

TITLE: INFLUENCE OF FLUCONAZOLE IN *Candida albicans* SECRETED ASPARTYL PROTEINASES (Saps)

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ABSTRACT: In recent decades, yeasts of the genus *Candida* have been reported as etiological agents of the major human systemic infections, *C. albicans* being the most common species of these infections. The pathogenic behavior is attributed to some virulence factors, such as the secreted aspartyl proteases (Saps), whose family is composed of 10 proteinases, with optimal activity at acidic pH, codified by the *SAP1-10* genes. The expression of these factors depends on the ability of the yeast to modulate the expression of several virulence genes at specific times of the pathogenic process, allowing the microorganism to adapt to environmental changes and ensure its survival, as in the presence of antifungal agents at sub inhibitory concentrations. Therefore, the aim of the study was to verify the activity of Saps in *C. albicans* isolates before and after exposure to fluconazole, determining total proteolytic activity *in vitro* in the absence and presence of fluconazole (MIC, 1/2 MIC and 1/4 MIC). Of four isolates sensitive to fluconazole, two showed statistically significant increases in enzyme activity in the presence of fluconazole, when compared to values in the absence of antifungal. These data corroborate with others in the literature, which can be observed to increase activity in sensitive isolates when exposed to fluconazole, and it should often be associated with particular mechanisms of response to environmental stress. In addition, it provides further evidence for the discussion of the rational use of antibiotics. Thus, studies on the mechanisms of increase of this activity as a virulence factor is necessary, even to assist in the research of new antifungal agents with *C. albicans*.

Keywords: *Candida albicans*, secreted aspartyl proteases (Saps), fluconazole

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