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The Use of Phosphomannose-isomerase as a Selectable Marker to Recover Transgenic Chinese cabbage

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Objectives

We report the development of a new selection system for the transformation of Chinese cabbage plants by mannose. Phosphomannose isomerase (PMI) can convert mannose to fructose. Transgenic Chinese cabbage plants were obtained by selecting *Agrobacterium*-mediated transformed hypocotyls on mannose (8 g/L) containing medium.

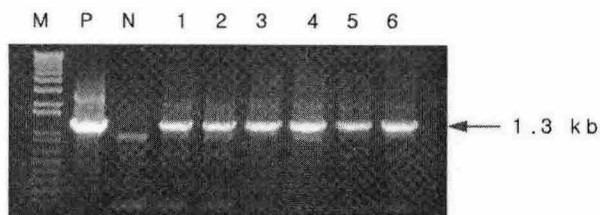
Material and Methods

Hypocotyls of the Chinese cabbage inbred lines were inoculated

with *Agrobacterium* strain LBA4404 harboring HSP101 (heat shock protein) gene and cultured with mannose selection (8 g/L).

Results and Discussion

1. We have obtained over 20 transformed Chinese cabbage plants with 0.8% transformation efficiency.
2. PCR and DNA gel blot analyses showed that the HSP101 gene was stably integrated into the Chinese cabbage genome.
3. This is the first report of the successful transformation of the Chinese cabbage using mannose selection system.



M : Marker
P : Positive control
N : Negative control
1-6 : Putative transformants

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