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(22nd SPPS Meeting)

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Transformation of tomato cultivar Moneymaker with *Agrobacterium tumefaciens*

PP1-3

Ana Simonović[1], Milica Bogdanović[1], Nick Bergau[2], Alain Tissier[2], Slađana Todorović[1]
(ana.simonovic@ibiss.bg.ac.rs)

[1] Institute for Biological Research "Siniša Stanković", University of Belgrade, Bul. Despota Stefana 142, 11000 Belgrade, Serbia

[2] Leibniz-Institute of Plant Biochemistry, Weinberg 3, 06120 Halle (Saale), Germany

Tomato (*Solanum lycopersicum*) is not only one of the most important vegetable crops, but a widely used model for genetic improvement of dicotyledonous crops. Even though the first report on tomato transformation using *Agrobacterium tumefaciens* has been published over 30 years ago, numerous protocols published since then demonstrate that tomato transformation is neither standardized nor routine. Tomato cultivars and genotypes greatly differ in their susceptibility to transformation and response to growth regulator and antibiotics combinations used during regeneration and selection. Hereby we report a successful protocol for "Moneymaker" transformation with *A. tumefaciens* GV3101:pSM90 bearing pAGT174 with Kanamycin resistance cassette. Whole larger leaves (from ~10 cm high plantlets), rather than leaf segments were selected for inoculation, as the explant size significantly affected regeneration rate. Combination of zeatin (1 mg L^{-1}) and IAA (0.1 mg L^{-1}) was used for preculture and throughout the selection process, with addition of Timentin (200 mg L^{-1}) and increasing concentrations of Kanamycin (from 20 to 50 mg L 1) during the selection and regeneration. The regeneration on Kan occurred almost exclusively in transformed explants and proceeded via organogenesis with the callusing stage. Using Timentin instead of commonly used Cefotaxime to kill the bacteria proved beneficial for Moneymaker regeneration. In this system the regeneration frequency was 7%. Plantlets that survived Kan selection were PCR-tested, and 89.6% of them were transformed. The protocol is convenient and robust in terms of very low false-positive rate (10.3%).

Keywords: Moneymaker, transformation, Timentin, Zeatin

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Distribution of some arabinogalactan protein epitopes during somatic embryogenesis and organogenesis on leaf explants of centaury (*Centaurium erythraea* Rafn)

PP1-4

Biljana Filipović, Milana Trifunović-Momčilov, Ana Simonović, Slađana Jevremović, Angelina Subotić
(biljana.nikolic@ibiss.bg.ac.rs)

Institute for Biological Research "Siniša Stanković", University of Belgrade, Bulevar despota Stefana 142, 11060 Belgrade, Serbia

Arabinogalactan proteins (AGPs) are a family of ubiquitous hydroxyproline-rich glycoproteins present in plasma membranes, cell walls and secretions of plants. Since AGPs are highly glycosylated, more than 90% of their total molecular mass comes from carbohydrate moieties consisting of various arabinogalactosyl chains (AG sugar chains), which are thought to be important for the