Agrobacterium tumefaciens mediated transformation and regeneration of ginger (*Zingiber officinale* Rosc.)

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Abstract

The absence of seed set in ginger makes conventional breeding methods inapplicable warranting genetic modification through biotechnological means. Agrobacterium tumefaciens strain EHA105/p35SGUSInt, effective in expressing b-glucuronidase activity, was used to standardize the pre-culture of explants, bacterial dilution, and co-cultivation period, besides evaluating the effect of acetosyringone and post cultivation in darkness, and to assess the optimum concentration of kanamycin as selection agent for transformation. Transformants were recovered on selection media containing 100 mg L–1 kanamycin and a combination of 2,4-D 1.0 mg L–1 and BA 0.5 mg L–1, and regenerated in half strength MS media of BA 3.0 mg L–1 and 2,4-D 0.5 mg L–1. Successful transformation was confirmed by histochemical GUS assay and polymerase chain reaction analysis.

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