Construction of transgenic melon (Cucumis melo L.cv.Sliver Light) expressing antifungal protein（AFP3）

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ABSTRACT

ABSTRACT Melon (Cucumis melo L.) is an economically important crop of the tropic and subtropical regions. Fungi disease often causes serious economy loss of melon and people is usually spray tons of agricultural chemicals or bacteria inhibitor to protect against melon diseases. In consideration of the harmful and dangerous effects to the environment ecosystem, we are trying to introduce anti-fungal protein genes into melons to control melon diseases. There is still no paper about transgenic melon related to anti-fungi. This investigation tried to set up an approach of Agrobacterium-mediated transformation of melon carrying with Bo-AFP3-HB-GFP and Cp-AFP3-HB-GFP. The anti-fungal protein genes, Bo-AFP3-HB-GFP and Cp-AFP3-HB-GFP, were supplied by Dr. Xiao, Chiehfu of Academia Sinica. Seed is through pretreatment for 3 days, and cotyledons are cut into six part segments as explants. The explants co-cultured with Agrobacteria cell for 4 days and then transferred to the selection medium. There are 23 putative Bo-AFP3-HB-GFP transgenic lines and six putative Cp-AFP3-HB-GFP transgenic lines were obtained. PCR and Southern blot analysis confirmed that the foreign gene was incorporated into the genic DNA of the regenerates. RT-PCR analysis indicated the RNA levels. One transgenic melon（C3 line）from Cp-AFP3-HB-GFP lines expressed resistance to infection fungi under greenhouse conditions. Key Words : Antifungal protein gene, Agrobacterium, transgenic melon

Keywords : Antifungal protein ; Agrobacterium-mediated transformation ; transgenic melon

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表一、Bo-AFP3-HB-GFP轉基因甜瓜 49 表二、Cp-AFP3-HB-GFP轉基因甜瓜 50

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