

Abstract

Molecular fingerprinting of biocontrol agents is pivotal both for environmental monitoring and registration purposes. Fluorescent amplified fragment length polymorphism (fAFLP) analysis was utilised for the first time to investigate the intraspecific variability of the yeast-like fungus *Aureobasidium pullulans*, in order to identify specific molecular markers for its strain LS30, an effective biocontrol agent against major postharvest pathogens on different crops, and to pave the way to the development of molecular-based tools for unequivocal tracking of this agent after its release in the environment. Forty-eight isolates of *A. pullulans* from phyllosphere and carposphere of several crops from different sites of Southern Italy and Greece were analyzed by using four couples of primers. A pairwise comparison of fAFLP patterns was performed, for each primer pair, by using Dice similarity coefficient (S_p). Four matrices were generated and, subsequently, averaged and combined for constructing a single dendrogram, in which clustering of fingerprints was performed with the unweighted pair groups (UPGMA). In the combined dendrogram, most of the isolates grouped into three main fAFLP clusters with levels of similarity ranging from 0.18 to 0.35. Only two isolates (AU73 and AU91) were very similar in all fAFLP patterns. Only primers AC/CA yielded three DNA sized fragments that appeared to be specific for LS30.