

Product Name: α-Conotoxin PIA

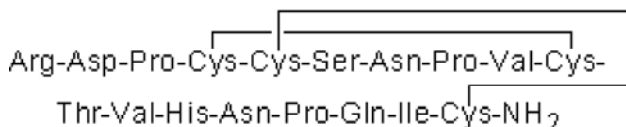
Catalog No.: 3121

Batch No.: 5

CAS Number: 669050-68-4

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₇₉H₁₂₅N₂₇O₂₅S₄
Batch Molecular Weight: 1981.3
Physical Appearance: White lyophilised solid
Net Peptide Content: 70%
Counter Ion: TFA
Solubility: Soluble to 2 mg/ml in water
Storage: Store at -20°C
Peptide Sequence:



2. ANALYTICAL DATA

HPLC: Shows 98% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala			Lys		
Arg	1.00	1.04	Met		
Asx	3.00	3.05	Phe		
Cys	4.00	Detected	Pro	3.00	2.96
Glx	1.00	1.03	Ser	1.00	0.97
Gly			Thr	1.00	0.84
His	1.00	0.89	Trp		
Ile	1.00	0.94	Tyr		
Leu			Val	2.00	1.88

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

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Description:

α -Conotoxin PIA is a selective antagonist of $\alpha 6$ -containing nicotinic receptors that discriminates between the closely related $\alpha 6$ and $\alpha 3$ subunits (IC_{50} values are 0.95 and 74.2 nM for rat $\alpha 6/\alpha 3\beta 2\beta 3$ and $\alpha 3\beta 2$ receptors respectively).

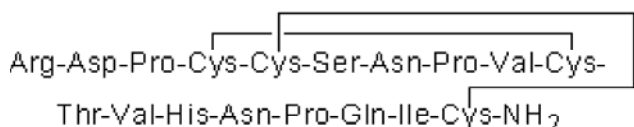
Physical and Chemical Properties:

Batch Molecular Formula: $C_{79}H_{125}N_{27}O_{25}S_4$

Batch Molecular Weight: 1981.3

Physical Appearance: White lyophilised solid

Peptide Sequence:



Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 2 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: 70% (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 μ m 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:

Azam and McIntosh (2005) Effect of novel α -Conotoxins on nicotine-stimulated [³H]DA release from rat striatal synaptosomes. *J.Pharmacol.Exp.Ther.* **312** 231. PMID: 15316087.

Chi et al (2005) Solution structure of α -conotoxin PIA, a novel antagonist of $\alpha 6$ subunit containing nicotinic acetylcholine receptors. *Biochem.Biophys.Res.Comms.* **338** 1990.

Dowell et al (2003) α -Conotoxin PIA is a selective antagonist of $\alpha 6$ subunit containing nicotinic acetylcholine receptors. *Neurosci.* **23** 8445. PMID: 13679412.

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