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Molecular Genetic Studies on the Possible Role of Hormonal Contraceptives in Inducing Breast Cancer

Thesis

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أَدْعُوكَ رَبِّى

سبحانك الله ربى
يا من خلقت الكون
بالكاف والنون

فكان أساسه العدل'
فقلت له كن فيكون

بالذكر قد إطمأن قلبى
فبذكرك راحة"وسكون

فعيناك أبدا لاتغفل'
وقد غفلت كل العيون

فظنى بقدرتك يقيناً
قد فاق ما فى الظنون

نصرت شعبا طيبا
فكن له عوناً وسندا
لشبابه أنت المصون

أَدْعُوكَ فى غسق الدجى
أن ترعى مصر وشعبها
وأحفظها من كل الفتن
فلولاك مصر لم تكون

آمين... آمين... آمين
يارب العالمين

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List of Abbreviations

Abb.	Meaning
%	Percentage
μl	Microlitre
ACS	American Cancer Society
AJCC	American Joint Committee on Cancer
Arg	Arginine
ASCO	American society of clinical oncology
ATM gene	Ataxia telengectasia mutated gene
Bp	Base pair
BRCA1	Breast-ovarian cancer syndrome 1
BRCA2	Breast-ovarian cancer syndrome 2
CA 27.29	Carbohydrate antigen 27.29
CA15.3	Carbohydrate antigen 15.3
CBST	Cairo breast screening trial
CDK	Cyclin-dependent kinase
cDNA	Complementary DNA
CEA	Carcinoembryonic antigen
CIS	Carcinoma in situ
CK	Cytokeratin
COCs	Combined oral contraceptives
Ct	Cycle threshold
DCIS	Ductal carcinoma in situ
DEPC	Double distilled diethyl pyrocarbonate

Abb.	Meaning
DNA	Deoxyribonucleic acid
EDTA	Ethyl diamine tetra-acetic acid
EL	Erythrocyte lysis buffer
ELISA	Enzyme-linked immunosorbent assay
ER	Estrogen receptors
ERD	Extensive residual disease
FDA	Food and Drug Administration
Fig.	Figure
G1	Gastrointestina 1
GADD	Growth arrest and DNA damage inducible genes
GEP	Gene expression profiling
HCs	Hormonal contraceptives
HER-2	Human epidermal growth factor receptor-2
HRT	Hormonal replacement therapy
IDC	Invasive Duct Carcinoma
IHC	Immunohistochemistry
ILC	Invasive Lobular Carcinoma
kDa	Kilo dalton
LCIS	Lobular carcinoma in-situ
Mdm2	Mouse double minute gene 2
MRD	Minimal residual disease
mRNA	Messenger RNA
NACB	National Academy of Clinical Biochemistry

Abb.	Meaning
NAD	Nicotinamide adenine dinucleotide
NADH	Reduced p-nicotinamide adenine dinucleotide
NCI	National cancer institute
NED	No evident disease
ng	Nanogram
NO	Nitric oxide
N-terminus	Nitrogen terminus
OCS	Oral contraceptives
OD	Optical density
P	Probability
p	short arm
PBS	Phosphate buffered saline
PCR	Polymerase chain reaction
pCR	Pathologic complete response
POP	Progestene only pill
PR	Progesterone receptor
Pro	Proline
PTEN	Phosphatase and TENsin
RB	Retinoblastoma gene
RFLP	Restriction fragment length polymorphism
RNA	Ribonucleic acid
RPM	Rotation per minute
RT	Reverse transcriptase

Abb.	Meaning
RT-PCR	Reverse transcriptase polymerase chain reaction
SD	Standard deviation
SNP	Single nucleotide polymorphism
SV₄₀	Simian virus 40
TAM	Tamoxifen
Taq	Thermus aquaticus
TCC	Transitional cell carcinoma
TNF	Tumor necrosis factor
TNM	Tumor-Node-Metastasis
WHO	World Health Organization
WT	Wild type
β-ME	β-Mercaptoethanol

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