

**TITLE:** ANTIMICROBIAL ACTIVITY OF CRUDE EXTRACTS OBTAINED FROM *ASPERGILLUS* spp. E *PENICILLIUM* spp.

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**ABSTRACT:**

Based on the importance of carrying out studies to search for new biocomposites with antimicrobial activity, this study aimed to evaluate the antimicrobial potential of filamentous fungi stored in the Amazonian Fungal Collection-CFAM of ILMD / FIOCRUZ. The work was carried out in the facilities of the Multi-user Health / Micology Laboratory of the Leônidas and Maria Deane-ILMD / FIOCRUZ Institute. For this, 25 cultures of the genus *Aspergillus* and 25 of the genus *Penicillium*, preserved in distilled water, stored in the CFAM were reactivated and authenticated. The cultures were subjected to cold extraction of the biocomposites in Ethyl Acetate. The determination of the antimicrobial activity of the obtained extracts was carried out against a *Candida albicans* and *Staphylococcus aureus* and *Escherichia coli* by the cup plate method. From the extracts that presented antimicrobial activity in the cup plate method, the Minimum Inhibitory Concentration-MIC was evaluated by the broth microdilution method, and from the concentrations that presented inhibitory action in this test, subcultures were performed to determine if the inhibitory action was bactericidal / Fungicidal or bacteriostatic /fungiostatic. Of the evaluated fungal cultures, 62% presented inhibitory activity against at least one tested microorganism, being 44% of the genus *Aspergillus* and 12% of the genus *Penicillium*. The extracts of the genus *Aspergillus* were the most promising, similar to other works, having extracts with actions of broad spectrum and forming halos against yeast superior to the control used. The extracts of *Penicillium* presented little action, results that diverge a lot of the works that has been done with these fungi. All the extracts that presented halo of inhibition against the microorganisms in the cup plate presented bactericidal/ fungicidal action. The concentrations of 0.20 µg / ml to 0.625 µg / ml of some extracts showed action, with emphasis on the 16 extracts that inhibited even in the lowest concentrations (0.625 and 1.25 µg/ml), which is higher than the other results, where the MIC is 40 µg/ml. Considering that the Amazon has a great biodiversity of microorganisms, the results of the extracts of the genus *Aspergillus* have proved to be promising sources of biomolecules, which can turn into promising bioactive prototypes used in future therapeutics.

Key words: antimicrobiano, Amazônia, *Aspergillus*, *Penicillium*.

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