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**Cairo University
Faculty of Science
Botany Department**

**STUDIES ON METHODS USED FOR VIRUS DETECTION
FROM AQUATIC ENVIRONMENT BY CELL CULTURE
AND POLYMERASE CHAIN REACTION**

Thesis

**Submitted For The Degree of Ph.D In
Virology**

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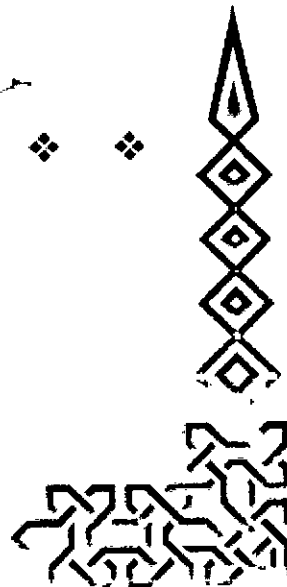
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قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا
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إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ



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ACKNOWLEDGEMENTS

First of all thanks to ALLAH for helping me to complete this work.

I wish to express my deepest thanks to Prof. Dr. Mohamed Ibrahim Ali, Professor of Microbiology, Department of Botany, Faculty of Science, Cairo University, for his keen supervision and never ending help.

My thanks are also to Prof. Dr. Shawky El-Said El-Hawaary, Professor of Water Microbiology, Department of Water Pollution Research, National Research Centre, for his sincere guidance, valuable advice, and continuous encouragement.

I would like to express my deeply grateful thanks to Prof. Dr. Gamila E. El-Taweel, Professor of Water Microbiology, Department of Water Pollution Research, National Research Centre, for her honest assistance and valuable advice.

I would like to express my deeply grateful thanks to Prof. Dr. Mohamed Ahmed Ahmed Ali, Professor of Environmental Virology Lab., Department of Water Pollution Research, National Research Centre, for his generous supervision, honest assistance and valuable advice.

Also, I am deeply grateful to Dr. Aly said Aly, Professor of chemistry and technology of carbohydrate materials, Department of pretreatment and finishing of cellulosic based textile, textile research division, National Research Centre, for his kind help and great efforts in synthesis of polymers and derivative materials used in this work.

I can't forget the assistance of all members of the Department of Water Pollution Research, National Research Centre, whose help was greatly appreciated.

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LIST OF ABBREVIATIONS

AbCap	: Antibody capture.
AGI	: Acute gastrointestinal illness.
BGM	: Buffalo green monkey cells.
bp	: Base pair.
cDNA	: Complementary deoxyribnucleic acid.
Cox A9	: Cocksackievirus type A9.
Cox. B4	: Cocksackievirus type B4.
CPE	: Cytopathic effect.
DEPC	: Diethylpyrocarbonate.
DMEM	: Dulbecco's Modified Eagle Medium.
DNA	: Deoxyribonucleic acid.
dNTP	: Deoxynucleotide triphosphate.
Echo9	: Echovirus type 9.
EDTA	: Ethylenediamine tetracetic acid.
ELISA	: Enzyme linked immunosorbent assay.
EPA	: Environmental Protection Agency.
EU	: European Union.
EV	: Enterovirus.
FC	: Flow cytometry.
FCU	: Flow cytometry units.
FRhK	: Foetal Rhesus monkey kidney cells.
HAV	: Hepatitis A virus.
HEV	: Hepatitis E virus.
ICC/PCR	: Integrated cell culture/polymerase chain reaction.
IgM	: Immunoglobuline M.
LR	: Liquor Ratio.
MPN	: Most probable number.
MPNCU	: Most probable number of cytopathic unit.
MWCO	: Molecular weight cut-off.
NCR	: Non coding region.
NV	: Noroviruses.
nt.	: Nucleotide.
O-cm	: Oxy-carboxymethyl.
PACL	: Polyaluminum chloride.
PBS	: Phosphate-buffered saline.
PFU	: Plaque forming unit.
PV2	: Poliovirus type 2.
RCU	: Repeated chitin unit.
RNA	: Ribonucleic acid.
RT-PCR	: Reverse transcriptase-polymerase chain reaction.
SV	: Sapporo viruses.
SRSV	: Small round structured viruses.
TCID₅₀	: 50% Tissue culture infective dose.
UV	: Ultraviolet.
VACSERA	: Egyptian Organization for biological products and vaccines.
WHO	: World Health Organization.

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