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APPENDICES

Appendix 1

Appendix 1.1 The percentages increase of body weight compared with body weight at the beginning of the study (week 0) in OVX + *P. mirifica* group.

Code	Time period (weeks)						
	0	1	2	3	4	5	6
N1	100.00	100.7692	101.9231	103.0769	103.8462	104.6154	105.7692
N2	100.00	101.1538	103.0769	103.8462	105.00	105.7692	107.6923
N3	100.00	100.7143	101.7857	103.5714	104.2857	105.3571	107.1429
N4	100.00	100.7692	102.6923	103.4615	104.2308	105.00	105.7692
N5	100.00	101.0345	101.7241	102.7586	103.4483	104.4828	105.1724
N6	100.00	100.6897	101.7241	102.7586	104.1379	105.8621	106.8966
N7	100.00	100.8889	102.2222	102.6667	103.1111	103.5556	104.4444
N8	100.00	100.8696	102.1739	103.4783	104.3478	105.6522	106.5217
Mean	**100.00**	**100.8611**	**102.1653**	**103.2023**	**104.051**	**105.0368**	**106.1761**
S.E.M.	**0.00**	**0.06**	**0.17**	**0.16**	**0.21**	**0.28**	**0.38**

Appendix 1.2 The percentages increase of body weight compared with body weight at the beginning of the study (week 0) in OVX + Estrogen group.

Code	Time period (weeks)						
	0	1	2	3	4	5	6
N1	100.00	100.6897	101.7241	102.7586	103.4483	104.1379	105.1724
N2	100.00	100.7843	101.9608	102.7451	103.9216	105.098	105.8824
N3	100.00	100.7143	101.7857	102.8571	103.5714	104.6429	105.3571
N4	100.00	101.0638	102.1277	102.8369	103.9007	105.6738	106.383
N5	100.00	101.0204	102.0408	102.7211	103.7415	104.7619	105.4422
N6	100.00	101.0638	102.1277	103.5461	104.6099	105.6738	106.383
N7	100.00	100.4167	101.25	102.0833	102.9167	103.3333	104.1667
N8	100.00	100.40	101.20	102.00	102.80	103.20	104.00
Mean	**100.00**	**100.7691**	**101.7771**	**102.6935**	**103.6138**	**104.5652**	**105.3483**
S.E.M.	**0.00**	**0.10**	**0.13**	**0.17**	**0.21**	**0.34**	**0.32**

Appendix 1.3 The percentages increase of body weight compared with body weight at the beginning of the study (week 0) in OVX group.

Code	Time period (weeks)						
	0	1	2	3	4	5	6
N1	100.00	109.6154	111.5385	111.5385	113.4615	113.4615	115.3846
N2	100.00	108.00	111.20	112.00	114.00	115.20	116.00
N3	100.00	103.0769	106.9231	107.6923	108.4615	109.6154	111.5385
N4	100.00	103.5714	107.1429	107.8571	108.9286	110.7143	114.2857
N5	100.00	101.5385	104.6154	106.9231	108.4615	109.6154	111.5385
N6	100.00	101.5385	104.6154	106.9231	108.4615	109.6154	111.5385
N7	100.00	102.0833	106.25	110.4167	114.5833	116.6667	120.8333
N8	100.00	102.6415	103.7736	105.6604	113.2075	116.9811	120.7547
Mean	**100.00**	**104.0082**	**107.0073**	**108.6264**	**111.1957**	**112.7337**	**115.2342**
S.E.M.	**0.00**	**1.09**	**1.04**	**0.84**	**1.00**	**1.14**	**1.36**

Appendix 1.4 The percentages increase of body weight compared with body weight at the beginning of the study (week 0) in Sham group.

Code	Time period (weeks)						
	0	1	2	3	4	5	6
N1	100.00	100.7547	101.8868	103.3962	104.9057	106.4151	107.5472
N2	100.00	101.1765	102.7451	103.9216	105.8824	107.8431	109.8039
N3	100.00	101.1765	102.7451	104.7059	107.0588	108.6275	109.8039
N4	100.00	101.9608	103.1373	105.098	105.8824	107.8431	109.8039
N5	100.00	101.7391	102.6087	103.4783	105.2174	106.5217	109.5652
N6	100.00	101.2766	102.1277	104.2553	104.2553	105.5319	106.383
N7	100.00	101.3636	103.1818	104.5455	105.9091	106.8182	109.0909
N8	100.00	100.9756	102.439	103.4146	105.8537	107.3171	109.7561
Mean	**100.00**	**101.3029**	**102.6089**	**104.1019**	**105.6206**	**107.1147**	**108.9693**
S.E.M.	**0.00**	**0.14**	**0.16**	**0.23**	**0.30**	**0.35**	**0.46**

Appendix 2

Appendix 2.1 Plasma nitric oxide (NO) level of each group in the experiments.

Group	OVX+*P. mirifica*	OVX+Estrogen	OVX	Sham
N1	3.678899	2.669725	2.394495	3.082569
N2	3.266055	2.577982	2.394495	3.036697
N3	3.311927	2.394495	2.211009	2.669725
N4	2.761468	2.944954	2.302752	2.807339
N5	2.669725	2.669725	2.165138	3.220183
N6	2.944954	2.853211	2.394495	2.394495
N7	2.807339	2.899083	2.256881	2.623853
N8	3.633028	2.669725	2.256881	2.990826
Mean	**3.134174**	**2.709862385**	**2.297018349**	**2.853211009**
S.E.M.	**0.14**	**0.06**	**0.03**	**0.10**

Appendix 2.2 Plasma alkaline phosphatase (ALP) level of each group in the experiments.

Group	OVX+*P. mirifica*	OVX+Estrogen	OVX	Sham
N1	60.8	48.6	145	48.2
N2	10.2	95	108	89.8
N3	84.2	57.6	82.8	64.8
N4	191	180	135	88.8
N5	153	70	182	113
N6	95.3	93.4	118	84.3
N7	102	104	174	89
N8	103	76.6	124	63.1
Mean	**99.9375**	**90.65**	**133.6**	**80.125**
S.E.M.	**19.35356**	**14.43734**	**11.7094**	**7.18348**

Appendix 2.3.1 Plasma level of lipid parameters (total cholesterol, HDL-cholesterol, LDL-cholesterol, triglyceride and atherosclerotic index [total cholesterol / HDL-cholesterol ratio]) in OVX + *P. mirifica* group.

