

Study of the antineoplastic effect of modulating apoptosis-related non-coding RNA in human hepatocellular carcinoma cell line (HepG2)

Thesis

*Submitted for Partial Fulfillment for the Requirement of
MD Degree in Medical Biochemistry & Molecular Biology*

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2020

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالَ

لَسْبَحَانَكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْعَظِيمُ

صدق الله العظيم

سورة البقرة الآية: ٣٢



Acknowledgement

*First, and foremost, I feel always indebted to **Allah**, the most kind and the most merciful. Thanks always to **ALLAH**, for his great care and guidance in every step of my life and for giving me the ability to complete this work,*

*It was a great pleasure for me to express my deep gratitude and appreciation to **Prof. Dr. Emtiaz Abd-elkawy Ismail Shaban**, Professor of Medical Biochemistry and Molecular Biology, Faculty of Medicine, Ain Shams University, for their continuous guidance, advice and supervision and sacrificing a lot of her precious time to revise each and every step of this study. It is hard for me to find the appropriate words that would do her favors.*

*I'd like to express my appreciation and gratefulness to **Prof. Dr. Samar Kamal Kassim**, Professors of Medical Biochemistry and Molecular Biology, Faculty of Medicine, Ain Shams University, for her overwhelming supports that has been of great help throughout this work,*

*I'd like to express my appreciation and gratefulness to **Prof. Dr. Hanan Hussein Shehata**, Professor of Medical Biochemistry and Molecular Biology, Faculty of Medicine, Ain Shams University, for her supervision, sincere advice and great support, kind care throughout the whole work and encouragement are very much appreciated.*

*My deepest appreciation and gratitude to **Dr. Marwa Ali and Dr. Marwa Mahmoud**, Lecturers of Medical Biochemistry and Molecular Biology, Faculty of Medicine, Ain Shams University, for the great efforts and kind help they have done in this work.*

*I would like to express my best regards and thanks to **members of Liver Transplant Unit of Air Force Hospital** for thier kind help and support in selecting proper samples.*

*I would like to express my best regards and thanks to **members of Stem cells culture unit, Histology department**, Faculty of Medicine, Ain Shams University, for thier kind helps and support in selecting proper samples.*

This work was supported by Faculty of Medicine -Ain Shams university Grant's office; Grant No: 2017/5.

*Finally, my love and my deepest thanks for **My Dear Parents, My Husband, and all my family** for their endless support and unyielding faith in me and for their tolerance of my absence, physically and emotionally stress many, many thanks.*

Mai Abdelazeem Sherif

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LIST OF ABBREVIATIONS

3'-UTR	The three prime untranslated region
5'- UTR	The five prime untranslated region
AASLD	American Association Guidelines for the Study of Liver Disease
AFB1	Aflatoxin B1
AFP	Alpha fetoprotein
AGO	Argonaute family
AJCC	The American Joint Committee on Cancer
ALT	Alanine aminotransferase
ANRIL	Antisense Long-non coding Ribonucleic acid encoded at the INK4 locus
APAF-1	Apoptotic peptide activating factor 1
APL	alkylphospholipid analogs
AR	Androgen receptor
ARE	Androgen responsive element
AREs	AU-rich elements
AST	Aspartate aminotransferase
AUC	Area Under the Curve
AU-rich elements	Adenylate-uridylate-rich elements
BCLC	Barcelona Clinic Liver Cancer
BID	BH3 interacting-domain death agonist
Bp	Base pair
BTC	Biliary tract cancer
BxPC-3	A human pancreatic cancer cell line
C. elegans	Caenorhabditis elegans
CARD	Caspase activation and recruitment domain
CBC	Complete blood picture
CCNE1	Cyclin E1
CD95	Cluster of differentiation 95
CD95L	Cluster of differentiation 95 ligand
cDNA	Complementary DNA
ceRNAs	Competing endogenous Ribonucleic acids

CHC	Chronic Hepatitis C
circRNA	Circular Ribonucleic acid
CLT	Cadaveric liver transplant
CNS	Central nervous system
coRNAi	Combinatorial RNA interference
CRC	Colorectal cancer
CSC	Cancer stem cell
CT	Cycle Threshold, Computed tomography
CTCs	Circulating tumor cells
CTNNB1	Catenin (Cadherin-Associated Protein), Beta 1
DAMPs	Damage-associated molecular patterns
DCP2	Decapping protein 2
DED	Death effector domain
DEN	Diethylnitrosamine
DEPC	Diethylpyrocarbonate
DNA	Deoxyribonucleic acid
dNTP	Deoxy Nucleoside Triphosphate
dsRNA	Double-stranded Ribonucleic acid
dUTP	Deoxy Uridine Triphosphate
EBV	Epstein-Barr virus
ECOG	Evaluation of the patient's performance status
EDTA	Ethylenediaminetetraacetic acid
EGFR	Epidermal growth factor receptor
EMT	Epithelial mesenchymal transition
EndoG	Endonuclease G
exRNAs	extracellular Ribonucleic acids
FADD	Fas-associated death domain(adaptor protein)
FASL	Fas ligand
FBS	Fetal bovine serum
FITC	Fluorescein isothiocyanate
FN	False negative
FOXO4	Forkhead box protein O4
FP	False positive

