

**Antagonistic abilities of endophytic actinobacteria isolated from the medicinal plant
*Baccharis trimera***

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Actinobacteria are recognized by their biotechnological potential due to their capacity to produce secondary metabolites, including several antimicrobial compounds. The aim of this study was to investigate the antagonistic effect of actinobacteria isolated from the medicinal plant *Baccharis trimera*, commonly called “carqueja” in Brazil, against human pathogenic microorganisms. Isolated actinobacteria were grown in potato dextrose agar medium (BDA) and nutrient agar medium (NA) at 28°C and 6mm discs of these cultures were transferred to Petri dishes containing Mueller-Hinton agar, on which one of the following microorganisms were inoculated: *Staphylococcus aureus* (ATCC 25923), *S. aureus* (ATCC 6538), *Escherichia coli* (ATCC 25922), *Micrococcus luteus*, *Enterococcus faecalis* e *Candida albicans*. Among the actinobacteria tested, 9 of 18 presented formation of soluble pigments in BDA medium and time required for the actinobacterial colonies to grow varied between three to seven days. Growth in NA was slower, varying between four and eleven days and only six of the strains produced soluble pigments in this medium. Antagonistic effect against at least one of the pathogenic microorganisms was evidenced through the formation of inhibition zone around the actinobacteria discs for twelve of the eighteen strains tested grown in BDA. Strain 362 grew in eleven days in NA, with soluble dark pigment production in both culture media and had antagonistic effect against all the microorganisms tested. Strains 379 and 353 also produced soluble pigments in both media and inhibited the growth of three of the microorganisms tested; strain 353 had antagonistic effect against *S. aureus* ATCC 25923, but not against *S. aureus* ATCC 6538. Studies related to diversity and prospections of endophytic actinobacteria of *B. trimera* are extremely valuable for the identification of secondary metabolites that can be used for the development of antibiotic compounds against microorganisms of clinical importance. Also, culture media composition probably influenced the metabolites produced, which can affect the antagonism of actinobacteria.

Keywords: carqueja, antimicrobial compounds, bioprospection

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