BIOTECHNOLOGICAL POTENTIAL OF ACTINOBACTERIA BELONGING TO THE CULTURE COLLECTION UFPEDA AGAINST *Candida* spp.

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Actinobacteria are Gram-positive bacteria forming branched filaments that stand out for the production of secondary metabolites such as antibiotics, antitumor, phytohormones and natural dyes. Thus, this study aimed to determine the biotechnological potential of the actinobacteria UFPEDA collection against *Candida spp*. The antimicrobial activity was evaluated with 32 actinobacteria against seven clinical isolates of *Candida* spp with resistance profile. In the first assay, the activity was detected only when the actinomycetes were grown in ISP-3 medium at 37 ° C. Of these, only 2 strains (6.25%) showed antifungal activity with inhibition zone ranging between 11 mm and 18 mm. The two strains producing secondary metabolites with antifungal activity showed no statistical difference, so it was selected Actinobacteria G24 to the secondary test. In this assay were evaluated the best growing conditions to produce the secondary metabolites in various media (EPC, M1 and ISP- 3) during 5 days.These parameters were monitored every 24 hours. The best medium for production of secondary metabolites was ISP-3 during 48 h at pH 7.0, being evidenced inhibition zones 13 to 18 mm and biomass of 0.1 g / ml of medium. Established conditions, extraction of bioactive principle was performed and demonstrated activity only in biomass when extracted in ethyl acetate. The minimum inhibitory concentration (MIC) of crude extract ranged from 125 µg / ml to 62.5 µg / ml for *Candida spp tested*. The semi-purified fractions were analyzed by thin layer chromatography (TLC) and 7 evidenced fractions, but only one with antifungal activity. The actinobacterium was characterized by *16S rRNA* analysis and the pattern suggested that the isolate studied belonged to the species *Streptomyces*. These results indicatethat the strain *Streptomyces sp* G24 presents a significant antifungal activity.

Keywords: Antifungal Activity, *Streptomyces*, bioactive metabolites.

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