

Abstract:

Norouzak (*Salvia leriifolia* Benth.) is a species of the Lamiaceae family which has anti-inflammatory, anti-inflammatory, anti-diabetes, and anti-oxidant properties. In order to increase the production of secondary metabolites in tissue culture, treatments with elicitors and application of Alive and lonely stresses are considered along with addition of precursors in plant cell cultures. The purpose of this study is to investigate the effect of various concentrations of Salicylic acid (10, 50, and 100 mM) on the micropropagation content of secondary metabolites and the antioxidant activity of the Norouzak plant in *in vitro*. To this end, sterile seedlings were used as finite specimens. The end buds were cultured in two MS medium containing BAP2 + IBA0.5 mg / L: a and: B BAP1 + IBA 0.5 mg / L hormones with different concentrations of cystic acid. After 30 days, micropropagation and biochemical indices were investigated. Thus, the contents of phenol and flavonoids are measured by Folin-cicoalteu and aluminum chloride, respectively. Also, the antioxidant activity is evaluated using FRAP, DPPH methods and phenolic acids by HPLC method. The results showed that the highest stem length, stem elongation and leaf number were observed in both a and b media under the influence of 10 mM salicylic acid. The highest total phenol and flavonoid was observed under the influence of 10 and 50 mM acid salicylic acid. The amount of phenolic acids, such as gallic acid, caffeic acid, benzoic acid and Rosmarin Acid, was significantly increased in comparison with the control of salicylic acid, so that the highest levels were affected by 50 and 100 The micro molar salicylic acid was observed. The highest level of antioxidant activity was observed by the concentration of 50 mM salicylic acid. Therefore, by optimizing the concentration of acid salicylic acid, the Production of secondary metabolites, including phenolic acidic and antioxidant properties of *S. leriifolia* can be increased.

Keywords: Salicylic acid, Phenolic compounds, Secondary Metabolites, Micropropagation, Antioxidant activity, *Salvia Leriifolia* Benth.



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**The Thesis Submitted for the Degree of M. Sc
in the field of Plant Physiology**

Title:

**Effect of salicylic acid on secondary
metabolites and antioxidant activity of
Salvia leriifolia Benth. in in vitro**

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Summer 2018