ISOLATION, CHARACTERIZATION AND IMMUNOLOCALIZATION OF A LIPID TRANSFER PROTEIN (LTP) FROM CHILI PEPPER SEEDS

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During the last few years, a growing number of cysteine-rich antimicrobial peptides has been isolated from plants and particularly from seeds. It has become increasingly clear that these peptides play an important role in the protection of plants against microbial infection. In this work, proteins from chilli pepper (*Capsicum annuum* L.) seeds were extracted in phosphate buffer, pH 5.4 and peptides purification were performed by employing ion-exchange chromatographies on DEAE, CM-Sepharose, Sephacryl S-100 and reverse phase in HPLC. Three peptide enriched fractions, namely F1, F2 and F3, were obtained after the CM-Sepharose chromatography. The F1 fraction, mainly composed of three peptides ranging from 6 to10 kDa, was submitted to N-terminal amino acid sequencing. The closer to 10 kDa peptide showed high sequence homology to lipid transfer proteins (LTPs) previously isolated from others seeds. Polyclonal antibody was raised against the purified LTP and it was used to immunolocalize the peptide in mature chili pepper seeds. The LTP was identified in an intracellular location which characterization is underway. The presence of the LTP in different *Capsicum* species was also determined by using this antibody in western blotting. The presence of LTP was detected in proteic extracts of *C. chinensis*, *C. baccatum*, *C. frutescens* and *C. annuum*/IKEDA.

Supported by: CNPq/FAPERJ/TECNORTE/FENORTE