

TITLE: ANTIMICROBIAL ASSAY OF DRY CRUDE ROOT EXTRACT OF *Solanum paniculatum* L. (JURUBEBA)

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ABSTRACT:

Solanum paniculatum L., most known as jurubeba, possesses diverse therapeutic applicabilities and among them antioxidant and molluscicidal biological activities. In relation to this it was aimed to study the Minimum Inhibitory Concentration of Adherence (MICA) and Minimum Inhibitory Concentration (MIC) of the dry crude root extract of this plant. For the microbiological execution the technique chosen concerned the preparation of inocula on the entire surface of Müller-Hinton agar with the following pathogens: *Salmonella*, *E. coli*, *B. cereus*, *S. aureus*, *P. aeruginosa* and *C. Albicans* previously suspended in saline solution. In relation to the MIC test 4 shells of 6 mm diameter were carved in each plate for the subsequent insertion of 50 µL of the dry crude extract in different percent concentrations. The dilutions were made in relation to the initial sample in percentages of 50%, 25%, 12,5% and 6,25%. The entire procedure was made in duplicate. Afterwards, the plates were incubated at 37°C for 24 hours for further measurement of the inhibition halos. The MICA was determined in the presence of 5% sucrose and using increased doubled concentrations of the dry crude extract diluted solutions. During this process the tubes were laid inclined at a 30° angle in 37° of 24 hours. Afterwards, the diameters of the sample inhibition halos were compared with the ones shown by Amoxicillin. The results for the MIC showed inhibition in the concentrations of 50%, 25%, 12,5% and 6,25% against *S. aureus* and *C. albicans* strains. For *B. cereus* there was only in the concentration of 6,25%. On the other hand, at the MICA test the extract showed activity in all studied concentrations for *Salmonella*, *E. coli*, *B. cereus*, *S. aureus*, *P. aeruginosa* and *C. albicans* strains. In other words, there was no formation of biofilms proved by the visualization through the addition of methylene blue. It is concluded through the MICA test that the samples show antibiotic activity at the conditions and tested concentrations aforesaid. Considering that this technique showed no presence of biofilm it is possible to state that the extract inhibited positively the polymer responsible for its production released by the bacteria tested. The results for the MIC test showed the presence of halos made by the sample indicating the antibiotic action of the analysed extract. This result is in conformation with the antimicrobial properties equivalent to reference listed drugs.

Keywords: Antimicrobial activity, *Solanum paniculatum*, microbiology

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