

Abstract

Pseudomonas cepacia LT-412-W is an effective biological control agent against green mold (Penicillium species) of postharvest citrus. Phenylpyrrole antibiotics produced by *P. cepacia*, have been speculatively responsible for the observed prevention of green mold. Transposon mutagenesis of *Pseudomonas cepacia* was performed and transconjugates were screened for the production of antibiotics by co-culture bioassay. A putative Tn5 mutant that did not produce a "clear zone" was selected and subjected to thin layer chromatography, verifying the absence of phenylpyrrole antibiotic production. Colony hybridization confirmed the presence of the transposable element within the transconjugate. The mutant was shown to have a similar growth curve (in vitro and in lemon wounds) as the parental type. Assays of biological control ability on citrus demonstrated no significant decrease in control of the fungus by the phenylpyrrole deficient mutant. The addition of nutrients was shown to have a significant effect on enhancing biological control.