

ISOLATION OF ANTIMICROBIAL PROTEINS FROM *Solanum lycocarpum* PULP

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Actually, the development of resistance to antibiotics by Pathogenic microorganism's strains constitutes a serious health problem. For this reason the search for novel types of antimicrobial compounds has been extremely necessary. In this view, antimicrobial proteins (AMPs), become a possible alternative to control microorganisms. AMPs play an important role in the innate immunity system, constituting the first-line defense toward invading pathogens. Like animals, fungi and bacteria, plants are also able to express antimicrobial proteins. *Solanum lycocarpum* is a plant from Brazilian Cerrado, which is known for diverse phytotherapeutic properties. *S. lycocarpum* fruit pulp was macerated following precipitation with $(\text{NH}_4)_2\text{SO}_4$ (100%) and further dialysis (*cut off* 3,0kDa). Pulp proteins showed considerable inhibition against *Staphylococcus aureus* and *Escherichia coli* (ATCC 8739). The protein rich extract from pulp was applied onto Blue-Sepharose chromatography column and non-retained protein fractions was able to inhibit 17% of *E. coli* growth. SDS-PAGE analysis showed a protein profile with a wide range of molecular weight, including proteins lower than 10 kDa, which may indicate the presence of antimicrobial peptides. Data here reported indicates that protein from *S. lycocarpum* pulps could be used in a near future as biotechnological tool to the development of new medicines to control human pathogens.

Key words: *Solanum lycocarpum*, Antimicrobial proteins, *Staphylococcus aureus*, *Escherichia coli*, Bacterial resistance.

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