CORRELATION BETWEEN DNA PLOIDY AND PS2 IN BREAST CANCER

Thesis

Submitted For Partial Fulfillment Of

Ph.D. Degree In Biochemistry

By

Maha Imam Ahmed

M.Sc. Biochemistry

Supervisors

Prof. Nawal Abdou Zeiada
Professor and Head of
Biochemistry Department
Faculty of Medicine
Ain Shams University

Prof. Ali Khalifa Ali
Professor of Biochemistry
Head of Oncology
Diagnostic Unit
Faculty of Medicine
Ain Shams University

Dr. Thanaa El-Sayed Helal
Ass. Professor of Pathology
Faculty of Medicine
Ain Shams University

Dr. Sanaa Eissa Hamed
Lecturer of Biochemistry
Faculty of Medicine
Ain Shams University

Faculty of Medicine

Ain Shams University

1994

بسم الله الرحمن الرحيم

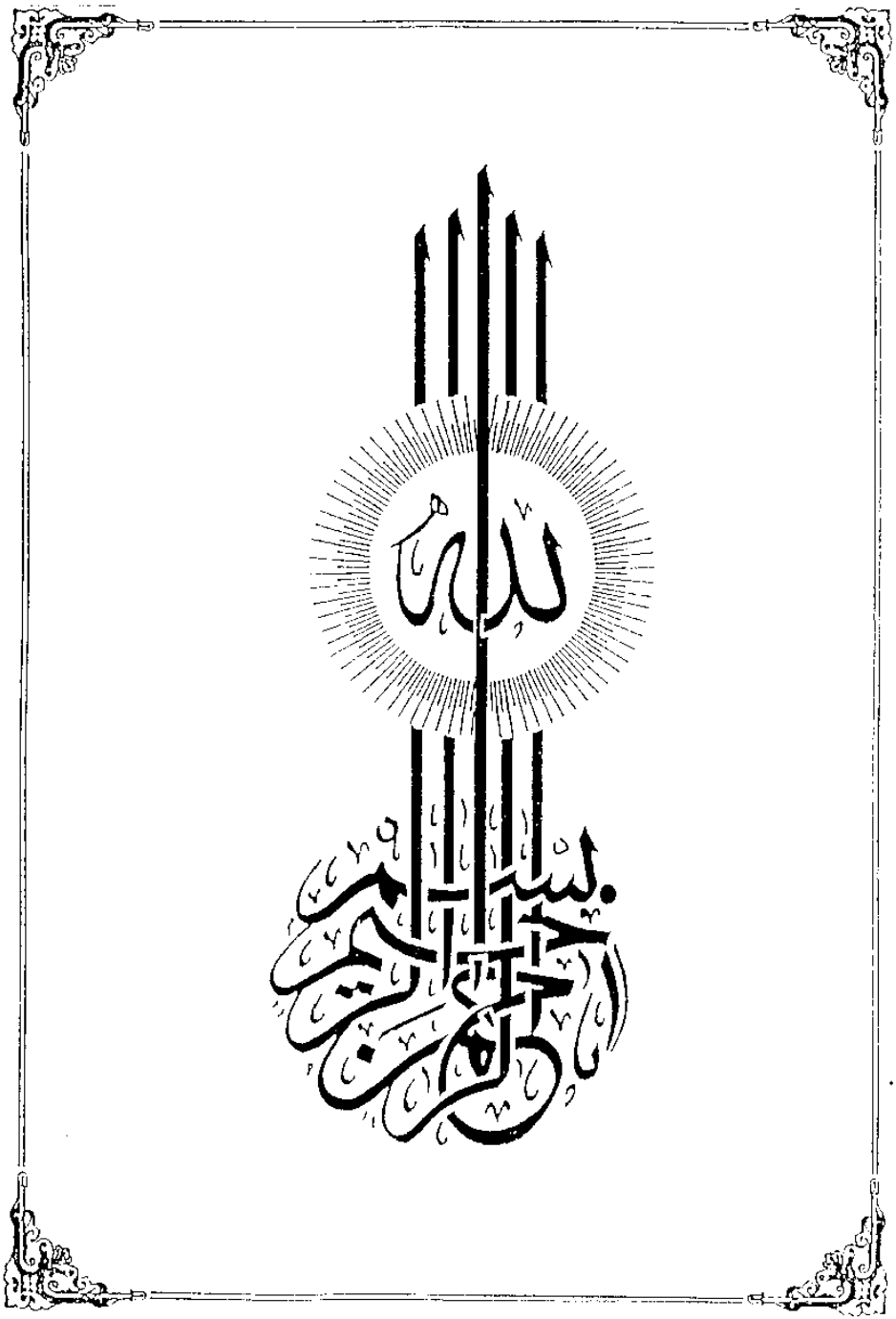
قالوا

سبحانك لا علم لنا إلا ما علمتنا

إنك أنت العليم الحكيم

صدق الله العظيم

سورة البقرة آية ٣٢



Approval Sheet

Prof. Dr. Ahmad S. Fayth-Allah .....

