

**BIOCHEMICAL STUDIES ON THE ROLE OF
ZINC AND CURCUMIN IN
EXPERIMENTALLY DIABETIC RATS**

A Thesis

Presented to

Faculty of Veterinary Medicine, Alexandria University

**In Partial fulfillment of the
Requirements for the degree**

Of

Master of Veterinary Sciences

In

Biochemistry and Clinical Biochemistry

By

Marwa Mohamed Mohamed El-Zeftawy

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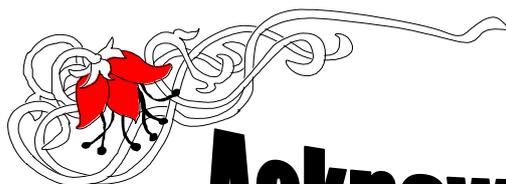
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LIST OF ABBREVIATIONS

ξ-AAP:	ξ-amino antipyrine.
ξ-AP:	ξ-amino phenazone.
ADP:	Adenosine diphosphate.
AGE:	Advanced glycated end products.
AK:	Activated protein kinase.
ALK:	Alkaline.
AP-λ:	Activated protein-λ.
ASA:	Arylsulfatase A.
ASB:	Arylsulfatase B.
ATP:	Adenosine triphosphate.
BACE-λ:	Beta-site APP-cleaving enzyme-λ.
C:	Control.
C.Longa	Curcuma longa.
CAT:	Catalase.
CDC:	Center for disease control.
CE:	Cholesterol esterase.
CH₃ group:	Methyl group.
CHOD:	Cholesterol oxidase.
CHODPAP:	Cholesterol oxidase peroxidase.
COA:	Co-enzyme A.
COX-ϳ:	Cyclo oxygenase-ϳ.
cPK:	Protamine kinase.
CRP:	C-reactive protein.
CTGF:	Connective tissue growth factor.
Cur:	Curcumin.
CXCR₄:	Fusin.
DNA:	Deoxyribonucleic acid.
EDTA:	Ethylene diamine tetra acetic acid.
EGF:	Epidermal growth factor.
ELAM-λ:	Endothelial leukocyte adhesion molecule-λ.
GK:	Glycerol kinase.

GLUTξ:	Glucose transporter- ξ .
GOD:	Glucose oxidase.
GOD-POD:	Glucose oxidase peroxidase.
GPO:	Glycerol phosphate oxidase.
GS:	Glycogen synthase.
GSH-PO:	Glutathione peroxidase.
GSH-PX:	Glutathione peroxidase.
GSK-ζ:	Glycogen synthase- ζ .
HAT:	Histone acetyl transferase.
HDL:	High density lipoprotein.
HIF-α:	Hypoxia inducible factor.
HP:	Helicobacter pylori.
HRP:	Horseradish peroxidase.
IBD:	Inflammatory bowel disease.
IBS:	Irritable bowel syndrome.
ICAM-α:	Intracellular adhesion molecule- α .
IDDM:	Insulin dependant diabetes mellitus.
IFN-γ:	Interferon-Gamma.
IKK:	Inhibitor of kappa B kinase.
IL-α:	Interleukin- α .
IL-β:	Interleukin- β beta.
IL-δ:	Interleukin- δ .
IL-ϵ:	Interleukin- ϵ .
IL-ζ:	Interleukin- ζ .
iNOS:	Inducible nitric oxide synthase.
IRAP:	Interleukin- α receptor antagonist protein.
IRS:	Insulin receptor substrate.
LDL:	Low density lipoprotein.
LOX:	Lipoxygenase.
LPL:	Lipoprotein lipase.
LPO:	Lipid peroxidation.
MIP-α:	Monocyte inflammatory protein- α .
MLD:	Metachromic leukodystrophy.
MMP-α:	Metalloproteinase- α .