



Product Information

Cat. No. C7420
U-CONOTOXIN GIIIA

synthetic; >94 % purity

Selective blocker of voltage-dependent Na^+ channels which exhibits channel binding kinetics similar to those of tetrodotoxin and saxitoxin, but possesses a > 1,000 fold selectivity for muscle versus nerve Na^+ channels; originally isolated from the venom of the marine snail *Conus geographus* L.

Mol. Formula: $\text{C}_{100}\text{H}_{176}\text{N}_{38}\text{O}_{32}\text{S}_6$

Mol. Wt.: 2609 (peptide free base)

CAS Registry No.: 86394-16-3

Physical Properties: White powder. Lot No. FRY-994A is supplied as a trifluoroacetate salt (peptide content = $71 \pm 3\%$). The quantity appearing on the label reflects total mass. Thus a 50 μg unit contains 35.5 μg of bioactive peptide and a 250 μg unit contains 177.5 μg of bioactive peptide. Total mass is greater due to the presence of trifluoroacetate.

Caution: Potent Neurotoxin. Wear gloves and mask when handling this product. Avoid contact by all modes of exposure.

Storage: Store tightly sealed at -20°C.

Solubility: Warm peptide to room temperature in a desiccator prior to opening the container. Dissolve 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 in solution. If necessary, a few drops of dilute acetic acid or ammonium hydroxide can be added to help solubilize the peptide. If solubilization is still not achieved, the solution may be sonicated briefly. Solutions should be stored in the pH range of 5-7, in usable size aliquots at -20°C.

Disposal: Dissolve or mix the compound with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. This substance is toxic to humans and all precautions must be taken to avoid ingestion by any route, skin contact, or inhalation of fumes during the destruction process.

References:

1. Cruz, L.J., Gray, W.R., Olivera, B.M., Zeikus, R.D., Kerr, L., Yoshikami, D., Moczydlowski, E. "Conus geographus toxins that discriminate between neuronal and muscle sodium channels." *J. Biol. Chem.* **260**, 9280-9288 (1985).

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2. Cruz, L.J., Kupryszecki, G., LeCheminant, G.W., Gray, W.R., Olivera, B.M., Rivier, J. " μ -Conotoxin GIIA, a peptide ligand for muscle sodium channels: Chemical synthesis, radiolabeling, and receptor characterization." *Biochem.* **28**, 3437-3442 (1989).
3. Olivera, B.M., Rivier, J., Clark, C., Ramilo, C.A., Corpuz, G.P., Abogadie, F.C., Mena, E.E., Woodward, S.R., Hillyard, D.R., Cruz, L.J. "Diversity of conus neuropeptides." *Science* **249**, 257-263 (1990).

Rev. 9/96

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