Date: Jun 25th 2024

Certificate of Analysis

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Product Name: ω-Conotoxin GVIA **Catalog No.: 1085** **Batch No.: 17**

CAS Number: 106375-28-4

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{120}H_{188}N_{38}O_{43}S_6$

Batch Molecular Weight: 3037

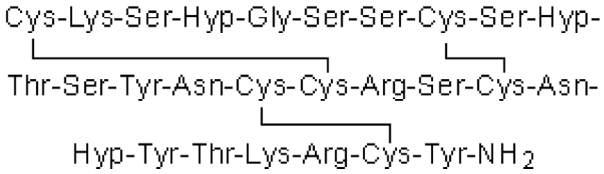
Physical Appearance: White lyophilised solid

Net Peptide Content: 85%

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence:



2. ANALYTICAL DATA

HPLC: Shows >95% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys	2.00	2.01
Arg	2.00	2.16	Met		
Asx	2.00	2.25	Phe		
Cys	6.00		Pro		
Glx			Ser	6.00	6.37
Gly	1.00	1.02	Thr	2.00	1.98
His			Trp		
Ile			Tyr	3.00	2.51
Leu			Val		

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Product Name: *ω*-Conotoxin GVIA **Catalog No.: 1085** **17**

CAS Number: 106375-28-4

Description:

ω-Conotoxin GVIA is a peptide neurotoxin; selectively and reversibly blocks N-type calcium channels (IC_{50} = 0.15 nM). Reduces (RS)-3,5-DHPG (Cat. No. 0342)-induced long term depression in vivo.

Physical and Chemical Properties:

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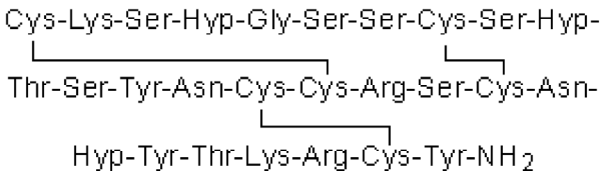

Storage: Store at -20°C

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.

Net Peptide Content: 85% (Remaining weight made up of counterions and residual water).

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.

Other Information:

This product is supplied as a lyophilised solid and may be very hard to visualise. 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.

References:

Connelly *et al* (2011) Distinct mechanisms contribute to agonist and synaptically induced metabotropic glutamate receptor long-term depression. Eur.J.Pharmacol. ***667*** 160. PMID: 21575629.

Wright and Angu (1997) Prolonged cardiovascular effects of the N-type Ca^{2+} channel antagonist ω-conotoxin GVIA in conscious rabbits. J.Cardiovasc.Pharmacol. ***30*** 392. PMID: 9300325.

Sato *et al* (1993) Role of basic residues for the binding of omega-conotoxin GVIA to N-type calcium channels. Biochem.Biophys.Res.Comm. ***194*** 1292. PMID: 8394704.