CHEMICAL AND BIOTECHNOLOGICAL STUDIES ON BIOLOGICALLY ACTIVE CONSTITUENTS FROM SOME SPECIES OF GREEN AND BLUE GREEN ALGAE

By

HADEAR HANIE AMIN

B.Sc. Agric. Sc. (Agric. Biochemistry), Ain Shams University, 1999

M.Sc. Agric. Sc. (Agric. Biochemistry), Ain Shams University, 2006

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This thesis for Ph.D. degree has been approved by:

Dr. Mahmoud Abd-Elrazik Doheem ……..
Prof. Emeritus of Agricultural Biochemistry, Faculty of Agriculture, Zagazeg University

Dr. Salwa Ahmed Eid .....
Prof. Emeritus of Agricultural Biochemistry, Faculty of Agriculture, Ain Shams University

Dr. Zeinab Ali Moussa ……
Prof. Emeritus of Agricultural Biochemistry, Faculty of Agriculture, Ain Shams University

Dr. Farouk Guindi Moawad ……
Prof. Emeritus of Agricultural Biochemistry, Faculty of Agriculture, Ain Shams University

Date of Examination: / / 2014

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Under the supervision of:

Dr. Farouk Guindi Moawad
Prof. Emeritus of Agric. Biochemistry, Dep. of Agric. Biochemistry, Fac. of Agric., Ain Shams University (principal supervisor)

Dr. Zeinab Ali Moussa
Prof. Emeritus of Agric. Biochemistry, Dep. of Agric. Biochemistry, Fac. of Agric., Ain Shams University

Dr. Khaled M. Amen Ramadan
Lecturer of Agric. Biochemistry, Dep. of Agric. Biochemistry, Fac. of Agric., Ain Shams University

ABSTRACT

Hadear Hanie Amin: Chemical and Biotechnological Studies on Biologically Active Constituents from some Species of Green and Blue Green Algae. Unpuplished Ph.D. Thesis, Department of Agric. Biochemistry, Faculty of Agriculture, Ain Shams University , 2015.

In these centuries we face many challenges of many diseases such as diseases of hepatic , kidney and other organs and cancer, so we hope to present some chemical compounds that extracted from algae (*chlorella vulgaris* as green algae and *Spirulina platensis* as blue green algae) and which may be present a cure against hepatic diseases or cancer. We identified these extracted compounds by HPLC - MS. The extracted compounds were carotenoids and showed a positive results as anti – hepatic damage and as anti – cancer. We examined the biological activity as anti - hepatic diseases by a biological experiment using rats and we examined them as anti - cancer by cell line technique. Also, we examined these compounds as anti – DNA damage and the compounds were safe on DNA. Because these compounds were a good tool against those diseases, we make some treatments on algae to increase the content of used algae of these compounds by biotechnological methods.

Key words: Algae - Anti-cancer – anti–hepatic - carotenoids – Chlorella - DNA - HPLC-MS - Spirulina.

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