Characterization of Antimicrobial Compounds from *Eugenia malaccensis* L. Seeds

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**INTRODUCTION:** Nowadays several researches have been focused on plant antimicrobial peptides aiming to search for efficient alternatives to control human pathogenic agents. The antimicrobial peptides (AMPs) rises as promising tools in the production of novel antibiotics, especially as an option to control antimicrobial resistant bacteria. Since many AMPs were found in seeds and others parts of plants, the *Eugenia malaccensis* fruit, known in Brazil as red jambo, appear as a potential candidate of AMPs source. **MATERIAL AND METHODS:** In order to purify such AMPs from *E. malaccensis*, protein seeds were extracted with a solution containing 0.6 M NaCl and 0.1% HCl followed by 4.1 M (NH\(_4\))\(_2\)SO\(_4\) precipitation and further dialysis against distilled water. After that, the extract was applied into a reversed-phase C18 HPLC column in order to isolate the possible active peptide. The obtained fractions were tested against *Staphylococcus aureus* and *Escherichia coli*. SDS-PAGE was further performed for molecular mass and purity degree analyses.

**RESULTS AND DISCUSSION:** Data here reported showed that the ammonium sulphate rich fraction was able to reduce 52 % of *S. aureus* growth at a standard concentration of 100 µg.mL\(^{-1}\). Otherwise no activity was observed against *E. coli*. The SDS-PAGE showed that more than 30 proteins ranging between 10 and 116 kDa were observed. The multiple fractions generated by HPLC will be challenged against *S. aureus*. **CONCLUSIONS:** The obtained results indicate that an antimicrobial compound was obtained from red jambo seeds. Moreover this proteinaceous compound must be characterized, since it has potential to be valuable as an alternative to pathogenic microorganisms control, especially those with enhanced resistance to conventional antibiotics.

Keyword: Antimicrobial peptides, *Eugenia malaccensis*, bacterial infection
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