

## EVALUATION OF THE ANTIFUNGAL ACTIVITY AND MECHANISM OF ACTION OF THE CRUDE HYDROALCOHOLIC EXTRACT OF *MYRCIA EUGENIOPSOIDES* AGAINST DERMATOPHYTES.

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The increasing resistance of dermatophytes to conventional antifungals has driven the search for alternative treatments, particularly those based on natural products. Antifungal activity has been reported in the *Myrcia* genus; however, *Myrcia eugeniopsoides* remains scarcely studied in this context. This study aimed to evaluate the minimum inhibitory concentration (MIC), minimum fungicidal concentration (MFC), mechanism of action, and inhibition of conidial germination of *M. eugeniopsoides* extract against *Nannizzia gypsea*, *Trichophyton mentagrophytes*, *Microsporum canis*, and *Trichophyton interdigitale*. The crude hydroalcoholic extract was obtained by maceration in a 70% hydroalcoholic solution, followed by filtration and drying. Dermatophytes were identified by mass spectrometry (MALDI-TOF) and VITEK MS (bioMérieux) and cultured on selective agar at 35 °C for seven days. The MIC was determined by broth microdilution in 96-well plates using RPMI 1640 medium, with itraconazole as a positive control. The MFC was determined from MIC results by plating on selective agar corresponding to MIC, MIC ×2, and MIC ×4. To investigate the mechanism of action, MIC assays were performed with sorbitol or ergosterol added to the RPMI medium. Agents that interact with ergosterol or sorbitol are identified when MIC values increase compared with the control without additives. In the conidial germination inhibition assay, 10 µL of the MIC, MIC ×2, and MIC ×4 concentrations were plated on sterile slides, followed by a drop of lactophenol blue, and readings were taken in five random fields. The extract showed strong antifungal activity against several dermatophytes tested, with MIC values ranging from 62.5 to 250 µg/mL, particularly *T. interdigitale* (62.5 µg/mL). MFC assays indicated fungicidal activity. In the mechanism of action evaluation, increased growth was observed with sorbitol, but no growth occurred in the ergosterol assay, requiring further analysis. Complete inhibition of conidial germination was also recorded. These findings suggest strong antifungal potential of *M. eugeniopsoides* extract against dermatophytes, with probable action on the fungal cell wall and fungicidal activity. The results highlight the need for further studies to better characterize its antifungal and cytotoxic properties. **Keywords:** Tinea; Microbial Sensitivity Tests; Antifungal Drug Resistance.