# Antimicrobial Potential of the Hydroalcoholic Extract of Myracrodruon urundeuva (Aroeira)

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Hospital infection is a serious current problem, affecting patients and generating high costs for public healthcare. One solution would be sustainable and natural alternatives. In this way, to investigate the antimicrobial potential of the hydroalcoholic extract of Aroeira, antibiogram tests associated with oxidation were conducted, with analyses at the following time points: 0, 15, 30, 45, and 60 days after the extract production. The organisms tested included four bacteria (Streptococcus pyogenes, Staphylococcus aureus, Pseudomonas aeruginosa, Escherichia coli) and one fungus (Candida albicans). Genotoxicity, ecotoxicity, toxicity tests and characterization the phytochemical tests (presence of phenolic and tannins compounds) were also carried out. pH tests were also conducted to understand how they varied over time. Additionally, a surface test was conducted. The antibiogram tests revealed significant antibacterial properties of the Aroeira extract, with effectiveness comparable to penicillin, alcohol, and nystatin against the studied microorganisms, especially after 30 days. After a few weeks, as for the pH, there is a neutrality of the extract in the lower concentrations and an increase in acidity in the higher concentrations. The presence of tannins and flavonoids was also observed, which may have influenced the antimicrobial activity. The studied extract did not cause genotoxic changes. Root growth and Artemia survival were positive at extract concentrations below 50%. The extract maintained its antimicrobial effect for up to 20 minutes on surfaces. The Aroeira extract proved promising as an antimicrobial agent for pre and post-surgical surface disinfection, highlighting Aroeira as a natural and sustainable alternative in the fight against hospital infections.

**Awards Won:**