

Effect of growth regulators and nacl stress on callus formation and alkaloids production on *Vinca rosea* plant (*Catharanthus roseus* L.)

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Vinca alkaloids are a subset of drugs obtained from the periwinkle plant, they are naturally extracted from the pink periwinkle plant (*Catharanthus roseus*), and they have been used to treat diabetes, high blood pressure and have been used as disinfectant, the vinca alkaloids are also important for being Cancer resistant, there are four major vinca alkaloids in clinical use: Vinblastine (VBL), vinorelbine (VRL), vincristine (VCR) and vindesine (VDS), vinca alkaloids are the second-most-used class of cancer drugs and will stay among the original cancer therapies, *Catharanthus roseus* is still source used for the powerful antitumor drugs (vinblastine and Vincristine), The vinca plant also contains reserpine alkaloids. and serpentine. Both are considered a powerful sedative to control emotional emotions, Vindoline and catharanthine Which reduce high blood pressure, as well as reduce high blood sugar level. Callus culture had been done on MS-medium, containing Different, Concentrations from BA – 2,4-D – NAA – IAA, Where the different effects of growth regulators were studied when different parts of the plant have been cultured from leaves and stems, this is to induce callus formation and encourage growth, and the concentrations that were, prepared: BA (0,1 – 0,3 – 1 – 2 mg/l), NAA (0,1 – 1 mg/l) _ IAA (0,1 mg/l), 2,4-D (0,75 – 1 mg/l) And after culture the explants we transferred it to the growth room with a temperature ranging from 27 to 29 ° C, relative humidity around 80%, And in complete darkness, then we applied the resulting callus tissue under the influence of different concentrations of NaCl as (50 – 75 – 100 – 150 mM/L), The results from HPLC analysis in the dry weight of callus were as follows, ajmalicine (0.18 mg/g DW), catharanthine (0.07 mg/g DW), serpentine (0.37mg/g DW, vindoline (0.11 mg/g DW).

Biography

Youssif Mahmoud Ahmed, B.Sc. in Biotechnology, Faculty of Agriculture, AL Azhar University in Cairo, Egypt (2021). As a speaker, I participated in International E-Conference in Plant Sciences, Oral Presentation Structured by united research forum LONDON, UK. I have good experience in Molecular Biology, Genetic Engineering and python programming language. I will continue my masters studies because of my passion for learning, so To expand my knowledge, enhance my skills and develop my career in the field of scientific research, we must continue to learn.

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