



Molecular Tools for the Life Science Community

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Certificate of Analysis

PRODUCT # RTC-250

ω -Conotoxin CVIA

(*Conus catus*)

M.W.: 2643 daltons.¹
Sequence: CKSTGASCRRTSYDCCTGSCRSGRG
Purity: > 98% by HPLC.
Solubility: Any aqueous buffer.

Preparation:

ω -Conotoxin CVIA is a recombinant peptide expressed in and extracted from *E. coli* and purified to homogeneity.

Reconstitution:

The peptide concentration and identification were determined by amino acid analysis. Each vial contains 0.1 mg, 0.5 mg or 1 mg of unbuffered peptide. Dissolving of 0.1 mg in 37.8 ml of any conventional buffer gives a stock solution of 1 μ M.

Storage and Stability:

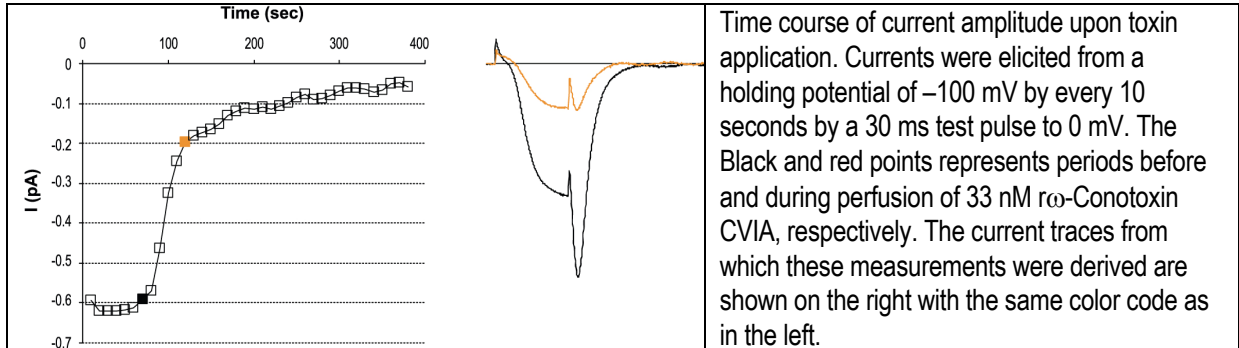
Lyophilized form: 3 weeks at room temperature.
One year -20°C.
Liquid form: Up to one week at 4°C.
Three months at -20°C.

Known action:

ω -Conotoxin CVIA acts at the presynaptic membranes, where it binds and displaces I¹²⁵ ω -Conotoxin GVIA the voltage-sensitive Ca²⁺ channel (VSCC), mainly the N-type Ca²⁺ channels (Ca_v2.2/CACNA1B) with an IC₅₀ of 0.5nM. Furthermore, ω -Conotoxin CVIA inhibited contractions of electrically stimulated rat *vas deferens* with an IC₅₀ of 205nM.¹

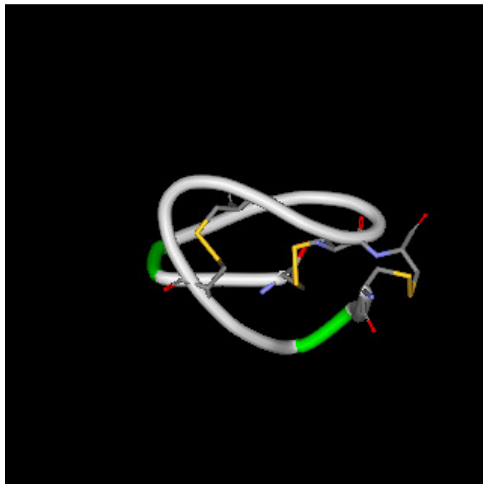
Bioassay:

The activity of this lot was tested using two-electrode voltage clamp recording from *Xenopus* oocytes expressing $Ca_v2.2$ channels. Recombinant ω -Conotoxin CVIA inhibited N-type Ca_v currents in *Xenopus* oocytes injected with RNA encoding the $Ca_v2.2$ and $\beta 2a$ subunits by 33 nM recombinant ω -Conotoxin CVIA.



References:

1. Lewis, R.J. *et al.* (2000) *J. Biol. Chem.* **275**, 35335.
2. Peitsch, M.C. (1996) *Biochem. Soc. Trans.* **24**, 274.



Model structure of ω -Conotoxin CVIA, based on its homology to ω -Conotoxin MVIIA (1feo.pdb).²