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Changes in the Shapes of Leaves upon Expression of *Arabidopsis ANGUSTIFOLIA (AN)* Gene in Chinese Cabbage

Hye Ryoun Seok, Joon Ki Hong, Kyung Ae Yang, Zheng Lu Jin, Gyu Jin Sim, Gyung-Tae Kim[1], Chae Oh Lim*

Division of Applied Life Science (BK21), Gyeongsang National University, Jinju 660-701, Korea;
[1]Faculty of Plant Biotechnology, Dong-A University, Busan 604-714, Korea

Objectives

Here we describe a reliable method for the introduction of foreign gene into three Korean cultivars of Chinese cabbage and compare the *Agrobacterium* susceptibility and regeneration efficiency. In addition, we discuss the possible roles of the *Arabidopsis AN* gene in Chinese cabbage.

Materials and Methods

1. Plant Materials: Three commercial F_1 hybrid cultivars of Chinese cabbage (*Brassica campestris* L. ssp. *pekinensis*), namely Jangwon, Pupbaechoo and Seoul (Novartis-Korea Seed Co.) were tested.
2. Methods: Transformation vectors; pTOK233 or pAN::GFP, GUS assay, Genomic Southern.

Results and Discussion

Three cultivars of Chinese cabbage were tested for plant regeneration from the hypocotyls and cotyledons and examined for their response to *Agrobacterium tumefaciens* LBA4404, carrying a plasmid pTOK233, harboring genes for hygromycin resistance (*hpt*) and glucuronidase (*gus*). Plant regeneration was considerably increased in most of the cultivar Seoul. Based on GUS expression after co-cultivation with *A. tumefaciens*, Seoul cultivar (2%) was judged highly susceptible to *A. tumefaciens* while Jangwon and Pupbaechoo were weakly susceptible. Leaves of the *AN*-expressed transgenic plants were the same length but narrower lamina in the petiole region than wild-type leaves.

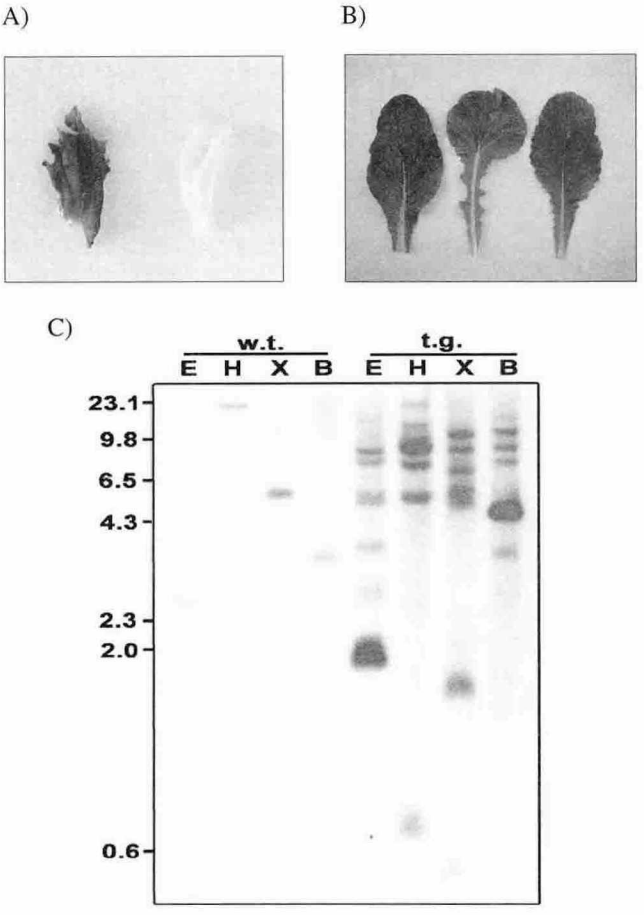

Fig. 1. A) Chinese cabbage regeneration and GUS expression. B) Gross morphology of the sixth leaves of wild-type (left), and transgenic plant line#1(middle) and #3 (right). C) Genomic Southern blot analysis with wild-type (w.t.) and transgenic line #1 (t.g.)

* Corresponding author: TEL: 055-751-6255; E-mail: colim@nongae.gsnu.ac.kr