



Vasculoprotective Effect of Pioglitazone on Cyclosporine-Induced Vascular Damage in Rats

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In Partial Fulfillment of the Requirements for the Degree

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in
**Pharmaceutical Sciences
(Pharmacology)**

by

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LIST OF ABBREVIATIONS

AT₁	Angiotensin receptor-1
ATP	Adenosine triphosphate
ATPase	Adenosine triphosphatase
AUC	Area under the curve
BH₄	Tetrahydrobiopterin
BK_{Ca} - MaxiK	Large-conductance calcium activated potassium channels
cAMP	Cyclic adenosine monophosphate
CAT	Catalase
cGMP	Cyclic guanosine monophosphate
CO	Carbon monoxide
CORM	Carbon monoxide releasing molecule
CSA	Cyclosporine-A
Cu/Zn-SOD	Copper zinc-containing superoxide dismutase
DAG	Diacylglycerol
DMSO	Dimethylsulphoxide
DNA	Desoxyribonucleic acid
DPTA	Diethylenetriamine pentacetic acid
EC₅₀	Half maximal effective concentration
EDRF	Endothelium derived relaxing factor
E_{max}	Maximal response
eNOS	Endothelial nitric oxide synthase
ET	Endothelin
FFA	Free fatty acids
GC	Guanylate cyclase
GLUT	Glucose transporter
GPx	Glutathione peroxidase
GR	Glutathione reductase
GS[·]	Thiyl radical

GSH	Reduced glutathione
GSSG	Oxidized glutathione
GTP	Guanosine triphosphate
GW9662	Chloro-5-nitro-N-phenylbenzamide
H&E	Hematoxylin and Eosin stain
H₂O₂	Hydrogen peroxide
HbO	Oxidized haemoglobin
HDL-C	High density lipoprotein-Cholesterol
HMG-CoA	Hydroxymethyl-glutaryl-coenzyme A
HO	Heme oxygenase
ICAM	Intracellular adhesion molecule
IL	Interleukin
iNOS	Inducible nitric oxide synthase
IP3	Inositol triphosphate
LDL-C	Low density lipoprotein-Cholesterol
MDA	Malondialdehyde
MHC	Major histocompatibility complex
MMP	Metalloproteinase
mRNA	Messenger ribonucleic acid
N₂O₄	Dinitrogen tetroxide
NADP	Nicotinamide adenine dinucleotide phosphate
L-NAME	<i>N</i> _ω -Nitro-L-arginine methyl ester hydrochloride
NED	N-1-naphthylethylene diamine dihydrochloride
NFAT	Nuclear factor activated T-Cell
NF-KB	Nuclear factor kappa B
nNOS	Neuronal nitric oxide synthase
NO	Nitric oxide
NO_x	NO metabolites (nitrite/nitrate)
O₂^{•-}	Superoxide anion
OH[•]	Hydroxyl radical

ONOO⁻	Peroxynitrite
Ox-LDL	Oxidized-Low density lipoprotein
PDE	Phosphodiesterase
PE	Phenylephrine
PGI₂	Prostacyclin
15d-PGJ(2)	15-deoxy- Δ 12,14-prostaglandin J2
PI3	Phosphoinositide 3-kinases
PIO	Pioglitazone
PIPE	piperazine-N,N'-bis(2-ethanesulfonic acid)
PKA	Protein kinase A
PPAR	Peroxisome proliferator activated receptors
PUFA	Polyunsaturated fatty acids
RO[•]	Alkoxyl radical
ROO[•]	Peroxyl radical
ROS	Reactive oxygen species
RPP	Renal perfusion pressure
S.E.M	Standard error of mean
Ser	Serine
-SH	Thiol
SNP	Sodium nitroprusside
SOD	Superoxide dismutase
TBA	Thiobarbituric acid
TBARs	Thiobarbituric acid reactive substances
TC	Total cholesterol
TCA	Trichloroacetic acid
TG	Triglycerides
T_H	Helper T-Cell
TMP	1,1,3,3-Tetramethoxypropane
TNF-α	Tumor necrosis factor alpha
TZD	Thiozolidinedione

VCAM	Vascular cell adhesion molecule
VEGF	Vascular endothelium growth factor
ZnPPIX	Zinc protoporphyrin IX

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