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APPENDICES

Table 3 Locomotor activity of mice (count/10 min).

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	830.00	925.00	886.00	818.00	772.00	731.00
2	772.00	729.00	748.00	764.00	942.00	839.00
3	814.00	877.00	744.00	680.00	690.00	962.00
4	756.00	825.00	836.00	710.00	948.00	701.00
5	766.00	949.00	579.00	758.00	811.00	819.00
6	853.00	995.00	715.00	617.00	806.00	722.00
7	695.00	708.00	969.00	858.00	791.00	864.00
8	717.00	893.00	898.00	925.00	730.00	729.00

Table 4 Percent alternation behavior on Y-maze task of mice.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	63.93	58.70	72.97	65.22	68.09	69.44
2	76.47	57.89	74.32	87.50	82.00	55.26
3	66.00	56.10	78.38	63.64	58.14	57.14
4	67.92	51.43	87.88	76.09	71.93	69.23
5	60.00	45.28	74.36	60.71	82.46	66.67
6	64.44	53.85	72.55	76.19	72.73	63.41
7	61.54	51.52	87.80	81.82	69.57	63.33
8	74.00	61.19	75.51	69.70	72.50	71.43

Table 5 Total number of arm entry in Y-maze task of mice.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	63.00	52.00	38.00	48.00	43.00	38.00
2	53.00	50.00	47.00	34.00	53.00	78.00
3	50.00	43.00	40.00	46.00	45.00	37.00
4	52.00	72.00	43.00	59.00	59.00	41.00
5	32.00	60.00	41.00	30.00	52.00	62.00
6	48.00	54.00	53.00	44.00	54.00	47.00
7	54.00	68.00	57.00	46.00	48.00	62.00
8	61.00	69.00	41.00	35.00	45.00	51.00

Table 6 Escape latency time (sec) in water maze task on day 9 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	28.11	53.40	40.61	31.02	29.51	20.95
2	26.91	49.04	32.82	35.81	30.90	36.36
3	30.06	52.24	30.22	30.39	30.05	43.72
4	36.51	51.56	30.45	40.43	29.91	34.64
5	43.65	48.71	40.55	34.41	32.91	41.02
6	28.67	50.16	43.71	42.84	27.99	55.98
7	30.24	44.08	34.12	42.74	33.33	35.99
8	30.73	43.78	30.63	41.07	25.68	60.00

Table 7 Escape latency time (sec) in water maze task on day 10 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	10.29	24.54	14.00	10.88	10.18	4.91
2	9.64	18.84	11.27	16.23	10.13	18.75
3	5.24	22.73	10.62	11.78	8.60	22.08
4	7.08	16.88	16.47	9.26	10.63	16.40
5	6.31	16.61	9.06	18.19	9.20	19.85
6	13.73	27.04	15.13	9.37	9.78	13.79
7	10.50	23.57	15.51	13.16	9.91	7.19
8	9.30	33.05	15.17	16.40	11.64	38.21

Table 8 Escape latency time (sec) in water maze task on day 11 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	5.86	14.91	7.17	8.76	6.32	8.49
2	10.25	10.37	8.48	6.38	9.23	8.00
3	8.63	18.43	8.90	8.41	10.79	5.17
4	4.28	13.89	10.61	9.83	5.81	6.74
5	3.56	14.06	9.96	9.68	13.62	9.58
6	7.94	16.36	11.29	8.88	6.99	4.84
7	12.05	15.79	10.70	4.82	8.60	9.26
8	9.22	15.06	7.64	16.98	6.15	12.17

Table 9 Escape latency time (sec) in water maze task on day 12 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	7.49	8.68	7.54	4.39	4.20	5.19
2	7.85	7.59	6.47	6.01	5.91	10.93
3	7.73	10.95	7.40	7.15	3.62	8.81
4	5.01	9.94	4.57	7.81	6.88	6.72
5	5.84	11.75	5.14	5.30	4.87	9.99
6	4.07	8.69	7.97	5.90	4.98	8.74
7	5.67	11.60	4.78	9.23	6.80	3.88
8	5.10	11.84	8.08	5.41	6.00	12.18

Table 10 Escape latency time (sec) in water maze task on day 13 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	6.72	8.89	4.41	5.18	3.50	7.33
2	5.54	6.11	4.35	4.54	3.94	8.09
3	6.15	8.68	4.53	2.81	5.00	7.64
4	5.05	10.04	3.97	5.64	3.41	8.60
5	4.45	9.40	5.61	6.89	3.37	8.76
6	6.50	5.35	2.36	3.59	3.46	3.88
7	3.67	8.54	6.17	4.55	4.51	7.99
8	2.56	6.43	5.95	7.95	4.34	8.26

