Production of Essential Oil in Hairy Root Cultures of Valeriana and Korean Angelica

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Agrobacterium rhizogenesis a genus of gram-negative soil bacteria belonging to the Rhizobiaceae. *A. rhizogenescan* transfer T-DNA, excised from Ri (root inducing)-plasmids several hundred kb in size, from the bacterial to the plant cell. It is the causal agent of 'hairy root' diseases in plants, and has been used for the production of hairy root cultures from a multitude of species. Hairy root cultures from plants have attracted considerable attention because of their genetic and biochemical stability, rapid growth rate and ability to synthesize secondary products (at levels comparable to the original plants.

Thus hairy root cultures could possibly serve as a potential system to study biosynthesis of important essential oils from roots of several herbs. Valeriana (*Valeriana officinalis* L). and Korean Angelica (*Angelica gigas*) produce essential oils from its roots. However, there have been no reports about essential oil production in hairy root culture of these herbs.We report on the production of essential oil in hairy root cultures of Korean Angelica and Valeriana.

References

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