Detection and identification of antibiotic biosynthesis genes in Bacillus subtilis strains

Abstract

Two Bacillus subtilis strains L10 and G1, previously isolated from fermented pickles, were tested for antibacterial activity against Vibrio harveyi using a well-diffusion agar assay. Antibiotic biosynthesis genes were then detected in both bacterial strains and included the following genes: bacA, bacB and bacD genes for bacilysin production, ppsE/fenB gene for plipastatin/fengycin production, albF and albA genes for subtilosin production, and srfAB and sfP genes for surfactin production. Based on these results, two B. subtilis strains could be considered as potential biological control agents in aquaculture.

Keyword: Antibiotic biosynthesis genes; Bacillus subtilis; Growth inhibition; Vibrio harveyi