

A NEW PEPTIDE OF *PHASEOLUS VULGARIS* SEEDS THAT SHOWS SEQUENCE HOMOLOGY WITH PLANT DEFENSINS

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Peptides with antimicrobial activities are present in most, if not in all, plant species and can be classified in distinct families. This study aimed to isolate and characterize antimicrobial peptides in seeds of the *Phaseolus vulgaris* L. (cv. Perola). A flour was prepared from these seeds and the proteins were extracted in phosphate buffer (Na₂HPO₄ 10 mM, NaH₂PO₄ 15 mM, KCl 100 mM, EDTA 1.5%) pH 5.4 at 1:5 rate (flour:extraction buffer) with shaking for 2 h at 4 °C. The supernatant obtained after the extraction was submitted to a precipitation with ammonium sulfate (70%). The precipitate was resuspended in distilled water, heated at 80 °C for 15 min, clarified by centrifugation and the resulting supernatant was dialyzed against distilled water. The solution was recovered, lyophilized and denoted F/0-70 that was submitted to an anion-exchange chromatography DEAE-Sepharose, equilibrated in Tris-HCl 20 mM pH 8.0. The D1 fraction from this chromatography presents only one protein following electrophoresis analysis and also only one peak in reverse-phase chromatography (HPLC). This fraction was sequenced and showed homology with plant defensins. The D1 fraction provoked morphological changes in the yeast *Saccharomyces cerevisiae* at 150 µg.mL⁻¹. The seeds of *P. vulgaris* were also submitted to the protein exudation in different buffers where the presence of a lipid transfer protein was characterized.
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