Code	Plasma lipid parameters (U)				
	Total-cholesterol	HDL-cholesterol	LDL-cholesterol	Triglyceride	Atherosclerotic index
N1	79	44	22.6	62	0.795455
N2	71	55	24.2	43	0.290909
N3	94	44	18.4	24	1.136364
N4	77	49	33	45	0.571429
N5	72	52	28	30	0.384615
N6	85	44	30	95	0.931818
N7	71	55	28	66	0.290909
N8	81	48	33	69	0.6875
Mean	**78.75**	**48.875**	**27.15**	**54.25**	**0.636125**
S.E.M.	**2.82**	**1.67**	**1.81**	**8.23**	**0.1095**

Appendix 2.3.2 Plasma level of lipid parameters (total cholesterol, HDL-cholesterol, LDL-cholesterol, triglyceride and atherosclerotic index [total cholesterol / HDL-cholesterol ratio]) in OVX + Estrogen group.

Code	Plasma lipid parameters (U)				
	Total-cholesterol	HDL-cholesterol	LDL-cholesterol	Triglyceride	Atherosclerotic index
N1	86	53	33	104	0.622642
N2	74	50	29	110	0.48
N3	87	51	37	177	0.705882
N4	82	63	31	189	0.301587
N5	97	55	42	112	0.763636
N6	94	58	36	103	0.62069
N7	68	45	23	153	0.511111
N8	91	52	39	136	0.75
Mean	**84.88**	**53.38**	**33.75**	**135.50**	**0.594444**
S.E.M.	**3.50**	**1.92**	**2.14**	**12.06**	**0.05551**

Appendix 2.3.3 Plasma level of lipid parameters (total cholesterol, HDL-cholesterol, LDL-cholesterol, triglyceride and atherosclerotic index [total cholesterol / HDL-cholesterol ratio]) in OVX group.

Code	Plasma lipid parameters (U)				
	Total-cholesterol	HDL-cholesterol	LDL-cholesterol	Triglyceride	Atherosclerotic index
N1	84	48	28.6	37	0.75
N2	86	44	29	65	0.954545
N3	67	42	6.2	69	0.595238
N4	61	41	18.2	69	0.487805
N5	90	49	24.4	83	0.836735
N6	92	52	23.2	84	0.769231
N7	64	42	34.8	51	0.52381
N8	79	47	18.2	83	0.680851
Mean	**77.88**	**45.63**	**22.83**	**67.63**	**0.699777**
S.E.M.	**4.32**	**1.40**	**3.10**	**5.92**	**0.05641**

Appendix 2.3.4 Plasma level of lipid parameters (total cholesterol, HDL-cholesterol, LDL-cholesterol, triglyceride and atherosclerotic index [total cholesterol / HDL-cholesterol ratio]) in Sham group.

Code	Plasma lipid parameters (U)				
	Total-cholesterol	HDL-cholesterol	LDL-cholesterol	Triglyceride	Atherosclerotic index
N1	56	34	15.2	34	0.647059
N2	56	38	9.4	78	0.473684
N3	63	40	8.2	75	0.575
N4	65	43	10	67	0.511628
N5	74	48	17.6	70	0.541667
N6	72	58	10	46	0.241379
N7	72	45	14.2	64	0.6
N8	67	41	21.2	24	0.634146
Mean	**65.63**	**43.38**	**13.23**	**57.25**	**0.52807**
S.E.M.	**2.49**	**2.58**	**1.63**	**7.10**	**0.04598**

Appendix 3

Appendix 3.1

Appendix 3.1.1 The percentages of aortic contraction due to noradrenaline (NA) induction in isolated rat thoracic aortas in OVX + *P. mirifica* group.

Code	Percentages of aortic contraction					
	NA 10^{-9}	NA 10^{-8}	NA 10^{-7}	NA 10^{-6}	NA 10^{-5}	NA 10^{-4}
N1	10.19	15.47	20.98	48.45	100	91.92
N2	1.23	7.58	26.37	62.3	100	97.39
N3	4.22	7.54	26.65	58.7	100	92.6
N4	3.8	4.05	31.64	71.04	100	87.2
N5	0.48	5.43	33.69	93.41	100	93.41
N6	4.63	5.21	25.35	77.08	100	93.4
N7	12.82	14.9	47.39	85.54	100	70.34
N8	2.79	5.13	46.31	91.11	100	92.99
Mean	**5.02**	**8.16**	**32.30**	**73.45**	**100.00**	**89.91**
S.E.M.	**1.52**	**1.59**	**3.46**	**5.74**	**0.00**	**2.96**

Appendix 3.1.2 The percentages of aortic contraction due to noradrenaline (NA) induction in isolated rat thoracic aortas in OVX + Estrogen group.

Code	Percentages of aortic contraction					
	NA 10^{-9}	NA 10^{-8}	NA 10^{-7}	NA 10^{-6}	NA 10^{-5}	NA 10^{-4}
N1	8.58	12.13	25.73	46.99	100	86.94
N2	15.34	17.24	51.02	87.27	100	98.14
N3	5.37	9.22	45.92	81.29	100	94.82
N4	2.66	3.42	30.08	79.13	100	99.81
N5	16.87	23.16	32.61	65.8	100	94.56
N6	3.7	11.1	22.83	57.98	100	73.84
N7	2.29	12.13	24.03	55.38	100	82.15
N8	3.57	5.46	21.7	68.2	100	89.95
Mean	**7.30**	**11.73**	**31.74**	**67.75**	**100.00**	**90.03**
S.E.M.	**2.05**	**2.22**	**3.90**	**4.96**	**0.00**	**3.10**

Appendix 3.1.3 The percentages of aortic contraction due to noradrenaline (NA) induction in isolated rat thoracic aortas in OVX group.