Prof. Dr. Nawal A. Zeyada .....

Prof. Dr. Mofida M. Salah .....

Prof. Dr. Ali Khalifa Ali .....

ACKNOWLEDGEMENTS

First and foremost thanks to God.

I would like to extend, cordial appreciation and infinite gratitude to Prof. Nawal Abdou Zeiada Professor and Head of Biochemistry Department, Ain Shams Faculty of Medicine, for her motherly guidance and advice. She spared no effort to help me along the entire course of the work.

My words fail me to express my deepest appreciation to Prof. Ali Khalifa, Professor and Head of Oncology Diagnostic Unit, Biochemistry Department, Ain Shams Faculty of Medicine. He has been, as he always is, most helpful to me throughout the whole work. His continual watchfullness, his invaluable counsel and most creative and instructive ideas and thoughts have motivated my energy. His endurance has pushed me ahead, and have endowed me with hope, patience and perseverance.

I am deeply grateful to my tutor Dr. Sanaa Eissa, Lecturer of Biochemistry, Ain Shams Faculty of Medicine. She gave time unselfishly and shared in the objective and critical evaluation of the text. I extend very special thanks to her for sharing ideas and making recommendations to improve the work and for cooperating throughout the period of preparation. She carefully read and reviewed every part of the manuscript, making many excellent suggestions and corrections.

I am so grateful to Dr. Thanaa Helal, Assistant Professor of Pathology, Ain Shams Faculty of Medicine for her scientific guidance and valuable assistance.

I am also very grateful to Dr. Sohir sayed Ismail, Assistant Professor of Radiotherapy, Ain Shams Faculty of Medicine.

Finally, very special thanks are due to a supportive and considerate family, particularly to my husband to my parents and to both my father and mother-in-low.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AJCC	:	American joint committe for cancer.
ANN	:	Axillary node negative.
ANP	:	Axillary node positive.
AT	:	Adenine thymine.
BCEI	:	Breast cancer estrogen induced gene.
Cath.D	:	Cathepsin D.
C-erb-B2	:	Oncogene from erythroblastosis virus.
CV	:	Coeffecient of variation.
DCIS	:	Ductal carcinoma in situ.
DFS	:	Disease free survival.
DI	:	DNA index.
DNA	:	Deoxy ribonucleic acid.
EGFR	:	Epidermal growth factor receptor.
EIA	:	Enzyme-immunoassay.
ER+	:	Estrogen receptor positive.
FCM	:	Flowcytometry.
GC	:	Guanine cytosine.
HER2	:	Human epidermal growth factor receptor related gene.
HIV	:	Human immundefeciency virus.
HSP	:	Heat shock protein.
ICA	:	Immunocytochemical assay.
IDC	:	Invasive duct carcinoma.

IGFs	**:**	**Insulin growth factors.**
ILC	**:**	**Invasive lobular carcinomas.**
LCIS	**:**	**Lobular carcinoma in situ.**
LPR	**:**	**Lysing permealizing reagant.**
MAb	**:**	**Monoclonal antibodies.**
neu	**:**	**Neuroblastoma oncogene.**
nm 23	**:**	**nonmetastatic 23 gene.**
OS	**:**	**Overall survival.**
p53	**:**	**Protein 53.**
PCNA	**:**	**Proliferating cell nuclear antigen.**
PDGF	**:**	**Platelet derived growth factor.**
PGR+	**:**	**Progesterone receptor positive.**
PMTs	**:**	**Photomultiplier tubes.**
PS2	**:**	**Protein S2.**
RB	**:**	**Retinoblastoma gene.**
RBCs	**:**	**Red blood cells.**
RIA	**:**	**Radioimmunoassay.**
RNA	**:**	**Ribonucleic acid.**
SPF	**:**	**Synthetic phase fraction.**
TGF-α	**:**	**Transforming growth factor-alpha.**
TGF-β	**:**	**Transforming growth factor-beta.**
TNM	**:**	**T (tumor), N (lumph node), M (distant metastases).**
+,+ve	**:**	**Positive.**
-,-ve	**:**	**Negative.**