بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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MONA MAGHRABY

Flow Cytometric Quantitation of Procoagulant Microparticles and Erythrocyte Phosphatidylserine Exposure in B-Thalassemia Patients

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا

سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم الحكيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

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List of Abbreviations

Abb.	Full term
μl:	Microliter
μ-NMR:	Micro-nuclear magnetic resonance
2, 3- BPG:	2, 3- biphosphoglycerate
ACS:	Acute coronary syndrome
AFM:	Atomic force microscopy
ALT:	Alanine transferase enzyme
APLS:	Antiphospholipid syndrome
ASAXS:	Anomalous small-angle X-ray scattering
AST:	Aspartate aminotransferase enzyme
AUC:	Area under curve
BCM:	Below costal margin
BMT:	Bone marrow transplantation
CAP:	Catabolite activator protein
CBC:	Complete blood count
CCV:	Clathrin-coated vesicles
CD:	Cluster of differentiation
CD40L:	CD40 ligand
CEACAM:	Carcinoembryonic antigen related cell adhesion molecule
cGMP:	Cyclic guanosine monophosphate
CHD:	Coronary heart disease
Cm:	Centimeter
CNS:	Central nervous system
CO_2:	Carbon dioxide
COPD:	Chronic obstructive pulmonary disease
Cryo EM:	Cryo electron microscopy
DIC:	Disseminated intravascular coagulation

List of Abbreviations (Cont...)

Abb.	Full term
dl:	Deciliter
DLS:	Dynamic light scattering
DPG:	Diphosphoglycerate
ELAM-1:	Endothelial leukocyte adhesion molecule-1
ELISA:	Enzyme-linked immunosorbent assay
EMH:	Extramedullary hematopoeisis
EMPs:	Endothelial MPs
EPO:	Erythropoietin
ER:	Endoplasmic reticulum
ERFE:	Erythroferrone
ErMPs:	Erythrocyte MPs
F VII:	Factor VII
F VIIa:	Active factor VII
FCM:	Flow cytometry
Fe^{2+}:	Iron in the ferrous state
FFP:	Fresh frozen plasma
FITC:	Fluorescein isothiocyanate
fl:	Femtoliter
FSC:	Forward scatter
GC:	Guanylate cyclase
GLA:	γ-carboxyglutamic acid
gm:	Gram
GP:	Glycoprotein
GTP:	Guanosine triphosphate
GWAS:	Genome – wide association studies
HAs:	Hemolytic anemias
Hb:	Hemoglobin

List of Abbreviations (Cont...)

Abb.	Full term
HbBart's:	Hemoglobin Bart's
HbF:	Fetal Hb
HbH:	Hemoglobin H
HbS:	Hemoglobin S
HCO_3^-:	Bicarbonate ions
HCV:	Hepatitis C virus
hHPFH:	Heterocellular HPFH
HIT:	Heparin-induced thrombocytopenia
HPFH:	Hereditary persistence of fetal Hb
HS:	Highly significant
hs-FCM:	High-sensitivity flow cytometer
ICAM:	Intercellular adhesion molecule
ICAM-1:	Intercellular adhesion molecule-1
ID1:	Inhibitor of DNA binding 1 protein
IDA:	Iron-deficiency anemia
IE:	Ineffective erythropoiesis
IL:	Interleukin
IQR:	Inter-quartile range
ISTH:	International Society on Thrombosis and Haemostasis
ITP:	Immune thrombocytopenia
KCC:	K-Cl cotransport
Kg:	Kilogram
LCR:	Locus control region
LDH:	Lactate dehydrogenase enzyme
LMP:	Leukocyte microparticles
MCH:	Mean corpuscular Hb

List of Abbreviations (Cont...)

Abb.	Full term
MCV:	Mean corpuscular volume
MelCAM:	Melanoma cell adhesion molecule
mg:	Milligram
miRNA:	Micro RNA
MPN:	Myeloproliferative neoplasms
MPs:	Microparticles
mRNA:	Messenger RNA
MVEs:	Multi-vesicular endosomes
NADPH oxidase:	Nicotinamide adenine dinucleotide phosphate oxidase
NMD:	Nonsense-mediated decay
NO:	Nitric oxide
No.:	Number
NPV:	Negative predictive value
NS:	Non significant
NTA:	Nanoparticle tracking analysis
NTDT:	Non-transfusion dependent thalassaemia
O_2:	Oxygen
ODC:	O_2-Hb dissociation curve
PBS:	Phosphate Buffer Saline
PC:	Phosphatidylcholine
PCO_2:	CO_2 partial pressure
PEA:	Phosphatidylethanolamine
PE:	Phycoerythrin
PECAM:	Platelet endothelial cell adhesion molecule
PF4:	Platelet factor 4
PFP:	Platelet free plasma

List of Abbreviations (Cont...)

Abb.	Full term
pg:	Picogram
pJak2:	Phosphorylated Jak2
PLTs:	Platelets
PMPGA:	PMP generation assay
PMPs:	Platelet MPs
PNH:	Paroxysmal nocturnal hemoglobinuria
PO_2:	O_2 partial pressure
PPP:	Platelet poor plasma
PPV:	Positive predictive value
PS:	Phosphatidylserine
PTC's:	Premature termination codons
QTL:	Quantitative trait loci
RA:	Rheumatoid arthritis
RANTES:	Regulated on activation, normal T cells expressed and secreted
RBC:	Red blood cell
RDW:	Red cell distribution width
RES:	Reticuloendothelial system
ROC:	Receiver operating characteristic curve
ROS:	Reactive oxygen species
RPS:	Resistive pulse sensing
S. ferritin:	Serum ferritin
S:	Significant
SAXS:	Small-angle X-ray scattering
SCA:	Sickle cell anemia
SCD:	Sickle cell disease
SCF:	Stem cell factor