

Title: POTENTIAL EVALUATION OF ANTIMICROBIAL, FUNGAL EXTRACTS STORED IN FUNGI COLLECTION OF AMAZONIA-CFAM

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Summary

The fungi from tropical and subtropical countries like Brazil have been the source for production of natural compounds with important biological activity for humanity. Among of biocompounds industrial importance produced by fungi, the antimicrobials constitute the group of greatest economic value obtained by fermentation. Thus, this study evaluated the production of secondary metabolites from 30 fungi crops of the genus *Aspergillus* and *Penicillium* maintained in sterile distilled water in the “Coleção de Fungos da Amazônia”. The cultures were reactivated in Malt Extract Agar (MEA), incubated at 28 °C for seven days. After this, the crops were subjected to cold extraction of biocompounds in ethyl acetate, after concentration of the extracts, they were submitted to antimicrobial activity by agar diffusion method, against *S. aureus* CBAM 324 E. CBAM coli 474 and *Candida albicans* CFAM 1342. The chromatographic profile of the extract was analyzed by thin layer gel chromatography where elution system used was composed of 7,5-2-0,5 (Chloroform: Ethyl Acetate: Formic Acid 90%). The development of chromatograms was seen under white light and ultraviolet light (254 and 365 nm). To determine the antimicrobial activity by bioautography, 20 mL (Mueller Hinton agar or Sabouraud agar) kept at 40 °C containing 500 uL of cell suspension of each microorganism tested and 500 uL of trifeniltetrazolium- TCC 1% chloride w / v was poured in cromatoplates placed in the Petri plate. The plates were incubated at 28 °C and 37 °C for 24 and 48 hours, respectively. The antimicrobial activity was evaluated by viewing area of inhibition. About 86.7% (26) of the extracts analyzed showed antimicrobial activity against at least one of the micro-organisms tested with variation of 2 to 5 mm in halo size. Eight of these extracts inhibited the growth three test micro-organisms. In trials bioautographys, of the 26 extracts that showed antimicrobial activity, 15 were positive in bioautography. it is remarkable the antimicrobial power of these filamentous fungi from the CFAM, so they may be used for the discovery of new substances with antifungal and antibacterial action.

Keywords: Antimicrobial, Fungi, Collection

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