Code	Percentages of aortic contraction					
	NA 10^{-9}	NA 10^{-8}	NA 10^{-7}	NA 10^{-6}	NA 10^{-5}	NA 10^{-4}
N1	3.16	10.74	39.49	73.7	100	79.46
N2	3.22	6.51	50.12	70.2	100	59.35
N3	9.78	35.61	52.54	66.08	100	85.8
N4	0.31	4.97	50.33	86.49	100	80.61
N5	1.33	5.29	37.13	80.47	100	86.82
N6	2.36	4.46	11.55	52.23	100	77.56
N7	1.07	5.16	11.58	46.01	100	72.67
N8	7.28	10.71	19.33	45.79	100	76.29
Mean	**3.56**	**10.43**	**34.01**	**65.12**	**100.00**	**77.32**
S.E.M.	**1.16**	**3.71**	**6.17**	**5.51**	**0.00**	**3.06**

Appendix 3.1.4 The percentages of aortic contraction due to noradrenaline (NA) induction in isolated rat thoracic aortas in Sham group.

Code	Percentages of aortic contraction					
	NA 10^{-9}	NA 10^{-8}	NA 10^{-7}	NA 10^{-6}	NA 10^{-5}	NA 10^{-4}
N1	21.94	49.85	66.19	84.87	100	94.48
N2	3.51	7.63	51.29	87.87	100	81.71
N3	3.99	10.1	33.68	80.14	100	90.12
N4	5.56	9.1	32.43	73.04	100	88.8
N5	6.77	14.41	23.61	66.32	100	88.54
N6	3.87	7.65	37.99	80.74	100	96.39
N7	5.26	12.8	41.78	76.95	100	96.23
N8	5.37	9.22	45.92	81.29	100	94.82
Mean	**7.03**	**15.10**	**41.61**	**78.90**	**100.00**	**91.39**
S.E.M.	**2.16**	**5.04**	**4.63**	**2.40**	**0.00**	**1.79**

Appendix 3.2

Appendix 3.2.1 The percentages of noradrenaline-precontracted aortic relaxation due to acetylcholine (Ach) stimulation in isolated rat thoracic aortas in OVX + *P. mirifica* group.

Code	Percentages of aortic relaxation					
	Ach 10^{-9}	Ach 10^{-8}	Ach 10^{-7}	Ach 10^{-6}	Ach 10^{-5}	Ach 10^{-4}
N1	6.61	18.53	30.75	54.74	70.98	78.59
N2	15.94	37.05	44.02	68.13	115.54	145.22
N3	42.57	76.15	123.85	170.74	185.68	191.02
N4	31.95	80.78	109.09	184.94	204.16	234.03
N5	2.06	17.53	93.81	202.27	257.84	311.34
N6	9.36	20.62	34.06	52.34	64.12	67.24
N7	28.08	66.25	76.97	140.38	150.16	186.75
N8	7.82	37.43	61.45	86.59	118.99	151.96
Mean	**18.05**	**44.29**	**71.75**	**120.02**	**145.93**	**170.77**
S.E.M.	**5.12**	**9.32**	**12.39**	**21.80**	**23.71**	**28.24**

Appendix 3.2.2 The percentages of noradrenaline-precontracted aortic relaxation due to acetylcholine (Ach) stimulation in isolated rat thoracic aortas in OVX + Estrogen group.

Code	Percentages of aortic relaxation					
	Ach 10^{-9}	Ach 10^{-8}	Ach 10^{-7}	Ach 10^{-6}	Ach 10^{-5}	Ach 10^{-4}
N1	2.21	7.46	19.26	40.49	56.48	61.89
N2	39.75	56.78	117.98	161.2	176.66	218.61
N3	32.28	62.17	83.33	135.45	187.57	220.11
N4	19.52	33.92	65.08	85.86	112.52	128.66
N5	14.32	38.01	53.73	89.33	103.14	130.51
N6	28.1	40.51	75.39	93.65	138.14	158.04
N7	11.12	17.71	34.8	68.35	104.59	120.03
N8	18.57	57.03	131.3	257.29	303.71	372.81
Mean	**20.73**	**39.20**	**72.61**	**116.45**	**147.85**	**176.33**
S.E.M.	**4.29**	**6.89**	**13.57**	**24.08**	**26.81**	**33.62**

Appendix 3.2.3 The percentages of noradrenaline-precontracted aortic relaxation due to acetylcholine (Ach) stimulation in isolated rat thoracic aortas in OVX group.

Code	Percentages of aortic relaxation					
	Ach 10^{-9}	Ach 10^{-8}	Ach 10^{-7}	Ach 10^{-6}	Ach 10^{-5}	Ach 10^{-4}
N1	28.03	55.3	60.61	89.39	102.27	116.67
N2	2.65	15.42	24.14	42.21	59.5	78.5
N3	2.25	37.08	55.06	94.38	135.96	125.84
N4	7.46	26.87	29.35	39.8	49.75	62.19
N5	10.26	32.48	61.82	83.76	94.59	112.54
N6	2.31	8.33	21.53	35.65	49.77	77.31
N7	13.01	21.11	29	65.88	74.41	117.27
N8	20.51	31.74	62.61	83.98	105.35	134.07
Mean	**10.81**	**28.54**	**43.01**	**66.88**	**83.95**	**103.05**
S.E.M.	**3.32**	**5.09**	**6.54**	**8.62**	**10.89**	**9.35**

Appendix 3.2.4 The percentages of noradrenaline-precontracted aortic relaxation due to acetylcholine (Ach) stimulation in isolated rat thoracic aortas in Sham group.

Code	Percentages of aortic relaxation					
	Ach 10^{-9}	Ach 10^{-8}	Ach 10^{-7}	Ach 10^{-6}	Ach 10^{-5}	Ach 10^{-4}
N1	86.58	159.73	214.77	362.42	496.64	671.14
N2	11	21.36	53.07	100.65	164.53	172.69
N3	15.34	26.69	40.18	66.26	97.24	167.79
N4	23.86	44.57	73.14	97.14	103.57	130.29
N5	24.24	56.95	94.24	132.02	165.07	192.61
N6	10.6	27.22	53.01	97.71	118.34	139.54
N7	15.11	27.46	56.68	82.12	98.99	113.6
N8	32.28	62.17	83.33	135.45	187.57	220.11
Mean	**27.38**	**53.27**	**83.55**	**134.22**	**178.99**	**225.97**
S.E.M.	**8.86**	**16.13**	**19.78**	**33.61**	**47.02**	**64.75**

Appendix 3.3

Appendix 3.3.1 The percentages of noradrenaline-precontracted aortic relaxation due to sodium nitroprusside (SNP) stimulation in isolated rat thoracic aortas in OVX + *P. mirifica* group.

