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## Product Information

### $\omega$ -Conotoxin GVIA

Catalog Number **C9915**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

CAS RN 106375-28-4

#### Product Description

Molecular Formula:  $\text{C}_{120}\text{H}_{182}\text{N}_{38}\text{O}_{43}\text{S}_6$   
Molecular Weight: 3037.35 (free base)

Amino Acid Sequence: Cys-Lys-Ser-Hyp-Gly-Ser-Ser-Cys-Ser-Hyp-Thr-Ser-Tyr-Asn-Cys-Cys-Arg-Ser-Cys-Asn-Hyp-Tyr-Thr-Lys-Arg-Cys-Tyr-NH<sub>2</sub>  
[Disulfide Bridges: 1-16, 8-19, 15-26]

This peptide was first isolated from the marine snail, *Conus geographus L* and is a powerful probe for exploring the vertebrate pre-synaptic terminal. It blocks specific voltage-dependent N-type Ca<sup>2+</sup> channels in neurons, but not in muscle, and does not bind to either the dihydropyridine or verapamil binding sites.

$K_i = 5.28\text{ pM}$ ,  $\text{IC}_{50} = 9.72\text{ pM}$  vs. [<sup>125</sup>I] $\omega$ -Conotoxin in rat cortical membranes.

Peptide purity:  $\geq 97\%$

Peptide content:  $\sim 70\%$ , remainder TFA salts

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices. **POTENT NEUROTOXIN.** Precautions should be taken to avoid contact by all routes of exposure.

#### Preparation Instructions

Warm the peptide to room temperature in a desiccator prior to opening the container. Dissolve the peptide in distilled water. Peptides containing Trp, Met, Cys, Asn, or Gln require special care to avoid oxidation; oxygen free water should be used. These peptides have a limited lifetime in solution and long-term storage is not recommended. Buffer or saline should be added only after the peptide is fully dissolved. Solutions should be stored in the pH range of 5–7, in aliquots at  $-20\text{ }^{\circ}\text{C}$ .

If the peptide does not completely dissolve, check the pH of the solution and adjust the pH toward neutrality (pH 7) by adding 30% acetic acid or 100% ammonium hydroxide in microliter amounts. The solution may also be sonicated for 5–15 minutes to aid in solubilization.

#### Storage/Stability

Store the product at  $-20\text{ }^{\circ}\text{C}$ .

#### References

- Herrero, C.J., Differential blockade of rat  $\alpha 3$ ,  $\beta 4$ , and  $\alpha 7$  neuronal nicotinic receptors by  $\omega$ -conotoxin MVIIC,  $\omega$ -conotoxin GVIA, and diltiazem. *Br. J. Pharmacol.*, **127**, 1375 (1999).
- Eterovic, V.A., Spermine does not compete with  $\omega$ -conotoxin GVIA in the striatum radiatum of the hippocampal slice. *Brain Res.*, **772**, 191 (1997).
- Olivera, B.M., *et al.*, Diversity of *Conus* neuropeptides. *Science*, **249**, 257-263 (1990).
- Feuerstein, T.J., *et al.*, Inhibition of norepinephrine and acetylcholine release from human neocortex by  $\omega$ -conotoxin GVIA. *J. Pharmacol. Exp. Ther.*, **252**, 778-785 (1990).

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