Print Date: Aug 3rd 2017

Certificate of Analysis

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Product Name: α-Conotoxin PnIA **Catalog No.: 3123** **Batch No.: 2**

CAS Number: 705300-84-1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{65}H_{95}N_{19}O_{22}S_4$

Batch Molecular Weight: 1622.82

Physical Appearance: White lyophilised solid

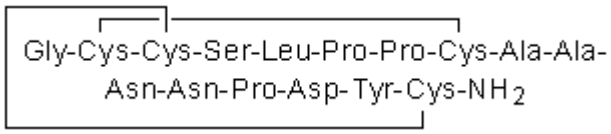
Net Peptide Content: 85%

Counter Ion: TFA

Solubility: Soluble to 5 mg/ml in water

Storage: Desiccate at -20°C

Peptide Sequence:



2. ANALYTICAL DATA

HPLC: Shows 97.5% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	2.00	1.87	Lys		
Arg			Met		
Asx	3.00	2.99	Phe		
Cys	4.00	Detected	Pro	3.00	2.97
Glx			Ser	1.00	1.01
Gly	1.00	1.01	Thr		
His			Trp		
Ile			Tyr	1.00	1.00
Leu	1.00	1.02	Val		

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Product Information

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CAS Number: 705300-84-1

Description:

Selective antagonist of α3β2 nAChR receptors (IC_{50} values are 9.56 and 252 nM for α3β2 and α7 receptors respectively).

Physical and Chemical Properties:

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Batch Molecular Weight: 1622.82

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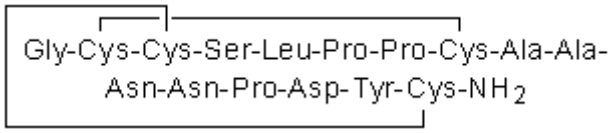

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 5 mg/ml in water

Net Peptide Content: 85% (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.

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:

Everhart *et al* (2003) Identification of residues that confer α-conotoxin-PnIA sensitivity on the α3 subunit of neuronal nicotinic acetylcholine receptors. J.Pharmacol.Exp.Ther. ***306*** 664. PMID: 12734390.

Luo *et al* (1999) Single-residue alteration in α-conotoxin PnIA switches its nAChR subtype selectivity. Biochemistry ***38*** 14542. PMID: 10545176.

Fainzilber *et al* (1994) New mollusc-specific α-conotoxins block *Aplysia* neuronal acetylcholine receptors. Biochemistry ***33*** 9523. PMID: 8068627.

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