

04-1-58

Transformation of a Acyl-ACP Thioesterase in Arabidopsis and Perilla Using *Agrobacterium tumefaciens*.

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Objectives

We have been isolated two Acyl-ACP thioesterase genes from *Iris germanica*. Two genes were characterized in *E.coli* for enzyme activity, and we transform arabidopsis and perilla and will determine lipid composition in plant.

Materials and Methods

1. Plant materials : Arabidopsis and Perilla
2. Methods : Vector construct, floral dip, agrobacterium-mediated transformation, Southern blot, gas chromatography

Result and Discussion

We isolated two acyl-ACP thioesterase genes from *Iris* and the deduced amino acid sequences showed 85% homology between the two genes. These genes were then used to construct binary vector based on pCambia 3301 for plant transformation. Gene constructs were transformed *Arabidopsis thaliana* by floral dip method and transformants were selected by 0.3% basta spray and confirmed the insertion of the acyl ACP-thioesterase gene by Southern blot. Perilla, oil seed crop in Korea, is transform this constructs by *Agrobacterium*-mediated method using hypocotyl explants. We will analysis on arabidopsis seeds for modification on lipid composition and identify the perill transformants for further study.

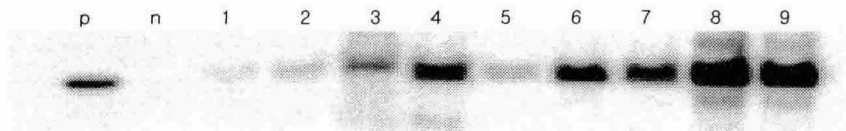


Fig. Genomic Southern blot in arabidopsis transformants. p; positive control
n; nontransformant 1-9 ; transformants