Code	Percentages of aortic relaxation					
	SNP 10^{-9}	SNP 10^{-8}	SNP 10^{-7}	SNP 10^{-6}	SNP 10^{-5}	SNP 10^{-4}
N1	17.52	76.62	108.91	122.67	132.9	148.31
N2	33.9	108.83	152.65	165.03	170.65	174.87
N3	19.21	92.44	185.22	225.96	229.77	232.89
N4	16.89	37.87	111.31	207.89	267.48	270.93
N5	13.96	77.58	129.5	135.59	139.43	141.88
N6	4.89	47.94	152.66	199.42	205.49	208.69
N7	10.16	57.71	107.02	108.21	123.22	127.24
N8	27.1	63.87	157.42	243.87	276.13	298.71
Mean	**17.95**	**70.36**	**138.09**	**176.08**	**193.13**	**200.44**
S.E.M.	**3.24**	**8.26**	**10.02**	**17.86**	**21.47**	**22.32**

Appendix 3.3.2 The percentages of noradrenaline-precontracted aortic relaxation due to sodium nitroprusside (SNP) stimulation in isolated rat thoracic aortas in OVX + Estrogen group.

Code	Percentages of aortic relaxation					
	SNP 10^{-9}	SNP 10^{-8}	SNP 10^{-7}	SNP 10^{-6}	SNP 10^{-5}	SNP 10^{-4}
N1	29.27	98.13	173.24	205.81	211.43	220.73
N2	11.87	33.52	78.68	102.93	106.5	112.89
N3	28.21	44.6	136.97	175.4	183.03	207.45
N4	24.88	75.47	98.52	125.27	132.33	135.81
N5	27.87	85.15	119.65	147.05	153.62	157.85
N6	34.01	68.02	211.02	331.74	360.58	368.63
N7	27.72	62.62	175.67	221.85	231.98	247.18
N8	55.92	100.32	223.73	267.57	271.29	285.09
Mean	**29.97**	**70.98**	**152.19**	**197.20**	**206.34**	**216.96**
S.E.M.	**4.34**	**8.45**	**18.49**	**26.99**	**29.11**	**29.75**

Appendix 3.3.3 The percentages of noradrenaline-precontracted aortic relaxation due to sodium nitroprusside (SNP) stimulation in isolated rat thoracic aortas in OVX group.

Code	Percentages of aortic relaxation					
	SNP 10^{-9}	SNP 10^{-8}	SNP 10^{-7}	SNP 10^{-6}	SNP 10^{-5}	SNP 10^{-4}
N1	35.45	49.09	70.91	89.09	93.64	103.73
N2	37.53	105.3	161.74	177.75	184.57	187.75
N3	45.1	70.59	172.55	211.76	243.14	282.35
N4	3.22	39.48	53.18	73.33	76.55	93.47
N5	26.79	119.67	197.5	233.1	245.89	255.19
N6	18.01	49.84	57.23	133.7	163.76	177.07
N7	18.97	36.32	88.82	183.68	199.12	216.47
N8	36.03	54.71	123.25	154.83	160.52	166.52
Mean	**27.64**	**65.63**	**115.65**	**157.15**	**170.90**	**185.32**
S.E.M.	**4.82**	**10.94**	**19.89**	**19.86**	**21.90**	**23.45**

Appendix 3.3.4 The percentages of noradrenaline-precontracted aortic relaxation due to sodium nitroprusside (SNP) stimulation in isolated rat thoracic aortas in Sham group.

Code	Percentages of aortic relaxation					
	SNP 10^{-9}	SNP 10^{-8}	SNP 10^{-7}	SNP 10^{-6}	SNP 10^{-5}	SNP 10^{-4}
N1	38.46	61.54	71.15	98.08	105.77	135.77
N2	37.62	156.81	212.29	223.9	228.24	232.19
N3	36.5	156.39	213.26	224.59	230.6	233.77
N4	34.9	110.47	247.31	300.17	310.47	310.62
N5	32.22	63.01	108.59	179.76	195.99	214.49
N6	33.26	63.39	85.56	138.08	148.74	173.64
N7	19.47	41.53	76.02	117.55	149.69	168.47
N8	28.21	44.6	136.97	175.4	183.03	207.45
Mean	**32.58**	**87.22**	**143.90**	**182.19**	**194.07**	**209.55**
S.E.M.	**2.20**	**16.84**	**24.92**	**23.42**	**22.36**	**18.79**

Appendix 4

Appendix 4.1 The relative bone weight of each group in the experiments.

Group	OVX+*P. mirifica*	OVX+Estrogen	OVX	Sham
N1	0.230461538	0.217018868	0.205283599	0.236343576
N2	0.221296296	0.232936803	0.193109004	0.230269316
N3	0.191254237	0.23125	0.19655143	0.232527307
N4	0.212785714	0.213357143	0.215636286	0.186241091
N5	0.209864407	0.201035714	0.199549672	0.248654869
N6	0.21052459	0.210357143	0.194161165	0.230796784
N7	0.232979592	0.222533333	0.177484652	0.24404874
N8	0.227041667	0.202137661	0.209352258	0.219276596
Mean	**0.217026005**	**0.216328333**	**0.198891008**	**0.228519785**
S.E.M.	**0.00487**	**0.00426**	**0.00412**	**0.00682**

Appendix 4.2 The relative bone ash of each group in the experiments.

Group	OVX+*P. mirifica*	OVX+Estrogen	OVX	Sham
N1	0.142076923	0.138566038	0.127762712	0.147535714
N2	0.131777778	0.146951673	0.120701754	0.144333333
N3	0.114237288	0.13475	0.123649123	0.146290909
N4	0.129333333	0.132571429	0.123508772	0.115186441
N5	0.130857143	0.137678571	0.120034483	0.155176471
N6	0.135762712	0.141333333	0.121533333	0.140074074
N7	0.139114754	0.122035088	0.110258065	0.151773585
N8	0.134204082	0.127703704	0.1301	0.134893617
Mean	**0.132170502**	**0.135198729**	**0.12219353**	**0.141908018**
S.E.M.	**0.00297**	**0.00277**	**0.0021**	**0.00443**

