Detection of hTERT Gene Amplification Using FISH Technique in Acute Myeloid Leukemia: Relation to the Standard Prognostic Factors

Thesis

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الكشف عن تضاعف الـhTERT جين باستخدام تقنية التهجين الموضعي بالوميض الضوئى في مرض الابيضاض النقيي الحاد: علاقته بالعوامل القياسية للتنبؤ

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بِسْمِ اللهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا سُبْحَانَكَ لاَ عِلْمَ لَنَا إِلاَّ مَا عَلَّمْتَنَا إِنَّكَ أَنتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

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LIST OF ABBREVIATIONS

α	Alpha
~	Approximately
β	Beta
%	Percent
°C	Centigrade
A	Adenine
AIDS	Acquired immune deficiency syndrome
ALL	Acute lymphoblastic leukemia
ALT	Alternative Lengthening of Telomeres
AML	Acute myeloid leukemia
AML1	Acute myeloid leukemia 1 gene
APL	Acute promyelocytic leukemia
ATM	Ataxia telangiectasia mutated
ATRA	All-trans retinoic acid
BAALC	Brain and acute leukemia cytoplasmic gene
B-CLL	B-cell chronic lymphocytic leukemia
BFB	Breakage-fusion-bridges
BM	Bone marrow
C	Cytosine
c	Cytoplasmic
CAE	Chloro-acetate esterase
CBF	Core binding factor
CCA	Conventional cytogenetic analysis
CD	Cluster of differentiation
CEBPA	CCAAT/enhancer-binding protein
CIR	Cumulative incidence of relapse
C-kit	Proto-oncogene tyrosine-protein kinase
c-Myc	Cellular myelocytomatosis

CML	Chronic myeloid leukemia
CN-AML	Cytogenetically Normal AML
CNS	Central nervous system
CRD	Complete remission duration
CR	Complete remission
DAPI	Diamino phenyl indole
DC	Dyskeratosis congenital
del	Deletion
DFS	Disease-free survival
DKC1	Dyskerin
DNA	Deoxyribonucleic acid
DNA-PK	DNA-dependent protein kinase
DSB	Double strand breaks
DW	Distilled water
E2F	Transcription factor
E6	E6 protein [Human papillomavirus type 16].
EDTA	Ethylene diamine tetracetic acid
EFS	Event-free survival
ELISA	Enzyme-linked immunosorbent assay
ETO	Eight-twenty-one
FAB	French-American-British
FdU	5'-fluorodeoxyuridine
FISH	Fluorescence in situ hybridization
FLT3	FMS-like tyrosine kinase 3
FLT3- TKD	Tyrosine kinase domain of FLT3
g	gram
G	Guanine
G	Giemsa
G1	Pre-synthetic phase
H/ACA	RNA-protein complex component
HEST1A	Human ever shorter telomeres-1

HiDAC	Hhigh-dose cytarabine
HL-60	Human promyelocytic leukemia cells
HLA	Human leucocyte antigene
hnRNP A1	Heterogenous nuclear ribonucleoprotein A1
hnRNP C	Heterogenous nuclear ribonucleoprotein C
hnRNP D	Heterogenous nuclear ribonucleoprotein D
HSP90A	Heat-shock-90 kDa protein 1, alfa
HSP70-1	Heat-shock-70 kDa protein
hTERC	Human telomerase RNA
hTERT	Human telomerase reverse transcriptase
hTR	Human telomerase RNA
Hox	Homeobox
HSCT	Hematopoietic stem-cell transplantation
inv	Inversion
Ig	Immunoglobulin
IFN-α	Interferon-α
ISH	In situ hybridization
ITD	Internal tandem duplication
Kbp	Kilobase pair
kDa	kilo Dalton
KIT	Receptor tyrosine kinase
LDH	Lactate dehydrogenase
LN	Lymph node
LSC	Leukemic stem cell
LSI	Locus specific identifier
LSP	Locus- specific probes
MAD1	Mitotic arrest deficient-like 1
MAX	MYC associated factor X
Mb	Myoglobin
MBRA	Transcription-mediated amplification
MDR-1	Multidrug resistant gene

MDS	Myelodysplastic syndromes
MFC	Multiparameter flowcytometry
MGG	May Grunwald Giemsa
mL	Millilitre
MPD	Myeloproliferative disorders.
MPO	Myeloperoxidase
MLL	Myeloid/ lymphoid or Mixed lineage leukemia gene
MRD	Minimal Residual Disease
mRNA	Massenger ribonucleic acid
MYHII	Smooth muscle myosin heavy chain
MZF-2	Myeloid cell-specific zinc finger protein 2
n	Repeats
NOLA1	Nucleolar protein family A, member 1
NOLA2	Nucleolar protein family A, member 2
NOLA3	Nucleolar protein family A, member 3
NPM1	Nucleophosmin, member 1 gene
NSE	Non-specific esterase
nt	Nucleotides nucleotides
OS	Overall survival
P	Short arm of the chromosome
P23	Unactive progesterone receptor, 23 kDa
P53	Protein 53 kDa
PARP-1	Poly-ADP ribose polymerase 1
PAS	Periodic acid Schiff
PB	peripheral blood
PH	Pleckstrin homology
PI 3	Phosphatidylinositol 3-kinase
PML	Promyelocytic leukemia
PNA	Peptide nucleic acid
POT1	Protection of telomeres 1

PRb	Phosphorylated retinoblastoma
q	Long arm of the chromosome
Q-FISH	Quantitative-FISH
Rap1	Repressor activator protein 1
RAR	Retinoic acid receptor
Rb	Retinoblastoma
RFS	Relapse-free survival
rpm	Revolution per minute
RNA	Ribonucleic acid
RTK	Receptor tyrosine kinase
RT-PCR	Reverse transcription-polymerase chain reaction
RT-PCR	Real-time-polymerase chain reaction
RTQ	Real-time quantitative
SBB	Sudan black-B
Sm,	Surface membrane
Sp1	Sp1 transcription factor
T	Tetrahymena Tetrahymena
T	Thymine
t	Translocation
TCR,	T-cell receptor
TdT	Terminal deoxynucleotidyl transferase.
TGF-β	Transforming growth factor β
TIN2	TRF1-interacting protein 2
TLC	Total leukocyte count
TMA	Transcription-mediated amplification
TPP1	Tripeptidyl peptidase 1
TP-TRAP	Two-primer-TRAP
TRAP	Telomeric repeat amplification protocol
TRF	Terminal Restriction Fragment
TRF1	Telomeric repeat binding factors 1
TRF2	Telomeric repeat binding factors 2

TS	Telomerase substrate
T/S	Telomere-to-Single Copy Gene
VEGF	Vascular endothelial growth factor
μg	microgram
μl	microliter
UV	Ultra violet
WCPP	Whole chromosome painting probe
WHO	World health organization
WT1	Wilms' tumor 1
XLT	X-linked lymphoproliferative syndrome

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