

ANTIBACTERIAL ACTIVITY OF SUPERCRITICAL EXTRACTS FROM GUAVA (*Psidium guajava* L.) SEEDS

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In this work the antibacterial activity (AbA) of an extract from guava (*P. guajava*) seeds was evaluated. The extract was obtained using supercritical carbon dioxide added with ethanol as co-solvent; the extraction was performed using a staggered design with six batch (10 MPa-40 °C, 10 MPa-50 °C, 10 MPa-60 °C, 20 MPa-40 °C, 20 MPa-50 °C, 20 MPa-60 °C, 20 min each) on the sample same. The extract was composed of a lipid fraction and a phenolic fraction, the AbA of each fraction was evaluated. The AbA was evaluated using *Escherichia coli*, *Pseudomona aeruginosa*, *Streptococcus pneumoniae* y *Staphylococcus aureus* by macrodilution method and the results (expressed as minimum inhibitory concentration, MIC) were compared with reference antibiotics chloramphenicol, carbenicillin and cephalothin. The phenolic fraction showed a good AbA against *S. aureus* (MIC: 31.25 µg/mL) and *S. pneumoniae* (MIC: 7.81 µg/mL), however this was below to shown by cephalothin (MIC: 1 µg/mL). This fraction shown a very low AbA against *E. coli* and *P. aeruginosa* (MIC: >500 µg/mL and 250 µg/mL, respectively). On other hand the lipid fraction showed no AbA. The results indicate that guava seeds phenolic fraction is a potential source of antibacterial compounds with activity against *S. aureus* y *S. pneumoniae*.

Keywords: Supercritical extraction, *Psidium guajava* L., antibacterial activity.

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