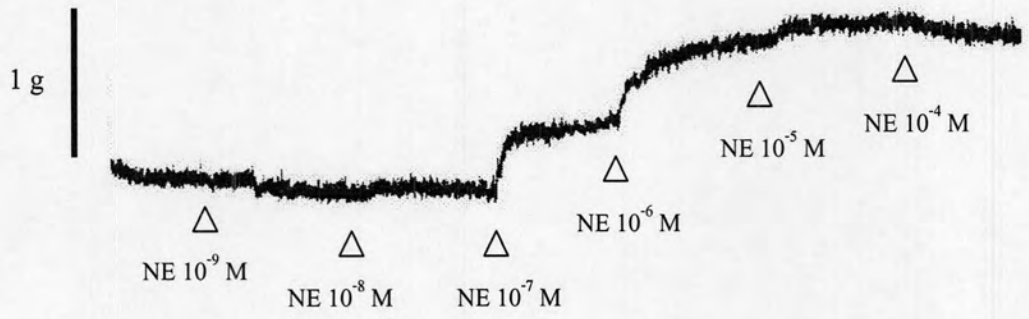
Appendix 4.3 The bone calcium level (mg/g Ash) of each group in the experiments.

Group	OVX+*P. mirifica*	OVX+Estrogen	OVX	Sham
N1	299.0660531	295.0571895	305.5187052	297.107238
N2	323.608769	283.7718189	311.1918605	297.4980754
N3	332.7299703	311.5247742	310.4426788	295.7742978
N4	322.0504009	354.7309833	291.1184211	320.9093584
N5	291.8941048	298.6530172	307.4573864	318.0439727
N6	303.9409617	299.1699092	315.6133295	288.6171338
N7	291.6354557	290.3301887	294.5693911	294.2317255
N8	283.5493754	317.7544566	301.9748391	343.8643533
Mean	**306.0593864**	**306.3740422**	**304.7358264**	**307.0057694**
S.E.M.	**6.32994**	**7.90828**	**2.9791**	**6.66755**

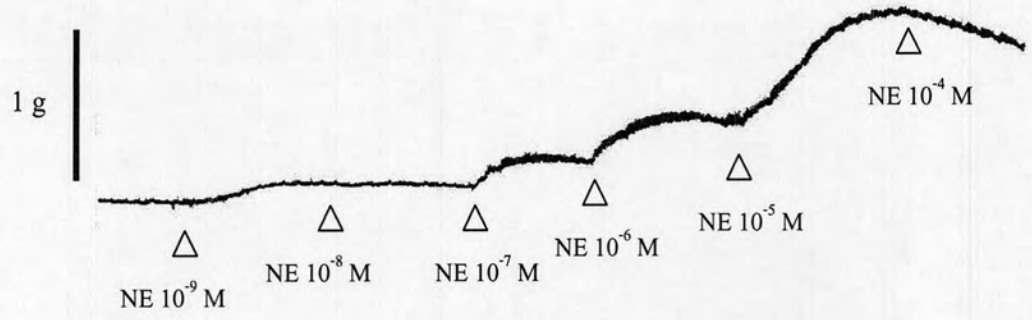
Appendix 5

Appendix 5.1

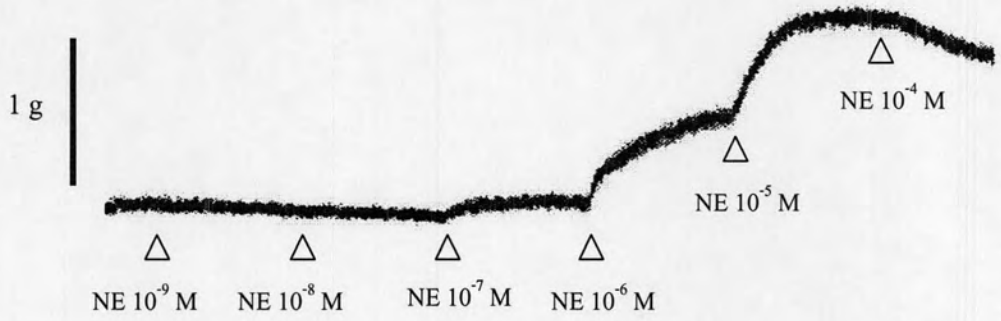
Appendix 5.1.1 The isometric tension changes due to noradrenaline (NA) induction in isolated rat thoracic aortas in OVX + *P. mirifica* group.



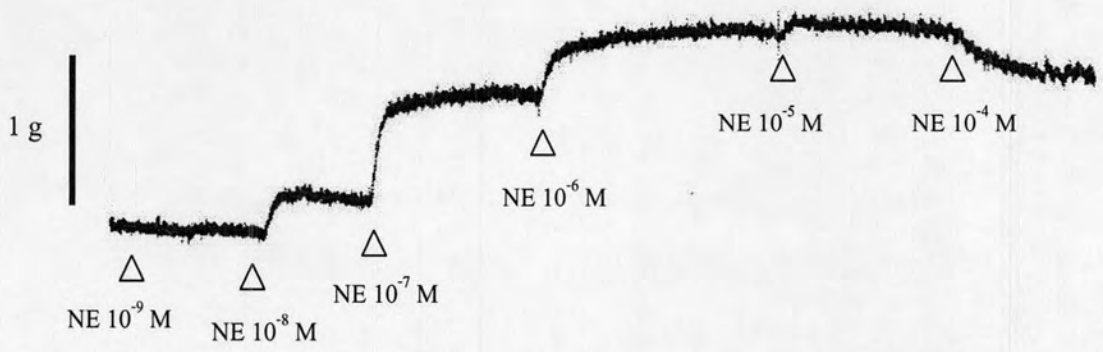
Appendix 5.1.2 The isometric tension changes due to noradrenaline (NA) induction in isolated rat thoracic aortas in OVX + Estrogen group.



Appendix 5.1.3 The isometric tension changes due to noradrenaline (NA) induction in isolated rat thoracic aortas in OVX group.

