

**CO-CULTIVATION OF CELL SUSPENSION-DERIVED FROM
COTYLEDON NODE OF *Trigonella foenum-graecum* L. WITH Ri
PLASMIDS UNDER ELECTRICAL SHOCK AND ISOLATION OF
DIOSGENIN FROM GENITICALLY MODIFIED CALLUS.**

M.M.Al-Mahdawe*

M.K.Al-Mallah**

A.O.Al-Attrakchii***

*Lecturer - College of Education - University of Diyala.

** Prof. - College of Education - University of Mosul.

***Prof. - College of Agriculture and Forestry -University of Mosul.

ABSTRACT

This study was carried out in a laboratory tissue culture and genetic applications in the Department of Life Sciences / College of Education / Univ. of Mosul , it aims to get the tissue *Trigonella foenum-graecum* L. genetically modified from Co-cultivation with cell suspensions Ri plasmids isolated from bacteria *Agrobacterium rhizogenes* under the influence of electric shock and Valuation the content of diosgenin. Co-cultivation results of the densities 28.0 , 37.0×10^4 cell/cm³ of cell suspension derived from callus of cotyledon node of *Trigonella foenum-graecum* L. with 50 µL of Ri plasmids, isolated from *Agrobacterium rhizogenes* R1601.This mixture exposed to 200 or 250 volt./50 msec. shocks and embedded in agar drops indicate the formation of microcalli, Assessment of opine proved the separation of agropine spots. This is indicate that callus is genetically transformed. The data indicated the presence of diosgenin in these cultures when assessed by Infrared Ray (IR) spectrum and High Performance Liquid Chromatography (HPLC) compared with standard samples. This genetically transformed callus have high content of diosgenin achieved 297.7%, that equaling twice of its quantity 161.8% present in leaves of fenugreek plants produced from seeds.

Key words: co-cultivation, cell suspension, *Trigonella foenum-graecum*, Ri plasmids, diosgenin.