fRNA	Functional Ribonucleic acid
FXR	The farnesoid X receptor
FXR1	Fragile-x-mental retardation related protein 1
g	Gram
GBM	Glioblastomas
GGT	Gamma -glutamyl transferase
GP73	Golgi protein 73
GPC3	Glypican-3
GS	Glutamine synthetase
HBV	Hepatitis B virus
HBVsAg	Hepatitis B virus surface antigen
HCC	Hepatocellular carcinoma
HCV	Hepatitis C virus
HCV Ab	Hepatitis C virus antibody
HDAC	Histone deacetylase
HIF-1 α	Hypoxia-Induced Factor 1 alpha
HMDD	Human microRNA Disease Database
HOTAIR	HOX transcript antisense RNA
HSP	Heat shock protein
HSP70	Heat shock protein70
HULC	Highly Up-regulated in Liver Cancer (non-protein coding)
IAPs	Inhibitor of apoptosis proteins
IGF-II	Insulin-Like Growth Factor II
IL6	Interleukin 6
INR	International normalized ratio
IU	International unit
KDa	Kilo Daltons
LDLT	Living donor liver transplant
lncRNAs	Long non-coding Ribonucleic acids
MALAT1	Metastasis Associated Lung Adenocarcinoma Transcript 1
MDCT	Multidetector CT
MEG-3	A maternally expressed gene 3
MIApaca-2	A human pancreatic cancer cell line

microRNP	microRNA-protein complex
miRISC	miRNA-induced silencing complex
miRNAs	micro Ribonucleic acids
MNCs	Mononuclear cells
MREs	microRNA response elements
MRI	Magnetic resonance imaging
mRNAs	Messenger Ribonucleic acids
mTOR	The mechanistic Target of Rapamycin
MTS	3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyphenyl)-2-(4-sulfophenyl)-2H-tetrazolium, inner salt
MVIH	Microvascular invasion in hepatocellular carcinoma
MyD88	Myeloid differentiation primary response 88
NADH	Nicotinamide adenine dinucleotide
NADPH	Nicotinamide adenine dinucleotide phosphate
NAFLD	Nonalcoholic fatty liver disease
ncRNAs	Non-coding Ribonucleic acids
nm	Nanometer
nmRNA	Non-messenger Ribonucleic acid
npcRNA	non-protein-coding Ribonucleic acid
npcRNA	Non-protein-coding Ribonucleic acid
NPV	Negative Predictive Value
NSCLC	Non-small-cell lung cancer
nts	Nucleotides
ORF	Open reading frame
OS	Overall Survival
P- value	Probability that statistics results get by chance
p53	Cellular tumor antigen p53, transformation-related protein 53
PABPC	poly (A)-binding protein C
PBS	Phosphate-buffered saline
PCD	Progmmed cell death
PEI	Percutaneous ethanol infusion

PI	Propidium Iodide
piRNAs	Cytoplasm-located PIWI-interacting Ribonucleic acids
PPV	Positive Predictive Value
pri-miRNAs	primary transcripts- micro Ribonucleic acids
PS	Membrane phospholipid phosphatidylserine
PST	Performance status test
PTEN	Phosphatase and tensin homolog
PTENP1	phosphatase and tensin homolog pseudogene 1
PTGS	post-transcriptional gene silencing
RF	Radiofrequency
RISC	RNA-induced silencing complex
RNA	Ribonucleic acid
RNAi	Ribonucleic acid interference
ROC	Receiver Operating Characteristics curve
ROCK1	Rho Associated Coiled-Coil Containing Protein Kinase 1
RPS24	Ribosomal Protein S24
rRNAs	Ribosomal Ribonucleic acids
RT	Reverse Transcription
RT-qPCR	Reverse Transcription/ Quantitative Real time Polymerase Chain Reaction
scaRNAs	Small Cajal body-specific Ribonucleic acids
SCC	Squamous cell carcinoma
SCLC	Small-cell lung cancer
SD	Standard Deviation
ShRNA	Short-hairpin Ribonucleic Acid
SiRNAs	Small interfering Ribonucleic acids
snoRNAs	Small nucleolar Ribonucleic acids
SnRNAs	Small nuclear Ribonucleic acids
SPINK1	Serine Peptidase Inhibitor, Kazal type-1
SPSS	Statistical Package for the Social Sciences

STAT3	Signal transducer and activator of transcription 3
TACE	Transarterial chemoembolization
TCGA	The Cancer Genome Atlas
TERT	Telomerase reverse transcriptase
TFs	Transcription factors
TGF- β 1	Transforming growth factor- β 1
T _m	Melting temperature
TN	True negative
TNFR	Tumor necrosis factor receptor
TNM	Tumor-node-metastasis
TP	True positive
TP53	Tumor protein p53
TRADD	Tumor necrotic factor receptor-associated death domain(adaptor protein)
TRAIL	TNF-related apoptosis-inducing ligand
tRNAs	Transfer Ribonucleic acids
UICC	Union for International Cancer Control
US	Abdominal ultrasound
USA	United States of America
VEGF	Vascular endothelial growth factor
XIAP	X-linked inhibitor of apoptosis protein
Xist	X inactive specific transcript
XRN1	Exoribonuclease 1
Δ CT	Delta Cycle Threshold
μ g/ml	Microgram/milliliter
μ L	Microliter

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