

Methyl Jasmonate-mediated Enhancement of Phenylethanoid Glycoside in Callus from *Abeliophyllum distichum* (cultivar Okhwang1)

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Abeliophyllum distichum, one of the Korean endemic plant, is a significant pharmaceutical plant resource. *A. distichum* with phenylethanoid glycoside can use to regulate the development of cancer, DNA damage with radicals, and the generation of inflammatory mediators. In this study, we investigated whether the biomass, content of phenylethanoid glycoside, and growth rate of callus derived from *A. distichum* (cultivar Okhwang1, CAD) change in the absence or presence of plant hormones (2,4-Dichlorophenoxyacetic acid; 2, 4-D and 1-Naphthaleneacetic acid; NAA). The results showed that the best biomass, the growth rate of callus, and the contents of phenylethanoid glycoside were cultivated on Murashige and Skoog (MS) growth medium fortified with 1 ppm 2,4-D + 2 ppm NAA after 4 weeks. In a further study, CAD was cultivated on MS growth medium fortified with an elicitor (Methyl Jasmonate, MeJA). The results showed that CAD turned to brown color and fragile form with the elicitor. HPLC-PDA analysis revealed that the contents of phenylethanoid glycoside in the elicitor-treated group were higher than in the elicitor-non-treated group. These results are consistent with the findings of Arano-Varela H *et al.*,⁴s study which is that acteoside production can increase after the treatment of MeJA. Therefore, this study can be used to develop an effective and sustainable production of useful substances as an alternative to plant cultivation.

Key words: *Abeliophyllum distichum* (cultivar Okhwang1), Callus, Elicitor, Methyl Jasmonate

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