The Relation Between Effector and Inhibitory Markers Expressed on $CD8^+$ T Cells in Hepatitis C Virus Infection

Thesis Submitted for Partial Fulfillment of MD Degree
In Clinical and Chemical Pathology

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العلاقة بين الدلالات التأثيرية والمثبطة الظاهرة على سطح الخلايا التوتية $CD8^+$ في الألتهاب الكبدي الفيروسي سي

رسالة توطئة للحصول على درجة الدكتوراه فى الباثولوجيا الإكلينيكية والكيميائية

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٢٠١٥

List of Contents

List of Figures

List of Tables

List of Abbreviations

ALT	:	Alanine aminotransferase
ADAR1	:	Adenosine deaminases acting on RNA
AICD	:	Activation induced cell death
AINR	:	Activation induced nonresponsivenes
ARFP	:	Alternate Reading Frame Protein
APC	:	Antigen presenting cell
AST	:	Aspartate aminotransferase activity
bDNA	:	Branched DNA
Bim	:	Building inflamatory protien
Blimp-1	:	B lymphocyte induced maturation protein 1
BTLA	:	B and T-lymphocyte attenuator
CARD	:	Caspase activation and recruitment domain
CDC	:	Centers for disease control and prevention
cDNA	:	Complementary DNA copy
CDR	:	Complement determining regions
CLDN	:	Claudin family
CMV	:	Cytomegalo virus
CTL	:	Cytotoxic T-Lymphocyte
CTLA-4	:	Cytotoxic T-lymphocyte antigen 4
DC	:	Dendritic Cell
DNA	:	Deoxyribonucleic acid
Ds RNA	:	Double stranded RNA
DN	:	Double negative
DP	:	Double positive
EBV	:	Epstien Bar virus
EDTA	:	Ethyleneamide tetra-acetic acid
EIA	:	Enzyme immunoassay
ELISA	:	Enzyme-linked immunosorbent assay
ER	:	Endoplasmic reticulm
Eomes	:	Eomesodermin

FBS	:	Fetal bovine serum
FDA	:	Food ana Drud Administration
GAGs	:	Glycosaminoglycans
GAS	:	Gamma activated sequences
gC1qR	:	Globular domain of c1q receptor
GITR	:	Glucocoticoid-induced TNF receptor
GrzB	:	Granzyme B production
γ-GT	:	Gamma Glutamyl Transferase
HBV	:	Hepatitis B virus
HCC	:	Hepatocellular carcinoma
HCV	:	Hepatitis C virus
HCWs	:	Health care workers
HIV	:	Human Immune Deficiency Virus
HLA	:	Human leucocyte antigen
HS	:	Highly Significant
HSV	:	Herpes simplex virus
HSCT	:	Hematopiotic stem cell transplantation
HVR	:	Hypervariable region
HVEM	:	Herpesvirus entry mediator
IFN	:	Interferon
IFN- α	:	IFN alpha
IFN- γ	:	IFN gamma
IFN- γR	:	IFN gamma receptor
IgG	:	Immunoglobulin G
IL	:	Interleukin
IL-10R	:	Interleukin 10 receptor
IRF	:	Interferon regulatory factor
IV	:	Intravenous
ISDR	:	IFN-α sensitivity determining region
ISGs	:	interferon stimulated genes
ISRE	:	interferon stimulated response element

ITIM	:	immunoreceptor tyrosine-based inhibitory motif
IPS-I	:	IFN-β promoter stimulator 1
JAK	:	Janus Kinase
KLRG-1	:	Killer lectin-like receptor
LCMV	:	Lymphocyte choriomeningitis virus
LDL-R	:	LDL receptors
LFL	:	Log fluorescence
LILs	:	Liver inflammatory lymphocytes
LSEC	:	Liver sinusoidal endothelial cells
MAFA	:	Mast cell function associated Ag
MDc	:	Myloid Dendritic Cell
MHC	:	Major histocompatibility complex
MICA	:	Major histocompatibility complex class I–related chain A
MIP-1 β	:	Macrophage inflammatory protien1 β
MNL	:	Mononuclear cell layer
MPEC	:	Memory precursor effector cell
MPGN	:	Membranoproliferative glomerulonephritis
nAbs	:	Neutralizing antibodies
NANBH	:	Non-A, non-B hepatitis
NC	:	Non-coding
NF-κB	:	Nuclear factor- κB
NK	:	Natural killer cells
NKR	:	Natural killer cells receptor
NKT	:	Natural killer T cells
NS	:	Nonstructural protein
NS	:	Non-Significant
OAS1	:	Oligoadenylate synthetasest
PAT	:	Parentral antishistosomal therapy
PBMC	:	Peripheral blood mononuclear cell

PBS	:	Phosphate buffer saline
PC	:	Personal computer
PCR	:	Polymerase chain reaction
PDC	:	Plasmacytoid denderitic cell
PD-1	:	Programmed cell death-1
PDL-1	:	Programmed cell death-1 receptor ligand
PKR	:	RNA dependant protein kinase
PHS	:	Pooled human serum
PI-v HRG	:	Proliferation Index -ve High Risk group
PI+v HRG	:	Proliferation Index +ve High Risk group
RIBA	:	Recombinant immunoblot assay
RIG-I	:	Retinoic acid–inducible gene I
RNA	:	Ribonucleic acid
RNase L	:	endoribonuclease L
RT-PCR	:	Reverse transcriptase PCR
S	:	Significant
SIV	:	Simian immunodeficiency virus
SLEC	:	Short lived effector cell
SPSS	:	Statistical Package for Special Sciences
SR-B1	:	Scavenger receptor class B1
STAT	:	Signal transducer and activator of transcription
TAP	:	Transporter associated with antigen processing
TCR	:	T cell receptor
TCM	:	Central memory cells
TEM	:	Effector memory cells
TGF β	:	Tansforming growth factor β
Th2	:	T-helper 2
TLR	:	Toll like receptor
TIR	:	Toll/interleukin-1 receptor

TMA	:	Transcription-mediated amplification
TNF	:	Tumor necrosis factor
T-regs	:	T regulatory
TRIF	:	Toll/IL-1 domain containing adaptor inducing IFN-β
TRM	:	Tissue residual memory T cell
UTR	:	Untranslated region
VSV	:	Vesicular stomatitis virus
VV	:	Vaccinia virus
VZV	:	Varicela zoster virus
WHO	:	World Health Organization