

Title: ANTIFUNGAL EFFECT OF *ACCA SELLOWIANA* (OBERG) ON CELL WALL OF *CANDIDA GLABRATA* YEASTS

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Abstract:

Yeast non – *albicans Candida* (NAC) been gaining clinical importance in recent years mainly because of its increasing incidence in cases of opportunistic fungal infections. Immunocompromised individuals are the main target of these infections due to depression of their immune system. NAC have higher resistance to commercial antifungal agents compared to *Candida albicans*. Fluconazole is the drug of choice used to treat these infections. *Candida glabrata* isolates, for example, have intrinsic resistance to fluconazole. Thus, it becomes necessary to search for new molecules able to combat cases of antifungal resistance. Several studies have proven the effectiveness of biomolecules from plant extracts against NAC yeast. The *Acca sellowiana* plant species belonging to Myrtaceae family has several proven biological properties. Thus, the objective this study was to evaluate the possible antifungal mechanism of action of the active fraction F2 from the freeze-dried aqueous extract of leaves of *A. sellowiana* against isolates of *C. glabrata*. For the experiments were tested six isolates of *C. glabrata* (CG RL02S, CG RL03S, CG RL12S, CGRL12m, CG RL34S and the control strain ATCC 40039). The method was performed using sorbitol protection assay, determining the MIC values of the active fraction F2 in the presence and absence of sorbitol in culture medium. Next, the realization of scanning electronic microscopy (SEM) confirmed the results. All isolates showed an increase in their MIC values in the presence of sorbitol as compared to MIC values without addition of sorbitol. So, possibly the active fraction F2 exerts its action in the cell wall of the yeast tested. With the analysis of the SEM was observed the presence of cavities in the surface of the isolates, in addition to morphological changes and cell leakage content. The elucidation of the possible mechanism of action of the active fraction F2 of *A. sellowiana* is important to continue the research, aimed at developing of a formulation that can reverse the resistance antifungal in *C. glabrata* isolates resistant to fluconazole.

Keywords: *Acca sellowiana*, *Candida glabrata*, scanning electron microscopy, resistance

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