

**DNA REPAIR GENE XRCC1 POLYMORPHISM
IN EGYPTIAN ACUTE LEUKEMIA PATIENTS**

Thesis

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By

Dalia Boshra Zikry Girgis

M.B; B.Ch.

(Cairo University)

Under the Supervision of

Prof.Dr. Shahira Amin Zayed

Professor of Clinical and Chemical pathology,

Faculty of Medicine,

Cairo University

Dr. Rania Fawzy Hammoud

Lecturer of Clinical & Chemical Pathology

Faculty of Medicine,

Cairo University

Faculty of Medicine.

Cairo University

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چین تصلیح دی ان ای ایکس آر سی سی بولیمورفیسم فی مرض لوکیمیا مصریین

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د / رانيا فوزى حمود

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كلية الطب - جامعة القاهرة

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LIST OF ABBREVIATIONS

γ-MP	:	γ-mercaptopurine.
A	:	Adenine.
aa	:	Amino acid.
ADPRT	:	ADP-ribosyltransferase.
ADR	:	Adriamycin.
AFB^γ-DNA	:	Aflatoxin B ^γ -DNA adducts.
ALL	:	Acute lymphoblast leukemia.
AML	:	Acute myeloblastic leukemia.
AP	:	Apyrimidinic.
APE^γ	:	Apurinic or apyrimidinic endonuclease ^γ .
APEX	:	Apurinic/apyrimidinic DNA endonuclease.
Arg	:	Arginine.
A-T	:	Ataxia Telangiectasia syndrome.
ATL	:	Adult T-cell leukemia.
ATP	:	Adenosine triphosphate.
ATRA	:	Adenosine triphosphate.
AUL	:	Acute undifferentiated leukemia.
BER	:	Base excision repair.
BM	:	Bone marrow.
BMT	:	Bone marrow transplantation.
bp	:	Base pair.
BRCA^γ	:	Breast cancer susceptibility gene ^γ .
BRCA^γ	:	Breast cancer susceptibility gene ^γ .
C	:	Cytosine.
CBC	:	Complete blood count.
CD	:	Clusters of differentiation.

CDNA	:	Complementary – deoxyribonucleic acid.
CEN	:	Centeromere.
CH₃	:	Methyl group
cIg	:	Cytoplasmic immunoglobulin.
CK₂	:	Cycline Kinase.
CR	:	Complete remission.
CSF	:	Cerebrospinal fluid.
C-terminal	:	COOH terminal carboxylic group terminal.
Cyt μ	:	Cytoplasmic muta chain.
D; d	:	Day.
DDI	:	Death during induction.
Del	:	Deletion.
DIC	:	Disseminated intravascular coagulopathy.
dl	:	Deciliter.
DNA	:	Deoxy ribonucleic acid.
DNA-PK(cs)	:	DNA-protein kinase.
DNR	:	Douanorubicin.
dNTP	:	Dinucleotide triphosphate.
dRpase	:	Deoxyribophosphor-diesterase.
Ds	:	Double strand.
DSBs	:	Double strand breaks.
EDTA	:	Ethylenediamine tetra-acetic acid.
EMS	:	Ethylmethane sulphonate.
ERCC^{-/-}	:	Excision repair cross-complementing rodent deficiency, group 1.
FAB	:	French British American classification of acute leukemia.

FANC	:	Fanconi anemia protein.
FANCC	:	Fanconi anemia protein C.
FANCD	:	Fanconi anemia protein D.
FEN¹	:	Flap endonuclease ¹ .
G	:	Guanine.
	:	A resting phase in the cell cycle
G¹ phase		proceeding the S phase.
G² phase	:	Premitotic phase; Postsynthetic.
Gln	:	Glycine.
gm	:	Gram.
GPA	:	Erythrocyte glycophorin A.
Hb	:	Haemoglobin.
	:	Human leucocytes antigen DR loci
HLA-DR		in class II.
HNPCC	:	Hereditary non polyposis colon cancer.
HR	:	Homologous repair.
hrs	:	Hours.
HTLV¹	:	Human T-cell lymphotropic virus.
Inv	:	Inversion.
IR	:	Ionizing radiation.
IV	:	Intravenous.
KCl	:	Potassium chloride.
Kda	:	Kilo Dalton.
	:	Acute lymphoblastic leukemia type
L¹		¹ .
	:	Acute lymphoblastic leukemia type
L²		² .
	:	Acute lymphoblastic leukemia type
L³		³ .
L-Asp	:	L-Asparaginase.

