List of abbreviations

ALT	Alanine aminotransferase
AMA	Anti-mitochondrial antibody
ANA	Antinuclear antibody
Anti-dsDNA	Anti-double stranded DNA
Anti-HCV	Hepatitis C virus antibody
Anti-LKM-1	Anti-liver kidney microsomal type 1
Anti-LKM-2	Anti-liver kidney microsomal type 2
Anti-LKM-3	Anti-liver kidney microsomal type 3
Anti-RNP	Anti-ribonucleoprotein
ASMA	Antismooth muscle antibody
AST	Aspartate aminotransferase
CAH	Chronic active hepatitis
CENP-A	Centromere protein A
CLD	Chronic liver disease
CRP	C-reactive protein
CTD	Connective tissue diseases

CTL	Cytotoxic T cell
CTM (-) C	COBAS TaqMan negative control
CYP 2C9	Cytochrome P450 2C9
CYP 2D6	Cytochrome oxidase P450 2D6
DNA	Deoxyribonucleic acid
EB	Elution buffer
EIA	Enzyme immunoassay
ELISA	Enzyme-linked immunoabsorbant assay
ENA	Extractable nuclear antigens
ESR	Erythrocyte sedimentation rate
FITC	Fluorescein iso-thiocyanate conjugate
HAV	Hepatitis A virus
HBsAg	Hepatitis B surface antigen
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HCV H (+) C	HCV high positive control
HCV QS	HCV quantitation standard
HCV L(+)C	HCV low positive control

HDV	Hepatitis D virus
HEV	Hepatitis E virus
HFV	Hepatitis F virus
HGV	Hepatitis G virus
HIV	Human immunodeficiency virus
HS.	Highly significant ($P<0.01$)
IFN	Interferon
IgA	Immunoglobulin A
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IVD	In vitro diagnostics
LCR	Ligase chain reaction
LD	Lactate dehydrogenase
LKMA	Liver kidney microsomal antibody
MC	Mixed cryoglobulinemia
MDH	Malate dehydrogenase
MGP	Magnetic glass particles

NASBA	Nucleic acid sequence-based amplification
NK cell	Natural killer cell
NS.	Non-significant (P>0.05)
OR	Odds ratio
ORDAC	Over-range dilution and correction
PBC	Primary biliary cirrhosis
PBS	Phosphate buffer saline
PCR	Polymerase chain reaction
PEG-IFN	Pegylated interferon
PG WR	COBAS AmpliPrep/COBAS TaqMan wash reagent
RF	Rheumatoid factor
RIBA	Recombinant antigen immunoblot assay
RNA	Ribonucleic acid
RRR	Relative risk ratio
S.	Significant (P<0.05)
SDA	Strand displacement amplification
SLE	Systemic lupus erythematosus

SPU	Sample processing unit
SVR	Sustained virologic response
TMA	Transcription-mediated amplification
TTV	Transfusion transmitted virus

List of symbols

µl	Microliter
IU/L	International Units per Liter
ml	Milliliter
mmol/L	Millimoles per Liter
^{o}C	The degree Celsius

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A Thesis Submitted in Partial Fulfillment for the Requirements of the Master Degree in Science

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قَالُوا سُبْحَانَكَ
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إِلاَّ مَا عَلَّمْتَنَا
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