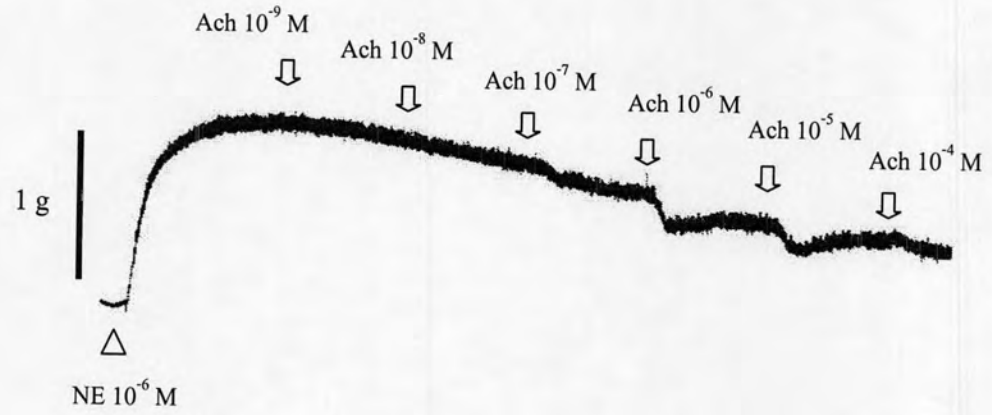


Appendix 5.1.4 The isometric tension changes due to noradrenaline (NA) induction in isolated rat thoracic aortas in Sham group.

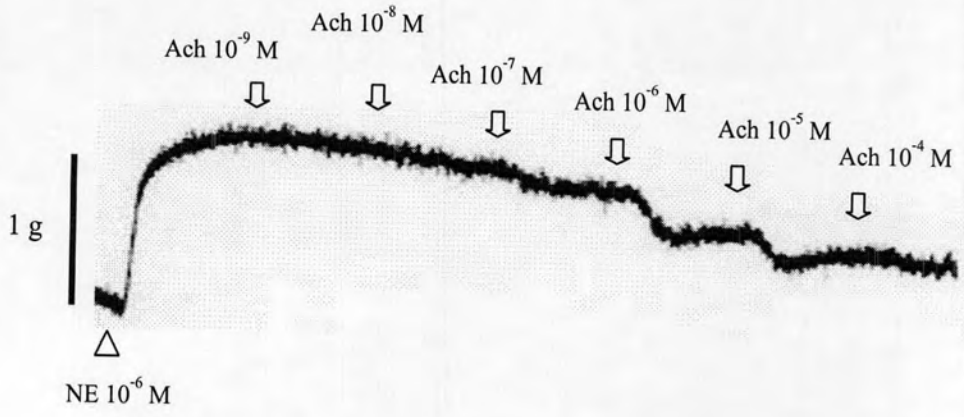


Appendix 5.2

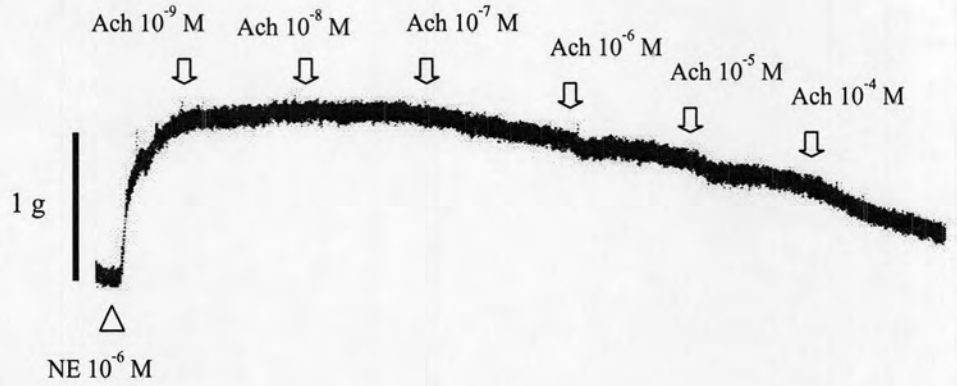
Appendix 5.2.1 The isometric tension changes of noradrenaline-precontracted aortic relaxation due to acetylcholine (Ach) stimulation in isolated rat thoracic aortas in OVX + *P. mirifica* group.



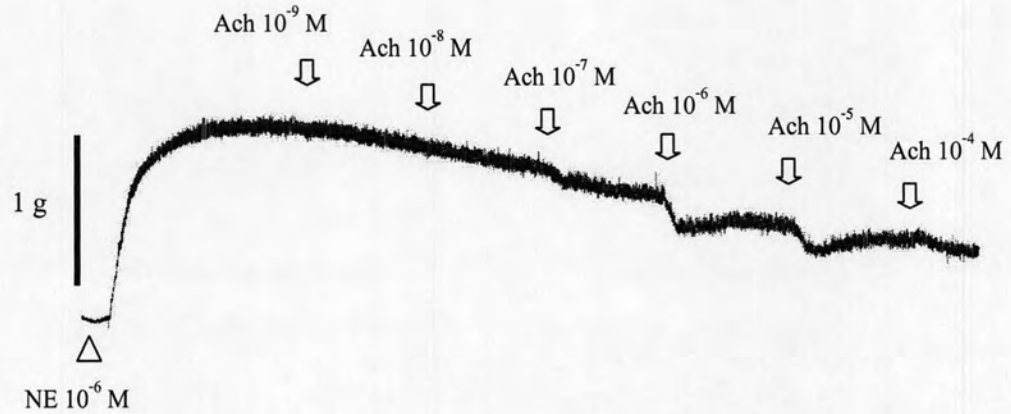
Appendix 5.2.2 The isometric tension changes of noradrenaline-precontracted aortic relaxation due to acetylcholine (Ach) stimulation in isolated rat thoracic aortas in OVX + Estrogen group.



Appendix 5.2.3 The isometric tension changes of noradrenaline-precontracted aortic relaxation due to acetylcholine (Ach) stimulation in isolated rat thoracic aortas in OVX group.

