Ureases (E.C. 3.5.1.5) are metalloenzymes that participate in nitrogen bioavailability and defense mechanisms in plants. Previous data by our laboratory described insecticidal properties of Canatoxin, an isoform of *Canavalia ensiformis* (jack bean) urease, against different insect species. Its toxicity relies on an internal 10 kDa peptide (Pepcanatox), released by hydrolysis of the protein by digestive cathepsins of susceptible insects. Jaburetox, a recombinant version of this peptide, was amplified from JBURE-II urease cDNA, cloned into pET 101 vector and expressed in *E. coli*. All tested insect models died after ingestion of few micrograms of the peptide. The embryo-specific soybean urease also displays insecticidal activity by a mechanism as yet not elucidated. To investigate this mechanism, we have cloned an internal peptide derivative from soybean urease that aligns to Jaburetox by using *Glycine max* ubiquitous urease as template. The amplicon was cloned into pET 23a and was called Soyuretox. A clone was selected, and protocols for expression and purification of Soyuretox were optimized. The best expression conditions were obtained by induction with 1 mM IPTG for 3 h at 37°C. The recombinant peptide was recovered in the soluble fraction, purified by Ni affinity chromatography, and analyzed by SDS-PAGE and Western blot. Bioassays are under way to evaluate the insecticidal and antifungal properties of the recombinant peptide Soyuretox.

Keyword: *Glycine max*, urease, peptide.
Supported by: CNPq, CAPES and Fapergs