

Certificate of Analysis

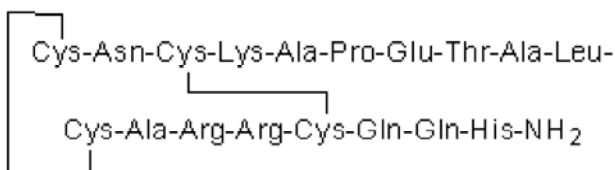
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Product Name: Apamin
CAS Number: 24345-16-2

Catalog No.: 1652 **Batch No.:** 14
EC Number: 246-182-7

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₇₉H₁₃₁N₃₁O₂₄S₄
Batch Molecular Weight: 2027.34
Physical Appearance: White lyophilised solid
Counter Ion: Trifluoroacetate
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence:



2. ANALYTICAL DATA

HPLC: Shows 95.1% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala	3.00	3.14	Lys	1.00	1.10		
Arg	2.00	2.19	Met				
Asx	1.00	1.09	Phe				
Cys	4.00	1.94	Pro	1.00	1.09		
Glx	3.00	3.29	Ser				
Gly			Thr	1.00	0.95		
His	1.00	1.13	Trp				
Ile			Tyr				
Leu	1.00	1.06	Val				

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

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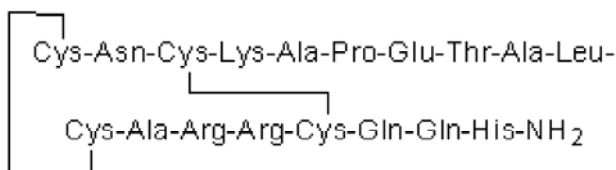
Description:

Apamin is a prototypical potent and highly selective inhibitor of the small-conductance Ca²⁺-activated K⁺-channel (K_{Ca2}, SK). Blocks medium after-hyperpolarization in vitro and is brain penetrant and convulsive in vivo.

Physical and Chemical Properties:

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Physical Appearance: White lyophilised solid

Peptide Sequence:



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.

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.

References:

- Stocker et al** (2004) Matching molecules to function: neuronal Ca²⁺-activated K⁺ channels and afterhyperpolarizations. *Toxicon* **43** 933. PMID: 15208027.
- van der Staay et al** (1999) Behavioral effects of apamin, a selective inhibitor of the SK_{Ca}-channel, in mice and rats. *Neurosci.Biobehav.Rev.* **23** 1087. PMID: 10643819.
- Strong** (1990) Potassium channel toxins. *Pharmacol.Ther.* **46** 137. PMID: 2181489.

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