

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْحَكِيمُ

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Identification And Characterization Of Bacterially Expressed Structural Protein Of Hepatitis C Virus Genotype 4

A Thesis

Submitted to

Chemistry Department, Faculty of Science
Cairo University

**For the degree of Master Of Science
in Biochemistry**

By

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تعريف وتوصيف البروتين التركيبي الخاص بفيروس سى النوع الجينى الرابع باستخدام بكتريا معدله وراثيا

رسالة مقدمة الى

قسم الكيمياء - كلية العلوم - جامعة القاهرة

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تحت اشراف

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٢٠١٠

APPROVAL SHEET FOR SUBMISSION

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Abstract

Core and E1 are structural components of hepatitis C virus (HCV) virion. They are considered as major candidates for anti-HCV vaccine. In the present study, cloning and expression of hepatitis C virus (HCV) polyprotein encoding the first (340 a.a) of the full-length of core gene and the truncated Envelope 1 (E1t) lacking its C-terminal (42 a.a) were demonstrated in *E.coli*. Extracted RNA from infected patients were amplified using nested RT-PCR and cloned in pSC-A vector. Analysis of engineered bacteria harboring the target fragment by sequencing and sequences analysis were revealed that the high sequences homology was given with HCV genotype 4. For protein expression, the fragment was sub-cloned in pET28c and under T7 promoter then transformed into BL21 DE3pLysS *E.coli* strain. Analysis with SDS-PAGE after bacterial induction was revealed, a prominent band of approximately 36 kD corresponding to expressed protein.

Key words: hepatitis C virus (HCV), core, Envelope (E1), protein expression, genotype and SDS-PAGE.

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My Kind & Beloved Mom

My Dearest Sisters

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