

## **Abstract**

The medicinal plant *Ducrosia anethifolia* (DC.) Boiss is a biennial herb of the Apiaceae family. This plant is begin origin in Iran and used to treat headache and backache in traditional medicine.

The species of this genus have anti-anxiety, relaxing, antimicrobial activity against gram positive bacteria and yeast and used to produce sedative medicines.

The purpose of this research are secondary metabolites production under different physical and chemical treatments in Moshgak plant cell suspension culture. This research had been three stages such as, callus induction, suspension culture and extract.

For produce callus, explants of lateral bud and leaf cultured in complete MS medium containing BAP and NAA plant growth regulators. For each treatment about 0.5 gr of callus produced in provious stage, crushed and incubated in suspension culture medium. The treatments in suspension culture such as, explants, leaves, different concentration of BAP and NAA plant growth regulator, different condition of light and shaker cycle was done for one month. The extraction was done with Ethanol and n-pentane and finally evaluated of quantitative and qualilitative identification by using GC and GC/MS.

The result showed, half of this treatments have secondary metabolites, which among of them, leaf treatment with BAP plant growth regulator in 3 mg/lit concentration and NAA plant growth regulator in 0.3 mg/lit concentration in 600 Lux light level and without stress detected the best treatment.

**Key words:** *Ducrosia anethifolia* (DC.) Boiss, secondary metabolite, suspension culture, GC and GC/MS



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**The Thesis Submitted for The Degree of Master of Science  
(In The Field of Plant Biotechnology)**

**Title**

**Study of Light and Hormone Effect on  
Plant Suspension Culture of Moshgak  
(*Ducrosia anethifolia*)**

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February 2010