

LIST OF CONTENTS

	Page
COVER	i
ENDORSEMENT FORM.....	ii
DECLARATION	iii
IDENTITY	iv
SUMMARY	vi
ABSTRACT.....	viii
ACKNOWLEDGEMENT	ix
LIST OF CONTENTS	xi
LIST OF TABLES	xiv
LIST OF FIGURES	xv
LIST OF APPENDICES	xvi
ABBREVIATIONS AND SYMBOLS	xvii
CHAPTER 1 INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	4
1.3 Research Purpose	4
1.4 Aim of Research	4
1.4.1 Theoretical aim	4
1.4.2 Practical aim.....	5
1.5 Theoretical Base	5
1.6 Hypothesis.....	6
CHAPTER 2 LITERATURE REVIEW	7
2.1 <i>Ocimum sanctum</i>	7
2.1.1 Scientific classification	8
2.1.2 Chemical content of <i>Ocimum sanctum</i>	8

2.1.3	<i>Ocimum sanctum</i> as antioxidant	9
2.1.4	Benefits to the society	10
2.1.5	Extraction	11
2.2	Lead... ..	12
2.2.1	Lead toxicity.....	12
2.2.2	Metabolism of lead.....	13
2.3	Renal Damage	14
2.3.1	Creatinine	15
2.3.2	Blood urea nitrogen (BUN).....	16
2.5	Mice... ..	17
2.5.1	Scientific classification	17
CHAPTER 3 MATERIALS AND METHODS.....		18
3.1	Experimental Design.....	18
3.2	Number of Samples.....	18
3.3	Research Variable	19
3.3.1	Independent variable	19
3.3.2	Dependent variable.....	19
3.3.3	Control variable.....	19
3.4	Definition of Operational Variable	19
3.4.1	<i>Ocimum sanctum</i> leaf extract	19
3.4.2	Lead acetate administration	19
3.4.3	Measurement levels of serum creatinine and blood urea nitrogen (BUN)	20
3.5	Time and Location of Research	20
3.6	Research Materials and Equipment.....	20
3.6.1	Experimental animal	20
3.6.2	Research equipment	21
3.6.3	Research material	21
3.7	Research Procedure.....	21

3.7.1	Ethical clearance	21
3.7.2	Preparation of <i>Ocimum sanctum</i> extract	21
3.7.3	Suspension preparation	22
3.7.4	Dosage calculation	22
3.7.5	Preparation of experimental animal	23
3.7.6	Mice maintenance	24
3.7.7	Treatment	24
3.7.8	Sampling method	24
3.8	Data Analysis	24
3.9	Reseach Flowchart	25
CHAPTER 4 RESEARCH RESULT		26
CHAPTER 5 DISCUSSION		28
CHAPTER 6 CONCLUSION.....		32
REFERENCES.....		33
APPENDICES		40

LIST OF TABLES

	Page
2.1 Contents of <i>Ocimum sanctum</i> leaf per 100 g dry weight	9
4.1 Mean and standard deviation of serum creatinine and BUN level on each group	27

LIST OF FIGURES

	Page
2.1 <i>Ocimum sanctum</i>	7

LIST OF APPENDICES

	Page
1. Ethical clearance	40
2. Identification form of <i>Ocimum sanctum</i>	41
3. Dosage of <i>Ocimum sanctum</i> leaf extract.....	42
4. Dosage of lead acetate.....	44
5. Blood urea nitrogen and serum creatinine measurement procedure	45
6. Blood urea nitrogen measurement principal	46
7. Serum creatinine measurement principal	48
8. Result of BUN and serum creatinine.....	49
9. Statistical data of BUN level.....	50
10. Statistical data of serum creatinine level.....	52
11. Research documentation.....	54

ABBREVIATION AND SYMBOLS

BUN	: Blood Urea Nitrogen
BW	: Body Weight
C ₂ H ₅ OH	: Ethyl Alcohol
CAT	: Catalase
CRD	: Complete Randomized Design
DNA	: Deoxyribonucleic Acid
GFR	: Glomerular Filtration Rate
GPx	: Glutathione Peroxide
GSH	: Glutathione
H ₂ O ₂	: Hydrogen Peroxide
LOO ⁻	: Peroxyradical
MDA	: Malondialdehyde
NO	: Nitric Oxide
NOS	: Nitric Oxide Synthase
O ₂ ⁻	: Superoxide Anion
OH ⁻	: Hydroxyl Radicals
Pb	: Plumbum
PbO	: Lead Oxide
ROS	: Reactive Oxygen Species
SOD	: Superoxide Dismutase