OBTAINING ANTIBACTERIAL COMPOUNDS PRODUCED BY ACTINOBACTERIA FROM RHIZOSPHERIC SOIL IN AMAZON BIOME

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Actinobacteria are Gram-positive bacteria with high G +C content (guanine +cytosine) and high capacity to produce several secondary metabolites, usually isolated from soil, consisting in about 30%of the microbial population. Actinobacteria may be existent in various habitats such as water, soil and plants, which are estimated for each gram of soil there are about 10^6 à 10^9 actinomycetes. In soil actinomycetes have an important role in the degradation of organic matter due to its proteolytic activity and enzymes involved in the breakdown of keratin, chitin, cellulose and starch. These bacteria are widely studied for the ability to produce bioactive compounds used in the synthesis of about 70% of the antibiotics of choice in the treatment of microbial infections. These compounds are obtained by fermentation processes using culture medium containing several nutrient substances essential for the microbial biosynthetic pathway. This study aimed to investigate the production of antimicrobial compounds from the lineage of MPO-19 actinobacteria isolated from the rhizosphere of *Aniba parviflora syn fragrans* (Macacaporanga) active against pathogens of clinical interest. The metabolites search was initially performed by the primary assay by evaluating the antagonism front Agar Block Method Gram positive bacteria Staphylococcus aureus, MRSA, Staphylococcus epidermidis, Staphylococcus saprophyticus; Gram negative: Citrobacter freundii, Edwardisiella tarda, Enterobacter aerogenes, Escherichia coli, Serratia liquefaciens, Serratia and Klebsiella pneumoniae marcecens; and the yeast Candida sp. The obtaining of antimicrobial metabolites was performed by submerged fermentation in ISP-2 medium. The results of this study show that the lineage of MPO-19 actinobacteria is active against strains of Staphylococcus aureus (MRSA). The bioactive fermentation products described more intense antimicrobial activity when compared to the results of direct antagonism. The best antibiotic production time was 24h of fermentation, and the greatest growth inhibition zones were observed at the 72h period with an average of 18.3 mm halo.

Key words: Actinomycetes, rhizospheric, Amazon, *Staphylococcus aureus,* antibacterial