

Antagonist actinobacteria against microorganisms of clinical and forestry interest

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Soils, among all terrestrial habitats, home for the greatest diversity of microbial species, of which may be highlighted Actinobacteria. This group perform about 12% to 20% of rhizosphere microbial biomass which play an important role as the fixing Nitrogen, decomposition of complex organic materials such as keratins, quintins, cellulose and starch, and act to protect the roots of host plants against fitopatogens. The Actinobacteria are a group of bacteria capable of producing secondary metabolites varied Chemistry structure and biological activity. In this genus *Streptomyces* group stands out because it is responsible for about 70% of antimicrobial metabolites. The search for these bacteria and the research biotechnological potential in the production of bioactive compounds is important especially in indigenous bacterial species of the differentiated environment as the Amazon rainforest. In this study the biotechnological potential of *Streptomyces* sp. MPO-1 in production secondary metabolites against Gram-positive bacteria, gram-negative bacteria, filamentous fungi and yeast was performed by agar using the block method. The *Streptomyces* sp. MPO-1 was active against 48% of the tested microorganisms, and the highest intensity of antagonistic activity occurred in 48 hours against for *Staphylococcus aureus* and *Bacillus subtilis* and in 24h against *Fusarium* sp. There are several studies of isolated actinomycetes soils, especially the rhizosphere, thus proving the great potential of these bioactive microorganisms. The vast majority of actinomycetes antagonistic howed a large anthagonistic profile which includes opposite action non Gram-positive and Gram-negative bacteria, filamentous leveduriforms fungi. Our study has shown that the *Streptomyces* sp. MPO-1 isolated from soil of Amazon has great potential in biotechnological production of active antimicrobial compounds with spectrum of action against Gram positive and Gram negative bacteria and filamentous fungi.

Keywords: *Streptomyces* sp.; Antimicrobial activity; Amazon.