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Agrobacterium-mediated Genetic Transformation of Gisneg for Biosynthetic Pathway in high-density Ginsenoside

Ju-Sun Sim, Rama Krishna Pulla, Yu-Jin Kim, Dae-Young Jeong, Jung-Hye Lee, and Deok-Chung Yang*

Korean Ginseng Center for Most Valuable Products & Ginseng Genetic Resource Bank, Kyung Hee University

*Corresponding author. Tel: 031-201-2688, E-mail: dcyang@khu.ac.kr

Triterpenoid saponins are synthesised via isoprenoid pathway by cyclization of 2,3-oxidaosqualene and give primarily oleanane or dammarane triterpenoid skeletons. In general very little is known about the enzymes and biochemical pathways involved in saponin biosynthesis. The genetic squalene epoxidase gene up-regualtes the final product of triterpene saponins by 2,3-oxidosqualene overexpression. squalene epoxidase gene (*PgSE*) of 35S-35S-AMV-*PgSE*-Tnos, has been mobilized into *Agrobacterium tumefaciens* strain GV 3101 disarmed Ti plasmid. *PgSE* gene was introduced into the binary vector pRD 400. Ginseng transgenic roots and calli were induced using secondary embryos against to selection medium. Tansgenetic material was confirmed with NPTⅡ and *PgSE* gene primers respectively. We studied the expression of *PgSE* gene also in transigence material by using RT-PCR. Our results reveled that *PgSE* was the key enzyme in triterpenoid saponins synhesis.