

***Agrobacterium*-Mediated Transformation using Korean Wheat Seeds**

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Objective

The objective of this study was to confirm in the possibility of *Agrobacterium*-mediated transformation using wheat seeds.

Materials and Methods

- ▷ Plant materials : Keumkangmil
- ▷ *Agrobacterium* strain / plasmids : KYRT1 / pCAMBIA3301 + pAHC25-1
- ▷ Treatments : sonication (2 mins) and vacuum infiltration (2 hours)
- ▷ Transformation efficiency - GUS assay

Results and Discussion

Effect of *Agrobacterium*-mediated transformation was determined by GUS gene expression in wheat seeds. The effects of sonication and vacuum infiltration on GUS expression in immature embryos of Korean wheats were reported (Moon *et al.*, 2004). This experiment was designed with combination of sonication (2 mins) and vacuum infiltration (2 hours) treatments and GUS assay was tried two stages: first stage was after co-cultivation (3 days) and second stage was at 4 weeks after callus formation in seed.

GUS expression of seeds showed blue spots around embryo (Fig. 1A). Seeds-derived callus showed individual blue spots in GUS expression (Fig. 1B). Fig. 2 showed GUS expression from mature embryos induced callus in wheat. Transient GUS expression in mature embryos induced callus showed individual blue spots. In comparison of GUS expression, seeds-derived callus showed similar mature embryos induced callus. The experiments showed that the possibility of *Agrobacterium*-mediated transformation using wheat seeds.

References

- Moon, J. -H., M. -S. Kang, H. -Y. Heo, Y. -U. Kwon, S. -K. Lee, K. -H. Kim, and B. -M. Lee.
2004. Effects of sonication and Vacuum Infiltration on *Agrobacterium*-Mediated Transformation in Immature Embryos of Korean Wheat Genotypes. Korean J. Crop Sci. 49(5) : 415 - 418.

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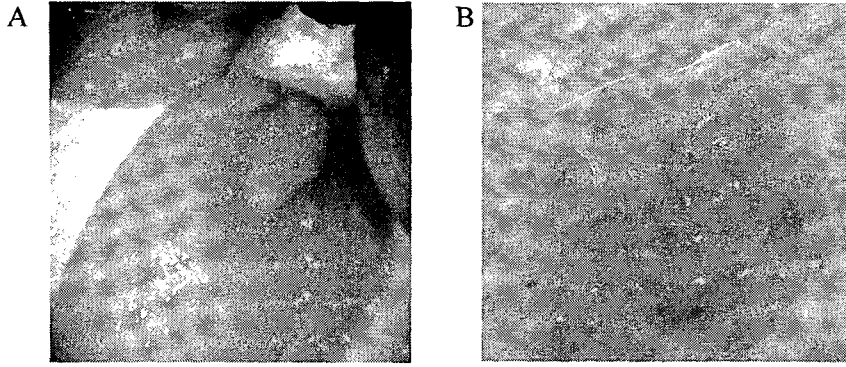


Fig. 1. GUS expression. A: Seeds B: Seed-derived callus

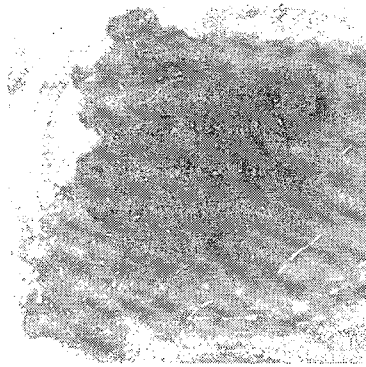


Fig. 2. GUS expression from mature embryos induced callus.