Lig I	: Ligase I.
Lig III	: Ligase II.
LN	: Lymph node.
M₁	: Acute myeloblastic leukemia minimally differentiated.
M₂	: Acute myeloblastic leukemia without maturation.
M₃	: Acute myeloblastic leukemia with maturation.
M₄	: Acute promyelocytic leukemia.
M₅	: Acute myelomonocytic leukemia.
M₅E₁	: Acute myelomonocytic leukemia with Eosinophils.
M₆a	: Acute monoblastic leukemia without differentiation.
M₆b	: Acute monoblastic leukemia with differentiation.
M₇	: Acute erythroleukemia.
M₈	: Megakaryocytic leukemia.
MDS	: Myelodysplastic syndrome.
mEq	: Milli equivalent.
Met	: Methionine.
mg	: Milligram.
MgCl₂ · 6H₂O	: Magnesium chloride hexahydrate.
min	: Minute.
MLH₁	: DNA-mismatch repair protein.
MLL	: Myeloid-lymphoid leukemia gene.
MMC	: Mitomycin C.

MMR	: Mismatch repair.
MoAb	: Monoclonal antibody.
MPO	: Myeloperoxidase.
MRE	: Meiotic recombination homologue A.
MTX	: Methotrexate.
Myc	: Avian myelomytosis gene.
NaCl	: Sodium chloride.
NAD⁺	: Nicotinamide adenine dinucleotide.
NaF	: Sodium fluoride.
NaHCO₃	: Sodium bicarbonate.
NBS	: Nijmegen breakage syndrome.
NER	: Nucleotide excision repair.
NHEJ	: Nonhomologous end joining repair.
NOS	: Not otherwise categorized.
np	: Nucleotide pairs.
NTD	: N-terminal domain.
N-terminal	: NH ₂ terminal aminogroup terminal.
OGG₁	: 8-oxoguanine DNA glycosylase
P arm	: Upper short arm of the chromosome.
p53	: Tumor suppressor gene.
PARP	: Poly (ADP-ribose); poly adiporibose polymerase.
PAS	: Periodic acid Schiff.
PB	: Peripheral blood.
PCNA	: Proliferating cell nuclear antigen.
PCR	: Polymerase chain reaction.
PML	: Promyelocytic leukemia.

	: Fusion protein disrupt proliferation and differentiation in M ³ -RARA; retinoic acid receptor.
PML-RARAα	
PNK	: Polynucleotide kinase.
PO	: Per arum.
PO₄	: Phosphate group.
Pol β	: DNA polymerase β .
PR	: Partial remission.
q arm	: Lower long arm of the chromosome.
R	: Refractory to treatment.
Rad 51	: Recombination protein Rad 51.
RAS	: Oncogene protein.
RF-C	: Replication factor C.
RFLP	: Restriction fragment length polymorphism.
ROS	: Reactive oxygen species.
RPA	: Replication protein A.
RT-PCR	: Reverse transcriptase polymerase chain reaction.
S phase	: DNA synthesis phase of the cell cycle.
SCE	: Sister chromatid exchange.
SDS	: Sodium dodecyl sulphate.
sIgμ	: Surface immunoglobulin μ .
sIgκ	: Surface immunoglobulin κ .
sIgλ	: Surface immunoglobulin λ .
SPSS	: Statistical package for social science.
SSBR	: Single strand break repair.
SSBs	: Single strand breaks.

T	:	Thymine.
t	:	Translocation.
TAR	:	Thrombocytopenia absent radii.
TdT	:	Terminal deoxynucleotidyl transferase.
TE	:	Tris EDTA.
TFIIH	:	General transcription factor II H.
TLC	:	Total leucocytic count.
Trp	:	Tryptophan.
UV	:	Ultra violet.
	:	Variable-diversity-joining segment rearrangement of heavy chain in immunoglobulin gene.
V (D) J		
VB₁₂	:	Vitamin B ₁₂ .
VCR	:	Vincristine.
VP-16	:	Etoposide.
WHO	:	World Health Organization.
XP	:	Xeroderma pigmentosum.
XPC	:	Xeroderma pigmentosum, group C.
XPB	:	Xeroderma pigmentosum, group D.
XPF	:	Xeroderma pigmentosum, group F.
XPB	:	Xeroderma pigmentosum, group G.
	:	X-ray cross complementing defective repair in Chinese hamster cells ¹ .
XRCC¹		
δ-pol	:	Polymerase delta.
ε-pol	:	Polymerase epsilon.

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