

TITLE: IN VITRO ANTIMICROBIAL ACTIVITY OF PLANTS IN ACUTE OTITIS EXTERNA

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ABSTRACT :

For a long time, medicinal herbs have been used in the treatment of diseases by almost all populations in the world, and although new antibiotics have been developed for the control of infectious micro-organisms, they are sometimes ineffective. Many herbal extracts have antimicrobial effects and represent a potential alternative therapy for infectious diseases, especially when associated with the clinical use of antibiotics. The Acute Otitis Externa is an inflammation of the outer auditory meatus, and according to popular saying, medicinal plant extracts can be used in its treatment. Aim: to assess the in vitro antimicrobial activity of the following plants: *Maytenus ilicifolia* and *Ruta graveolens* on the germs that cause otitis externa. The antimicrobial activity of the ethanol extracts was assayed by the agar disc diffusion method, at concentrations of 500, 250, 125 and 62.5 µg/mL. To evaluation of the antimicrobial potential was used the microplates dilution technique using the bacteria *Staphylococcus aureus* ATCC 25923, *Enterococcus faecalis* ATCC 29212, *Escherichia coli* ATCC 25922 and *Pseudomonas aeruginosa* ATCC 27853. Minimum inhibitory concentration (MIC) for the extract and the substances tested, expressed as the lowest concentration able to inhibit bacterial growth, was evaluated in microplates containing liquid medium to which were added extracts, fractions, subfractions, pures substances and antibiotics, the latter being used as positive controls. It was demonstrated a strong activity to *Maytenus ilicifolia* with MIC of 125 µg/mL for Gram positive bacteria . It was demonstrated a strong activity to *Ruta graveolens* with MIC of 250 µg/mL for Gram positive bacteria. These results suggest that *Maytenus ilicifolia* and *Ruta graveolens* presents bioactive constituents, being important the continuity of these tests.

Keywords: otitis, antimicrobial activity, *Maytenus ilicifolia*, *Ruta graveolens*