

Essential oil extracted from leaves of *Miracrodruon urundeuva* (Aroeira the backwoods) with antimicrobial activity against Gram Negative Bacteria.

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Abstract

Essential oils comprise a mixture of natural and volatiles chemical compounds. As secondary metabolites, are extracted directly from aromatics plants, which are known for their antiseptic and medicinal potential. It is noteworthy that class vegetable, the *Miracrodruon urundeuva* (Aroeira - the - backwoods), belonging to the family *Anacardiaceae*, from which molecules obtained from crude extracts have been tested for antimicrobial activity, motivating the research on the possible use of these substances in phytotherapy. This study was an assessment of the antimicrobial activity of the essential oil, probably a monoterpene extracted from the leaves of *Miracrodruon urundeuva* against the Gram-negative bacteria of clinical interest *Escherichia coli* ATCC 25922, *Pseudomonas aeruginosa* ATCC 27853 e *Salmonella enteritidis* INCQS 500258. The antibacterial activity was evaluated quantitatively by means of the technique broth microdilution and determined the minimum inhibitory concentration (MIC) using the solution of CTT (2,3,5- triphenyl – tetrazolio chloride) to 0.5 % as an growth indicator. Tests were performed in triplicate, and the positive and negative controls, respectively, gentamicin and Tween 80 5%. To determine the bactericidal action was performed seeding spotof the contents of the wells on BHI agar. The minimum inhibitory concentration was determined to be 0,88 mg/ml for *E. Coli*, 14,06 mg/ml for *P. aeruginosa* and 0,44 mg/mL for *S. enteritidis*. Therefore, the oil showed to be more effective against *S. enteritidis* and was less effective against the *P. aeruginosa*. In contrast, a study has shown that extracts otherwise extracted from the same plant did not inhibit these bacteria, suggesting that the lipid nature of the oil used in this study facilitates its action. Although *M. urundeuva* has proven more satisfactory activity against *E. coli* and *S. enteritidis* in relation to *P. aeruginosa* MIC must be accompanied by the substance toxicity determination, including biological assays to be included in the continuity of the study described here.

Keywords: *Miracrodruon urundeuva*, bactericidal activity, antimicrobial activity, Gram negative bacteria, essential oil, MIC.

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