

# **Studies on the Effectiveness of Production of Transgenic Plants of Tomato cv.PKM-1 through *Agrobacterium* Mediated Genetic Transformation**

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## **ABSTRACT**

Tomato cv.PKM-1 cotyledon explants from 10 days old tomato seedlings were optimized to obtain adventitious shoot buds with high frequency were utilized for *Agrobacterium* mediated transformation. Efficient transformation of these cotyledons was achieved using the *Agrobacterium* strain LBA4404 containing the binary vector pCAMBIA 2301 harboring *npt II* as selectable marker and GUS as reporter gene. Confirmation of the transgene integration in the putative transformants was done by using the histochemical GUS staining and PCR. The transformation frequency was 3.5% and the GUS gene transient expression level in transformants was 44.4%. Thus, the present study successfully demonstrated the indirect regeneration of transgenic plants from cotyledonary explants through *Agrobacterium* mediated genetic transformation approach in tomato cv. PKM-1. The standardized protocols of present study may be utilized for further transgenics development in PKM-1 cultivar genetic background.

**Key words :** *Agrobacterium*, *In-vitro* cultures, Tomato, Transformation.