

Induction of Tropane Alkaloid Formation in Transformed Root Cultures of *Brugmansia suaveolens* (Solanaceae)

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Hairy root cultures of *Brugmansia suaveolens* were set up by infection of root tips with *Agrobacterium rhizogenes*. The successful transformation was confirmed by analysing rolC and virC genes using polymerase chain reaction (PCR). Hairy root cultures were employed to study the formation of tropane alkaloids, such as hyoscyamine. The transformed cultures were incubated with potential elicitors, such as methyljasmonate, quercetin and salicylic acid in order to stimulate the biosynthesis of tropane alkaloids. Profile and amounts of tropane alkaloids were analysed using capillary GLC-MS. At least 18 different tropane alkaloids could be identified. Treatment of the cultures with 200 μM methyljasmonate increased the alkaloid accumulation 25-fold up to a level of 1 mg/g fresh weight as compared to untreated controls. Quercetin enhanced the alkaloid production 10 fold (0.4 mg/g fresh weight) within 24 h. In contrast 100 μM salicylic acid decreased alkaloids to a level of 1 $\mu\text{g/g}$ fresh weight.

Key words: *Brugmansia suaveolens*, Tropane Alkaloids, Elicitation