

Prospection of antimicrobial and enzymatic activity from *Streptomyces* sp.

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The actinomycetes are a diverse group of filamentous gram-positive bacteria capable of producing a wide variety of bioactive secondary metabolites of interest for the pharmaceutical industry. Among the Actinobacteria, the genus *Streptomyces* stands out for its high capacity to produce various bioactive molecules, especially aminoglycosides, macrolides, lipopeptides, glycopeptides, tetracyclines and streptogramin. This study characterized morphology, biochemistry and antimicrobial activity MPO1 line of rhizosphere soil isolated actinobacteria of *Aniba parviflora* Syn *fragans* (Macacaporanga) of the Amazon biome, to identify their biotechnological potential. The actinobacteria was grown on 'ISP-2 medium' for sporulation and observation of cultural characters at macro and micromorphological in the microculture. The antimicrobial activity was performed by the method of 'agar block' from micro-organisms of clinical and environmental interest: *Enterococcus cloacae*, *Enterococcus faecalis*, *Staphylococcus aureus*, *Micrococcus luteus*, *Bacillus subtilis*, *Salmonella enteritidis*, *Serratia marcescens*, *Postia placenta*, *Fusarium* sp, *Polyporus sanguineus* and *Rhizoctonia solani*. It was also investigated the production of enzymes such as amylase, catalase, lipase, gelatinase and caseinase. The 'MPO-1' actinobacteria was characterized by cultural and microscopic analysis as *Streptomyces* sp. This bacterium indicated antimicrobial activity against all tested microorganisms, being more active against: *Fusarium* sp, *Staphylococcus aureus* and *Bacillus subtilis*; with growth inhibition halos of 21,6mm, 19,3mm and 19mm, respectively. It also highlights its biotechnological production's potential of enzymes of industrial interest as catalase, amylase and protease. *Streptomyces* sp studied as enzymes, producing secondary metabolites of industrial interest and miscellaneous antimicrobial spectrum of action against gram-positive bacteria, gram-negative and filamentous fungi.

Key-words: *Streptomyces* sp., bioactive molecules, enzymatic activity.