

Anti-Bacterial Activity of *Trichoderma harzianum* Isolates from Cerrado Soil Against Plant Pathogens Bacteria.

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The genus *Trichoderma* comprises a set of species with antagonistic activity against plant pathogenic fungus, such as, *Fusarium oxysporum*, *Fusarium solani* and *Rhizoctonia solani*. Their antagonistic properties resulted from a multiple step mechanism that comprises, like others, production of antibiotic compounds and cell wall degrading enzymes. The peptaibols, antibiotic compounds, produced by *Trichoderma* species have a strong anti-bacterial activity. Despite of this, and the problems caused by plant pathogenic bacteria, most of the studies with *Trichoderma* focused on their antifungal activity. In the present work, anti-bacterial activity of *Trichoderma harzianum* isolates from cerrado soil was evaluated against *R. solanacearum*, *Erwinia* sp, *Xanthomonas gardneri* and *Xanthomonas campestris*. The isolates ALL-24 and ALL-49 were able to produce anti-bacterial activity against *R. solanacearum* and *Erwinia* sp, respectively. The anti-bacterial activity was detected in the culture filtrate, after growth for 48 hours and 120 rpm at three different conditions (minimal medium containing as carbon source: *F. oxysporum* cell wall (0.5%), or glucose (0.5%) or without supplementation). The highest inhibition values were obtained for ALL-49 and ALL-24 grew on *F. oxysporum* cell wall, and no inhibitory activity was detected for boiled samples. An anti-bacterial protein produced by *T. harzianum* ALL-49 after growth on minimal medium containing *F. oxysporum* cell wall as carbon source, was partially purified by chromatographic procedure onto a DEAE-sepharose column. Further experiments will be done aiming their purification and characterization.

Keywords: *Trichoderma harzianum*, antimicrobial activity, *Ralstonia solanacearum*.
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