

Induction of Chitinase and β -1,3-Endoglucanase Proteins by UV Irradiation and Wounding in Grapefruit Peel Tissue

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UV irradiation enhanced the resistance of grapefruit against the development of green mold decay caused by *Penicillium digitatum*, the main postharvest pathogen of citrus fruit, and significantly inhibited the fungus' growth at the fruit wound sites. Immunoblotting analysis using specific citrus chitinase and β -1,3-endoglucanase antibodies, showed that UV irradiation, wounding of the fruit, or a combination of these two treatments, induced the accumulation of a 25 kD chitinase protein in the fruit's peel tissue. On the other hand, UV irradiation or wounding of the fruit alone was unable to induce the accumulation of 39 and 43 kD β -1,3-endoglucanase proteins, but the combination of the two treatments increased these protein levels. It is suggested that both chitinase and β -1,3-endoglucanase may play a role in the UV-induced resistance of grapefruit against *P. digitatum*.

KEY WORDS: Chitinase; β -1,3-endoglucanase; grapefruit; *Penicillium digitatum*; resistance; UV; wounding.

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