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## Transformation of Cassava Superoxide Dismutase Gene into Cucumber (*Cucumis sativus* L.)

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Superoxide dismutase (SOD) plays an important role in cellular defense against oxidative stress in plants. Thus transgenic plants that overexpressing SOD have been developed to reduce the oxidative damage in plants. In addition, SOD may be very useful in the field of medicinal, food and cosmetic industries. In this report, to develop the fruits of cucumber (*Cucumis sativus* L.) producing high yields of SOD as a plant bioreactor, the SOD cDNA was introduced into cucumber using *Agrobacterium tumefaciens*-mediated transformation. For this we designed a new vector system (ASOp+mSOD1/pGPTV-Bar) containing ASO promoter with pre-dominant expression in cucumber fruits (Plant Cell Reports 13:481-488, 1994), CuZnSOD cDNA (mSOD1) isolated from cultured cells of cassava (*Manihot esculenta* L.), and herbicide resistant bar gene. The excised hypocotyls of cucumber seedlings were cocultivated with *A. tumefaciens* carrying the vector. The baster-resistant shoots were selected on the selection medium containing MS basal salts, 2.0 mg/L zeatin, 300 mg/L claforan, and 2 mg/L baster. After 6 weeks of culture on the selection medium, the shoots were transferred to MS medium containing 1.0 mg/L IAA to induce roots. PCR analysis using the primers for bar gene revealed that several plantlets were transformed. The putative transgenic cucumber plants are growing in the green house.

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