

Abstract

Rosa Damascena is an ornamental and medicinal plant. It has a fragrant smell, the height of this plant can reach to 2 meters. Rosa Damascena has high economic benefits. The aim of this study is to identify the micro-RNA of the DXR gene on the MEP path and the relative expression pattern of *DXR* gene and micro-RNA is treated with gibberellic acid and jasmonic acid. This design was done with the complete random block method at farm level. After the bioinformatics examination and with respect to the characteristics of the gene, miR169e the post-translation regularity agent of this gene, which was consistent with the highest conformity, was identified. The treatment was applied on Mohammadi plants by the gibberellic acid and jasmonic acid treatment at concentrations 1 and 2 mM. After extraction of RNA and the synthesis of cDNA, the pattern of gene expression was investigated by using the RT-PCR method. Analysis of data from gene expression which include mean comparison, block effect and interaction was done by using the SAS 9.1 software. The results of analysis of data variance showed that there are significant differences between jasmonic acid and gibberellic acid in 2 mM concentrations compared to the control sample. Meanwhile, miR169e expression in 1 mM concentration of gibberellic acid and jasmonic acid showed a significant reduction of *DXR* expression gene.



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**The Thesis Submitted for the Degree of Master of Science
(In the field of Agricultural Plant Breeding)**

**Identify and evaluation of miRNA and DXR
involved in oil rose (*Rosa damascena* Mill) treated
with gibberellic and jasmonic acid.**

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