

TITLE: ANALYSIS IN SILICO OF GENOMIC DNA FROM THREE SPECIES OF THE GENUS *Candida* FOR VERIFICATION OF MICROSSATELLITE OCCURRENCE AND OBSERVATION OF INTERSPECIFIC SIMILARITIES

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ABSTRACT:

Hospital infections caused by fungi have been established as a growing public health problem in many countries. In recent years, epidemiological studies have pointed out the significant contribution that fungi of the genus *Candida*, especially *Candida albicans*, are giving to the hospital and community infections, followed by high rates of morbidity and mortality, especially in infants and immunocompromised patients. Commonly known protocols for species analysis and identification are very expensive and time-consuming and, therefore, in silico microsatellite studies or SSR (Simple Sequence Repeat) analysis have become important molecular markers providing genetic engineering a strategy to link genotype variations to phenotypic variations without the use of expensive and time-consuming methods of analysis. The present work evaluated the presence of SSR in DNA sequences from different *Candida* species deposited in GenBank in order to detect possible differences among them through specific programs. In *Candida albicans*, a greater number of SSRs was identified, in addition to a greater variety of motifs (repetitions). A small number of microsatellites was detected in *C. tropicalis* (five) and none was found in *C. parapsilosis*. The use of SSR as a tool to identify *Candida* spp. was considered satisfactory, as it revealed important differences between the species analyzed for the presence and types of SSR.

Keywords: *Candida* spp., microsatellites, interspecific variability.