

IDENTIFICATION OF A PEPTIDE FROM *RANA CATESBEIANA* SKIN WITH ANTIMICROBIAL ACTIVITY AGAINST GRAM-NEGATIVE BACTERIA

Farias, L.R.¹, Costa, F. T.¹, Mouroto, J. F.¹ and Franco, O. L.¹

¹Centro de Análises Proteômicas e Bioquímicas, Programa de Pós-Graduação em Ciências Genômicas e Biotecnologia, Universidade Católica de Brasília, Brasília-DF

*Corresponding Author: ocfranco@pos.ucb.br

Antimicrobial peptides are compounds that could be found in plants, animals and microorganisms, being these molecules involved in host defense against pathogens. Amphibian skin secretions are rich sources of bioactive peptides and many of them act as a barrier against infectious agents. For this reason, they were screened as antibiotic sources with effectiveness toward resistant microorganisms. In these work we identified an antimicrobial peptide from *Rana catesbeiana* skin secretion with activity towards gram-negative bacteria. Each animal was placed into 100 ml of collecting solution (0.1M NaCl and 0.01M EDTA) and a gentle electrical stimulation was applied by using platinum electrodes immerse in the same solution for 5s non continuum pulses. After lyophilization, crude extract was applied onto a reversed-phase chromatography HPLC (Vydac C-18 TP) generating four peaks. SDS-PAGE analyses showed proteins under 6.0 kDa. Moreover, bioassays using *R. catesbeiana* peptides showed that it was able to cause an effective inhibition (60%) over *Escherichia coli* development. Nevertheless, this same peptide was unable to reduce *Staphylococcus aureus* development. In summary, our data suggest that *R. catesbeiana* peptide might be used on the development of novel strategies to control bacteria that causes hospital infections.

Financial Support: CNPq, CAPES and UCB.