

## **Acknowledgement**

Thanks to Allah, the most merciful and most compassionate, for completing this work.

I am delighted to express my thanks and appreciation to Prof. Dr. Laila El Sayed Ziada, Professor of Hematology, Medical Research Institute, University of Alexandria for her precious guidance, wise instruction, continuous constructive advice, close supervision and sincere help during the progress of my work. It is a great honor for me to work under her supervision.

My deepest thanks and gratitude are to Prof. Dr. Nadia Ali Sadek, Professor of Hematology, Medical Research Institute, University of Alexandria whose valuable suggestions, meticulous supervision, patience and encouragement helped me all through the steps of this thesis. Actually, I find no words of appreciation for the time she spent and her tremendous effort until the delivery of this study.

I am also grateful to Dr. Maher Abdel Naby Kamel, Assistant Professor of biochemistry, Medical Research Institute, University of Alexandria who gave me much of his effort and experience . His generous assistance and meticulous laboratory work had a pivotal role in the completion of this study.

I am deeply indebted to Dr .Ola Ali Balbaa, Fellow of Hematology, Medical Research Institute, University of Alexandria for her constant support, motivation and guidance all through the steps of the study.

I am also grateful to Dr. Gihan Nabil Mohamed, Lecturer of Hematology, Medical Research Institute, University of Alexandria for her help and support from the start of the work.

Last but not least, i would like to express my deepest thanks to my family for their continuous guidance and encouragement.

My great appreciation is extended to all those who shared either practically or morally in the accomplishment of this work.

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## **List of abbreviations**

A	Alpha
ALT	Alanine Transaminase
$\beta$	Beta
BMPs	Bone morphogenetic proteins
$\beta$ TM	Beta -Thalassemia Major
C	Cytosine
Ca <sup>2</sup>	Calcium
CBC	Complete Blood Count
CD	Cluster of Designation
CKII	Casein Kinase II
CO	Carbon monoxide
COL1A1	Collagen Type 1a 1gene
CRP	C-reactive protein
C282Y	Cys282Tyr
Dcyt-b	Duodenal cytochrome b
DFO	Desferrioxamine
DFP	Deferiprone
DFX	Deferasirox
DMT1	Divalent Metal Transporter 1
DNA	Deoxyribonucleic Acid
EDTA	Ethylenediamine tetra acetic acid
EPO	Erythropoietin
Fe	Iron
Fe+2	Ferrous Iron

Fe+3	Ferric Iron
FLVCR	Feline leukemia virus subgroup C receptor
$\gamma$	Gama
GDF-15	Growth Differentiation Factor -15
GSH	Reduced Thiol Glutathione
GPI linked protein	Glycosylphosphatidylinositol
H63D	His63Asp
H2O2	Hydrogen Peroxide
Hb	Hemoglobin
HbE	Hemoglobin E
Hb F	Fetal Hemoglobin
HCl	Hydrochloric acid
HClO	Hypochlorous acid
HCV	Hepatitis C Virus
HepG2	Human hepatocellular liver carcinoma cell line
HFE	Hemochromatosis gene
HIFs	Hypoxia Inducible transcription factors
HJV	Hemojuvelin gene
HLA-DR	Human Leukocyte Antigen –DR
Hp	Haptoglobin
Hp0	Anhaptoglobinemia
Hpr	Haptoglobin-related Protein
ICAM-1	Inter -Cellular Adhesion Molecule-1
IFN- $\gamma$	Interferon Gamma
Ig	Immunoglobulin
IGF-1	Insulin-like Growth Factor-1

IL-6	Interleukin-6
Jak2	Janus kinase 2
Kb	Kilo base
KDa	Kilo Dalton
LCR	Locus control regions
LPI	Labile Plasma Iron
LIP	Labile iron pool
MCH	Mean Corpuscular Hemoglobin
MCHC	Mean Corpuscular Hemoglobin Concentration
MCV	Mean Corpuscular Volume
MDA	Malondialdehyde
mRNA	Messenger Ribonucleic Acid
NADPH	Nicotinamide Adenine Dinucleotide Phosphate
NLR	Neutrophil to Lymphocyte ratio
NTBI	Non-Transferrin-bound Iron
O <sub>2</sub> •-	Superoxide Ion Radical
1O <sub>2</sub>	Single Oxygen
OH•	Hydroxyl Radical
O <sub>3</sub>	Ozone
PCV	Packed cell Volume
PCFT/HCP1	Proton-coupled folate transporter/heme carrier protein 1
Plts	Platelets
RBCs	Red Blood Cells
Retic	Reticulocytes
RO•	Alkoxyl Radicals
ROO•	Peroxyl Radicals

ROS	Reactive Oxygen Species
SDS	Sodium dodecylsulphate
SOD	Superoxide Dismutase
STAT 3	Signal transducer and activator of transcription 3
T	Thymine
TA	Thymine, Adenine
TBA	Thiobarbituric acid
TCA	Trichloroacetic acid
TF	Transferrin
TfR	Transferrin Receptors
TFR	Transferrin receptor gene
TGF- $\beta$	Transforming Growth Factor $-\beta$
Th	T helper lymphocyte
TIBC	Total Iron Binding Capacity
TLF	Trypanosome Lytic Factor
TMP	Tetramethoxy propane
TNF	Tumor-necrosis factor
TGF- $\beta$	transforming growth factor beta
TRPC	Transient Receptor Potential Canonical protein
TWSG1	Twisted Gastrulation 1
UGTIA	Uridine diphosphate-glucoronyl transferase IA
VDR	Vitamin D Receptor