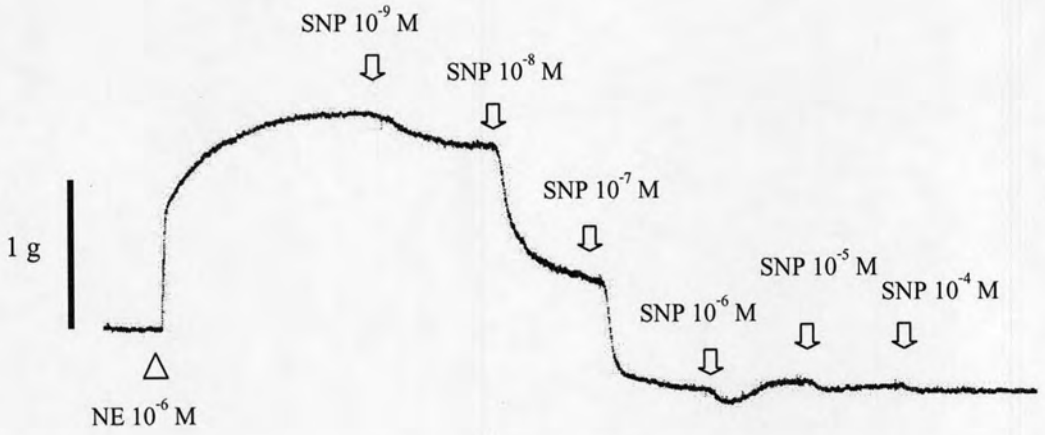


Appendix 5.2.4 The isometric tension changes of noradrenaline-precontracted aortic relaxation due to acetylcholine (Ach) stimulation in isolated rat thoracic aortas in Sham group.

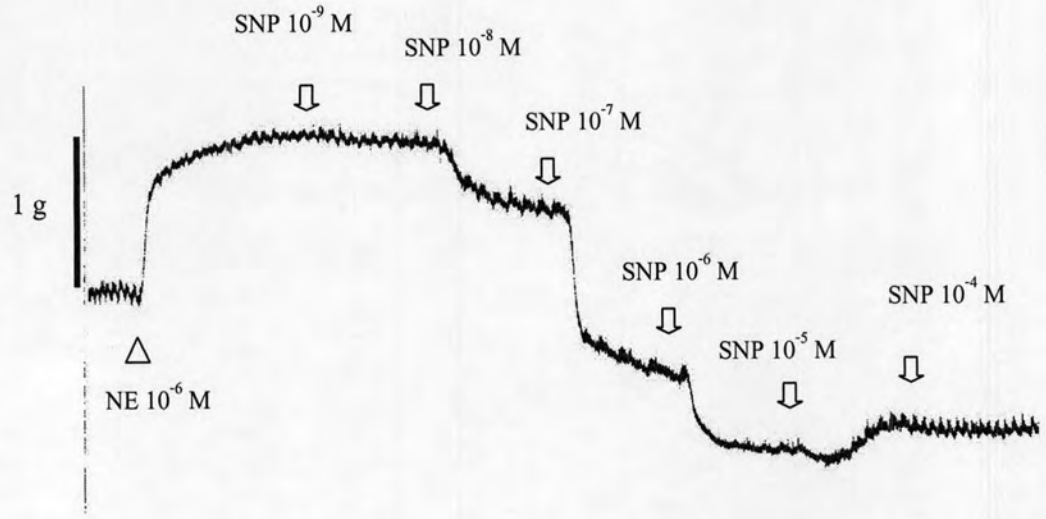


Appendix 5.3

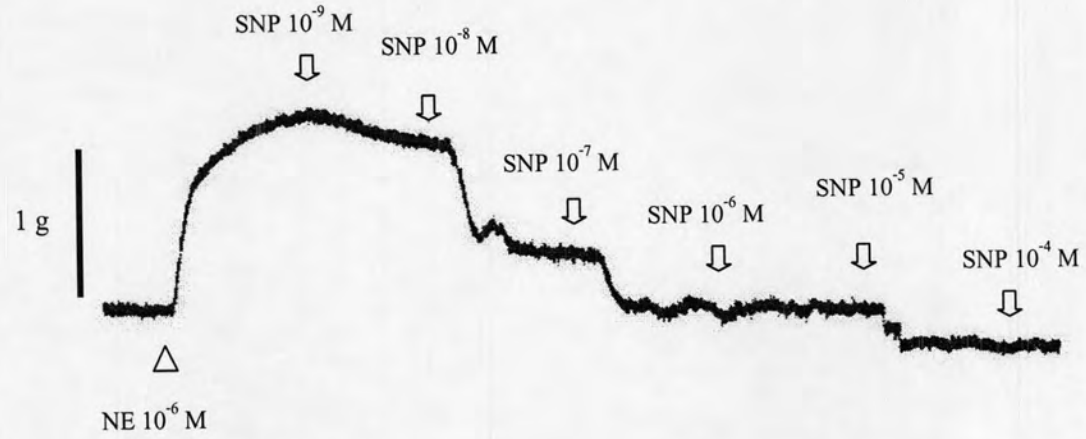
Appendix 5.3.1 The isometric tension changes of noradrenaline-precontracted aortic relaxation due to sodium nitroprusside (SNP) stimulation in isolated rat thoracic aortas in OVX + *P. mirifica* group.



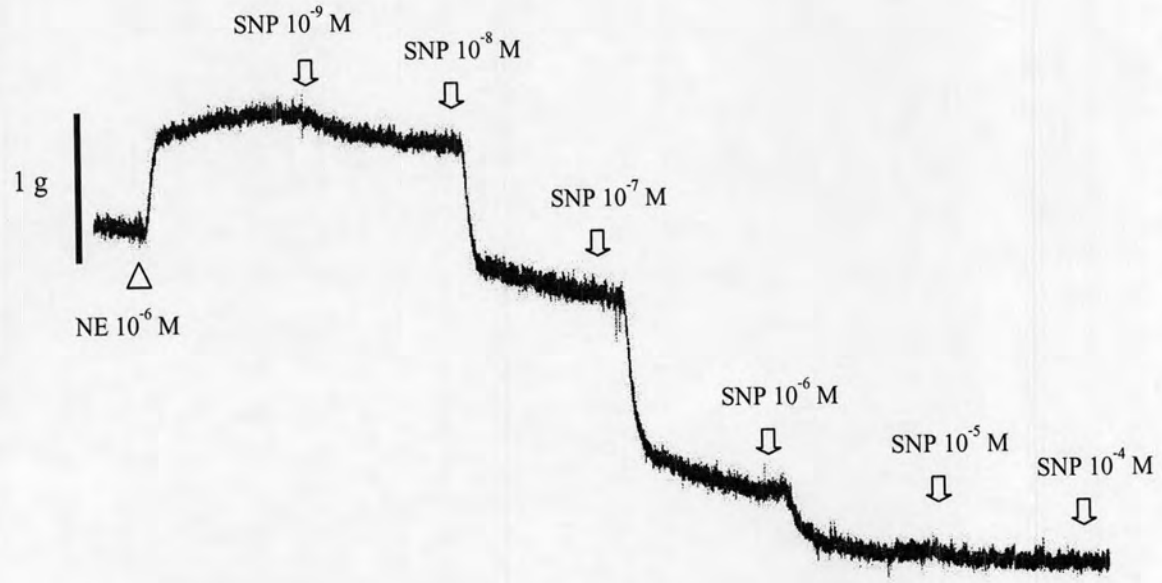
Appendix 5.3.2 The isometric tension changes of noradrenaline-precontracted aortic relaxation due to sodium nitroprusside (SNP) stimulation in isolated rat thoracic aortas in OVX + Estrogen group.



