

PEPTIDES FROM CHILI PEPPER SEEDS (*CAPSICUM ANNUUM* L.):
ISOLATION, CHARACTERIZATION AND ANTIMICROBIAL ACTIVITIES
AGAINST PATHOGENIC YEASTS

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Different antimicrobial peptides have been identified in seeds from different plant species. Our aim was to isolate and characterize peptides present in chili pepper seeds and evaluate their antimicrobial activities against yeast species. Initially, proteins were extracted according to Diz *et al.* (BBA, 2006 1760:1323-32) and named rich peptide extract (RPE). A CM-Sepharose was performed and one of the resulting fractions, named F3Ca, with basic proteins of 11 to 16 kDa, was submitted to a C2/C18 column by HPLC, resulting in four fractions named FR1, FR2, FR3 and FR4. These fractions were visualized by Tricine-SDS-PAGE. These fractions were submitted to N-terminal sequencing, the analysis in databanks revealed that fractions FR3 and FR4 have homology with sequences of proteinase inhibitors and napins, respectively. RPE and F3Ca inhibited the growth of *Saccharomyces cerevisiae*, *Candida albicans*, *Candida parapsilosis*, *Candida tropicalis*, *Pichia membranifaciens*, *Kluyveromyces marxianus* and *Candida guilliermondii*. FR3 and FR4 also inhibited the growth of *S. cerevisiae*. F3Ca was able to inhibit glucose stimulated acidification of the medium by *S. cerevisiae*. For microscopic analysis, yeasts cells treated with F3Ca were fixed and processed for light and electron microscopy. In these cells, morphological changes were observed, such as cell wall disorganization, formation of pseudohyphae and others.

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