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Flowering time genes of *Brassica*

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Objectives

We isolated and characterized several flowering time genes to understand flowering habits in *Brassica*.

Materials and Methods

1. Material :

Plant : *B. campestris* var. Samjin

2. Methods :

Flowering time genes were isolated by RT-PCR from Chinese cabbage.

Results and Discussion

Recently, *Arabidopsis thaliana* genome sequencing was completed. And about 100 genes related with flower and flowering time were identified or characterized. *Arabidopsis* and Chinese cabbage are in the same family, *Brassicaceae*, so their flowering habits are very similar. We isolated several major flowering time genes from Chinese cabbage using the data of *Arabidopsis* genes as a reference.

Primers for isolation of full-length genes were designed from the sequence of the first and last exon of *Arabidopsis* genes. RT-PCR was done with the total RNA from Chinese cabbage var. Samjin. The PCR products were cloned into pGEM-T easy vector and the entire nucleotide sequence was analyzed. Five genes from Chinese cabbage (BrSVP, BrCO, BrAGL20, BrVRN1, and BrGI) were sequenced and the sequences submitted to the GenBank. These sequences of the *B. campestris* genes were compared to those of other *Brassica* species. These genes were highly conserved among *Brassica* species.