

***Agrobacterium*-mediated transformation of *Lycopersicon esculentum* (cv. MicroTom) with two pathogen-induced hot pepper transcription factors**

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Objectives

We have tried to study the role of these transcription factors in pathogen defense by overexpression in tomato.

Material and Methods

1. Material

Plant - *Lycopersicon esculentum* (cv. MicroTom)
Agrobacterium strain - LBA4404/CaNAC1 and LBA4404/CaPIF1

2. Methods

Two pathogen-induced hot pepper transcription factors (CaNAC1 and CaPIF1) were introduced into 'MicroTom' tomato by *Agrobacterium tumefaciens*-mediated transformation.

Results and Discussion

'MicroTom' tomato was transformed by *Agrobacterium tumefaciens* that pMBP1 harbored genes for two pathogen-induced hot pepper transcription factors (CaNAC1 or CaPIF1). We used to *nptII* containing kanamycin resistance gene as a selection marker. Both transformed and non-transformed plants were transferred to pot after rooting test *in vitro*. To approximate the levels of CaNAC1 transcript in leaves of wild-type and transgenic plants, RNA blots were hybridized with double-stranded full-length CaNAC1 probe at moderate stringency. Although the relative signal strength for hybridization fluctuated among the samples on different blots, transgenic plant lines N-1, N-2 and N-3 consistently displayed increased levels of CaNAC1 transcript relative to other transgenic lines and wild-type plants. Of all the transgenic lines examined, line N-7 had the least amount of CaNAC1 transcript. Role of these transcription factors in pathogen defense will be examined by overexpression in tomato.