شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

CROSS REACTIVITY OF HYPERVARIABLE REGION 1 (HVR1) EPITOPES AMONG EGYPTIAN PATIENTS INFECTED WITH HCV (TYPE 4)

By

Mohamed Abd El Fattah Mohamed
M.Sc. (Immunology, Parasitology)
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Cairo University

THESIS
Submitted in Fulfillment of the
Requirements for the Degree of

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In

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Faculty of Science
Cairo University
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2010

بسم الله الرحمن الرحيم

" ان ينصركم الله فلا غالب لكم
وان يخذلكم فمن ذا الذى ينصركم من بعده
وعلى الله فليتوكل المؤمنون"

صدق الله العظيم

APPROVAL SHEET

CROSS REACTIVITY OF HYPERVARIABLE REGION1 (HVR1) EPITOPES AMONG EGYPTIAN PATIENTS INFECTED WITH HCV TYPE-4

Ph.D. Thesis

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ABSTRACT

Candidate Name: Mohamed Abdel Fattah Mohamed
Title of the thesis: Cross Reactivity of Hyper Variable Region 1 (HVR1) epitopes among Egyptian Patients infected with Hepatitis C virus (Type 4)
Degree: PhD in Immunology & Parasitology

We have studied the immune cross reactivity of Hyper variable Region 1 (HVR1) of HCV against HCV immune positive and negative sera. Two published HVR1 nucleotides consensuses (Italian and Chinese) were synthesized. SOEing PCR, Cloning and sequencing were performed and from the corresponding amino acids sequences, three Italian, one Chinese HVR1 peptides were selected for synthesis. Also, seven published Egyptian HVR1 peptides and one peptide from HCV core region were synthesized. The twelve peptides (coded MB1-MB12) were used to screen 47 and 31 HCV (Type 4) immune positive and negative sera, respectively in ELISA. The seven Egyptian HVR1 peptides (MB4-MB10) have showed reactivities between 42.5%-66%. The three Italian HVR1 peptides (MB1- MB2-MB3) have showed reactivities of 83%, 68%, 76.6%, respectively, while the Chinese HVR1 peptide (MB11) has showed reactivity of 80.8%. Screening results of the diagnostic core peptide (P1) in ELISA have showed sensitivity and specificity of 93.6% and 93.5%, respectively. Our results supported that the HVR1 is an attractive target for a peptide based vaccine as it contains a neutralizing epitopes and all of the HCV patients sera used in this study have anti HVR1 antibodies. The considerable reactivities of Egyptian HVR1 peptides obtained may be due to the presence of conserved positions containing polar R-base amino acid without charge or due to Schistosomiasis as a socioeconomic health problem associated with HCV infection in Egypt. Interestingly, it was found that the amino acid sequence of peptide MB1 have closely related sequence similarity with the published mimotope peptide R9 and it has a high reactivity in ELISA, so it could be used with the core peptide (P1) as a supplemental test for HCV diagnosis .

Keywords: HCV, HVR1, ELISA, Synthetic peptides, Diagnosis

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(First and foremost, I thank God who helps us to know and discover the secrets of the world)

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Mohamed Abdel Fattah Mohamed
2010

Dedication

To my first teachers in the life: My Parents

To My Lovely and Kind Wife

To My Sister and brother

To My Sweet Children

Menna and Basem

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