

Rosmarinic acid biosynthesis in hairy root cultures of Korean mint, *Agastache rugosa* K.

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Korean mint, *Agastache rugosa* Kuntze belonging to mint family (*Labiatae*) is a perennial herb and is widely distributed in the East Asian countries with important role in the traditional medicine of several Oriental cultures. One of the main active constituents of Korean mint is rosmarinic acid which contains attributes like antioxidant and allelochemical properties.¹⁾

Agrobacterium rhizogenes a genus of gram-negative soil bacteria belonging to the Rhizobiaceae. *A. rhizogenes* can 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.²⁾

Thus hairy root cultures could possibly serve as a potential system to study the biosynthesis and production of important natural products. However, there have been no reports about rosmarinic acid biosynthesis in hairy root culture of *Agastache rugosa* Kuntze. We report on the production of rosmarinic acid and the establishment of hairy root cultures of Korean mint transformed with *A. rhizogenes*.

References

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