Title A Virulence-Reducing Mutation in the Postharvest Citrus Pathogen *Alternaria citri*

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Abstract

Alternaria citri causes Alternaria black rot, a postharvest fruit disease, on a broad range of citrus cultivars. We previously described that an endopolygalacturonase minus mutant of *A. citri* caused significantly less black rot in citrus fruit. To search for other essential factors causing symptoms in addition to endopolygalacturonase, a random mutation analysis of pathogenicity was performed using restriction enzyme-mediated integration. Three isolates among 1,694 transformants of *A. citri* had a loss in pathogenicity in a citrus peel assay, and one of these three mutants was a histidine auxotroph. Gene *AcIGPD* that encodes imidazole glycerol phosphate dehydratase, the sixth enzyme in the histidine biosynthetic pathway, was cloned, and the mutant containing the disrupted target gene, *AcIGPD*, caused less black rot.