

## ISOLATION AND MOLECULAR CHARACTERIZATION OF A NOVEL 2S ALBUMIN WITH ANTIMICROBIAL PROPERTIES FROM *Sesamum indicum* L.

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A high incidence of nosocomial infections and the enhancing of daily bacterial resistance have revealed the urgency of new antibiotics development. Plant antimicrobial peptides (AMPs) have been characterized as a valuable source to antibiotics discovery. In this field, the isolation of *S. indicum* antimicrobial peptides is focused in this report. Here, we describe a novel antimicrobial peptide (Si-AMP) from sesame kernels with activity toward human pathogens. In order to extract these peptides, sesame kernels were extracted and precipitated with  $(\text{NH}_4)_2\text{SO}_4$  (100%). After dialysis, rich fraction was applied onto an affinity chromatography, followed by RP-HPLC analytical chromatography. Mass spectrometry analysis (MALDI-ToF) indicated the molecular masse of Si-AMP is approximately 5.8 kDa. Moreover, this N-termini sequence indicated that Si-AMP could be included into the albumin 2S family. Moreover, Si-AMP was challenged against gram-negative bacteria including *Klebsiella* sp., *Proteus* sp. and *E. coli*. Si-AMP only caused a remarkable reduction only on *Klebsiella* sp. growth. In conclusion, results here reported indicated that, in a near future, AMP-Si could be utilized in the development of novel proteinaceous antibiotics against pathogenic gram-negative bacteria.

Acknowledgments: CAPES, CNPq and UCB