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The Efficacy of Chlorophyllin Treatment in Reducing Liver Damage Induced by AF_{B1} and Gamma Irradiation in Rats

Thesis
Submitted To The Faculty of Science
Cairo University

For
The Degree of PH.D
By

Rene Goergy Rezk
(B.Sc., M.Sc. Zoology)

National Center for Radiation
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إهـــــــــــداء

This work is dedicated to the deep memory of my **father.**

To the loving respect of my **mother.**

To m y **husband.**

To my **sister and brother.**

CONTENTS

List of Abbreviations

AF	Aflatoxin
AF_{B1}	Aflatoxin $_B$.
ALT	Alanine aminotransferase.
AST	Aspartate aminotransferase
Bw	Body weight
CCl_4	Carbon tetrachloride
CHL	Chlorophyllin
Cm	Centimeter
DMSO	Dimethyl sulphoxide
DNA	Deoxyribonucleic acid
3D	Three dimensions
e^-	Free electron.
G	Gram
GOT	Glutamic oxaloacetic transaminase.
GPT	Glutamic pyruvic transaminase.
Gy	Gray (radiation unit)
γ-irradiation	Gamma irradiation
$H^\bullet$	Hydrogen radical
H^+	Hydrogen ion
H_2O	Water molecule
H_2O^+	Ionized water molecule.
H_2O_2	Hydrogen peroxide.
HBV	Hepatitis B virus
HCC	Hepatocellular carcinoma.
HE	Haematoxylin and eosin.
HSI	Hue, saturation and intensity.
HO_2^-	Hydroperoxyl ion.
$HO_2^\bullet$	Hydroperoxy radical.

hr	Hour
Kg	Kilogram
m mol	Millimole.
M/F	Male /female
µg	Micro gram.
mg	Milligram.
min	Minute.
ml	Millimeter
NaOH	Sodium hydroxide.
NCRRT	National Center for Radiation Research and Technology
O_2	Oxygen molecule.
$OH^{\bullet}$	Hydroxyl radical.
OH^{-}	Hydroxyl ion.
P_{53}	Tumor suppressor gene.
R	Radiation (irradiation).
RGB	Intensities of red, green and blue.
ROI	Region of interest.
S^2	Variance
SD	Standard deviation
SE	Standard error.
SPSS	Statistical Package for Social Sciences.
T	T -test
X	Arithmetic mean.

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