

TABLE OF CONTENTS

TITLE PAGE	i
APPROVAL PAGE	ii
AUTHENTICITY STATEMENT	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
LIST OF ENCLOSURES	ix
LIST OF ABBREVIATION	x
ABSTRACT	xii
INTISARI	xiii
CHAPTER I: INTRODUCTION	1
I.1. Background.....	1
I.2. Problem Formulation	4
I.3. Study Objectives	5
I.3.1. General Objectives.....	5
I.3.2. Specific Objectives	5
I.4. Study Originality.....	5
I.5. Study Benefits.....	7
CHAPTER II: LITERATURE REVIEW	9
II.1. Literature Review	9
II.1.1. Hippocampus.....	9
II.1.2. Diabetes Mellitus.....	13
II.1.3. Endothelial Dysfunction.....	16
II.1.4. Vascular Remodeling	22
II.1.5. Chlorogenic Acid (CGA)	27
II.2. Theoretical Framework	31
II.3. Conceptual Framework	32
II.4. Hypothesis	32
CHAPTER III: RESEARCH METHOD	33
III.1. Research Type and Design.....	33
III.2. Research Time and Setting.....	33
III.3. Research Variables.....	33

III.4. Operational Definition	34
III.5. Research Tools and Materials	36
III.6. Research Procedures	38
III.6.1. Experimental Animals Preparation	39
III.6.2. Experimental Animals Treatment	40
III.6.3. Termination	41
III.6.4. RNA Extraction	42
III.6.5. cDNA Synthesis	43
III.6.6. Examination of ppET-1, ETAR, and eNOS mRNA Expression by RT-PCR	43
III.6.7. Electrophoresis	44
III.7. Data Analysis	45
CHAPTER IV: RESULT AND DISCUSSION	46
IV.1. Result	46
IV.1.1 Random Blood Glucose (RBG) Level	46
IV.1.2 mRNA expression of ppET-1	48
IV.1.3 mRNA expression of ETAR	51
IV.1.4 mRNA expression of eNOS	53
IV.2. Discussion	55
CHAPTER V: CONCLUSION AND SUGGESTION	65
V.1. Conclusion	65
V.2. Suggestion	65
REFERENCES	66
ENCLOSURE	65