Appendix 5.3.3 The isometric tension changes of noradrenaline-precontracted aortic relaxation due to sodium nitroprusside (SNP) stimulation in isolated rat thoracic aortas in OVX group.



Appendix 5.3.4 The isometric tension changes of noradrenaline-precontracted aortic relaxation due to sodium nitroprusside (SNP) stimulation in isolated rat thoracic aortas in Sham group.



Appendix 6

Preparation of reagents

Modified Krebs-Henseleit (KHS) buffer solution

Compositions of Modified Krebs-Henseleit (KHS) buffer solution were consisted of 119 mM Nacl, 4.7 mM KCl, 2.5 mM $CaCl_2.2H_2O$, 1 mM $MgSO_4.7H_2O$, 25 mM $NaHCO_3$, 1.2 mM KH_2PO_4 and 11.2 mM Glucose.

The solution was continuously bubbled with carbogen gas (95% O_2 + 5% CO_2) and maintained temperature at 37 C°, acid-base status at pH 7.4 throughout the experiments.

Vascular functions testing solutions

Noradrenaline (NA)

Noradrenaline working solutions (10^{-6} M to 10^{-1} M) were prepared to obtain the final concentration of 25 µl noradrenaline (10^{-9} M to 10^{-4} M) in 25 ml organ bath. Ascorbic acid (10^{-4} M) was used as an antioxidant in these working solutions.

Acetylcholine (Ach)

Acetylcholine (10^{-6} M to 10^{-1} M) were used as working solutions to obtain the final concentration of 25 µl acetylcholine (10^{-9} M to 10^{-4} M) in 25 ml organ chamber.

Sodium nitroprusside (SNP)

Sodium nitroprusside working solutions (10^{-6} M to 10^{-1} M) were prepared to obtain the desired concentration of 25 µl sodium nitroprusside (10^{-9} M to 10^{-4} M) in 25 ml organ bath.

Decalcifying agents

Solution A (20% sodium citrate) and solution B (45% formic acid) were used as bone decalcifying agents. The equal volumes of both solutions were mixed freshly and used in bone decalcification process. Mixed solution was changed every 1-3 days until the bones were softened.

Griess reagents

Color reagent 1 (1% sulfanilamide [p-Aminobenzenesulfonamide] in 3N HCl) and color reagent 2 (0.1% NNED [N-(1-Naphthyl) ethylenediamine dihydrochloride]) were used as Griess reagents to determine plasma nitric oxide level in colorimetric non-enzymatic assay.

Appendix 7

เลขที่ .....60/ 2549.....

คณะสัตวแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
ใบอนุญาตให้ใช้สัตว์ใน
งานวิจัย งานทดสอบ งานผลิตชีววัตถุ งานสอน และงานอื่น ๆ

ใบอนุญาตนี้ให้ไว้เพื่อแสดงว่าคณะกรรมการควบคุมดูแลการเลี้ยงและการใช้สัตว์เพื่องานทางวิทยาศาสตร์ คณะสัตวแพทยศาตร์ จุฬาลงกรณ์มหาวิทยาลัย ได้พิจารณาโครงการวิจัย เรื่อง "ผลของกวาวเครือขาว (*Pueraria mirifica*) ต่อการทำงานและการเปลี่ยนแปลงทางพยาธิสภาพของหลอดเลือดแดงใหญ่และกระดูกในหนูขาวที่ผ่าตัดเอารังไข่ออก" *ซึ่งมีรองศาสตราจารย์ ภญ ดร.สุพัตรา ศรีไชยรัตน์* เป็นหัวหน้าหรือเจ้าของโครงการแล้วเห็นสมควรอนุญาตให้ดำเนินการตามโครงการนี้ได้ โดยมีเงื่อนไขว่าผู้ใช้สัตว์ในความรับผิดชอบของโครงการต้องปฏิบัติตามข้อมูลที่กรอกในแบบฟอร์มขออนุญาตใช้สัตว์ที่ คณะสัตวแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย สำหรับการวิจัยอย่างเคร่งครัด กรณีที่มีการปฏิบัติอย่างหนึ่งอย่างใด นอกเหนือจากที่ระบุในแบบฟอร์มขออนุญาตและเสนอในโครงการ คณะกรรมการควบคุมดูแลการเลี้ยงและการใช้สัตว์เพื่องานทางวิทยาศาสตร์จะดำเนินการงดใบอนุญาตฯ นี้ และแจ้งหน่วยงานที่เกี่ยวข้องทราบ

ลงนาม.....
(ผู้ช่วยศาสตราจารย์ น.สพ.ดร.สุวรรณเกียรติ สว่างคุณ)
ประธานคณะกรรมการควบคุมดูแลการเลี้ยงและ
การใช้สัตว์เพื่องานทางวิทยาศาสตร์

ลงนาม.....
(รองศาสตราจารย์ สพ.ญ.ดร.เจนนุช ว่องธวัชชัย)
รองคณบดีฝ่ายวิจัยและบริการวิชาการ

วันที่ออกใบอนุญาต....27.....ธันวาคม 2549.....
วันที่หมดอายุ.....26.....ธันวาคม 2550.....

BIOGRAPHY

Mr. Chenphop Sawangmake was born in November 30, 1979 in Nan province, Thailand. He graduated with Doctor of Veterinary Medicine (D.V.M.) in 2004 from the Faculty of Veterinary Medicine, Chiang Mai University, Chiang Mai, Thailand. After graduation, he worked as a clinical practitioner in Yindee small animal hospital, Samparn, Nakornprathom.

He studied in Master of Science Program in Veterinary Pharmacology, Department of Veterinary Pharmacology, Faculty of Veterinary Science, Chulalongkorn University in academic year 2005.