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ENHANCEMENT OF ROSMARINIC ACID ACCUMULATION IN *SALVIA VIRGATA* JACQ. SHOOT CULTURES USING YEAST EXTRACT AND METHYL JASMONATE

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Rosmarinic acid (RA), an ester of caffeic acid and 3, 4-dihydroxyphenyllactic acid, is mainly found in the plant species belonging to Boraginaceae and Lamiaceae. Because of potent antioxidant and antimicrobial activities, natural phenolic compounds such as RA are valuable natural products for food and pharmaceutical industries and can be used against different diseases like cancers [1]. *Salvia virgata* (belongs to Lamiaceae family), is a perennial medicinal plant native to Asia and southeastern Europe which used to be traditionally applied against skin diseases and wounds and blood cancer (leukemia) in some parts of the world [2]. Due to interesting biomedical activities of RA, its low content in the intact plants and a high demand for RA production, alternative strategies were imposed to improve the RA yield, among them biotic and abiotic elicitors have higher impact. Towards higher RA production, its accumulation was studied in regenerated shoots of *S. virgata* in response to yeast extract (YE) and methyl jasmonate (MJ). Photochemical analysis by HPLC and spectrophotometer showed higher accumulation of RA as well as total phenolic and flavonoid contents in response to YE and MJ, but MJ elicitation was more effective. The effect of elicitors on RA accumulation in shoot cultures was dependent to elicitor type, dosage and the period of exposure. A considerable 2-fold RA accumulation (about 25 mg g^{-1} dry weight) was obtained with 50 or 100 μM MJ after five days of elicitation compared with control. By overall YE and particularly MJ were able to elicited higher phenoilc compounds with antioxidant properties such as RA in *S. Virgata* shoot cultures [3].

References

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