Table 11 Probe test - Time spent in the platform quadrant (sec) in water maze task on day 13 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	21.01	16.49	24.53	16.59	21.48	20.10
2	20.00	14.94	20.36	24.28	20.19	17.60
3	20.89	19.87	18.63	18.53	22.44	17.62
4	18.05	13.95	19.82	19.46	19.33	17.57
5	20.19	12.43	19.97	17.50	20.73	18.00
6	18.54	17.88	22.96	20.74	19.57	17.16
7	18.38	17.57	20.49	18.05	18.55	17.11
8	19.15	15.70	20.96	22.07	22.60	18.00

Table 12 Escape latency time (sec) in water maze task on day 14 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	11.03	9.46	12.53	9.48	8.15	6.05
2	2.21	25.02	13.36	6.35	18.61	14.26
3	3.29	11.12	4.34	5.93	11.99	21.45
4	2.58	3.89	9.52	10.48	9.72	8.13
5	14.40	22.16	8.17	6.24	4.60	4.79
6	8.16	5.58	6.60	34.34	15.27	6.91
7	13.12	14.03	4.84	3.88	17.03	18.19
8	17.10	7.93	9.18	8.84	2.10	21.78

Table 13 Escape latency time (sec) in water maze task on day 15 after $A\beta_{25\text{-}35}$ injection.

Number	Control	$A\beta_{25\text{-}35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	6.42	4.67	9.82	10.67	15.82	20.85
2	13.68	20.22	10.34	9.06	9.69	3.56
3	8.09	6.71	10.04	7.33	22.49	16.82
4	17.20	7.47	8.89	4.79	7.34	14.93
5	17.58	6.93	8.47	6.41	16.45	8.24
6	10.21	6.16	4.95	12.59	21.47	11.58
7	6.86	11.03	8.18	4.48	6.29	6.42
8	9.74	13.90	4.61	15.90	11.73	10.84

Table 14 Escape latency time (sec) in water maze task on day 16 after $A\beta_{25\text{-}35}$ injection.

Number	Control	$A\beta_{25\text{-}35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	4.09	28.70	10.46	4.90	13.76	10.36
2	9.44	7.73	12.85	8.82	6.30	8.90
3	5.77	14.71	8.36	8.01	3.55	9.42
4	8.19	6.46	11.42	12.83	9.79	4.72
5	4.89	7.04	5.54	6.24	2.42	10.93
6	6.05	15.09	5.03	3.53	7.59	10.14
7	6.04	8.38	12.69	14.24	11.73	12.31
8	4.43	14.01	5.44	10.16	13.83	5.18

Table 15 Step-through latency (sec) in passive avoidance task on day 18 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	9.81	21.46	5.23	159.34	68.29	13.33
2	84.65	71.59	4.24	98.87	48.92	15.50
3	149.36	139.83	2.50	7.55	6.73	6.27
4	38.37	10.67	4.21	84.65	300.00	27.30
5	29.41	106.74	2.26	14.81	300.00	300.00
6	13.16	30.75	300.00	40.69	101.17	13.86
7	13.47	11.81	70.09	300.00	300.00	57.37
8	98.87	300.00	198.63	123.63	300.00	15.25

Table 16 Protein concentration of cerebral cortex by Bradford's reagent assay.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	25.55	30.24	20.55	18.72	29.53	29.69
2	29.42	24.29	27.91	24.65	28.24	24.71
3	23.77	25.20	28.66	25.76	24.23	26.39
4	26.33	27.71	23.51	25.22	26.37	24.82
5	22.91	28.56	25.39	28.37	26.84	22.82
6	30.24	28.66	24.73	23.43	28.31	28.24
7	26.88	23.70	24.29	24.65	26.88	26.90
8	21.66	25.24	29.00	28.20	29.17	26.79

Unit expressed as mg protein/g cortex weight.

Table 17 Malondialdehyde in cerebral cortex of mice.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	11.19	14.46	15.60	9.41	11.79	11.92
2	8.87	16.97	10.99	12.44	13.71	11.68
3	9.22	17.51	11.48	10.13	11.11	12.57
4	10.02	16.93	11.69	9.68	12.42	11.46
5	13.50	18.52	13.66	8.17	11.84	11.67
6	12.16	17.10	14.09	10.07	10.64	16.47
7	9.08	18.04	12.63	11.14	11.30	14.70
8	9.74	18.75	11.82	8.51	12.27	14.51

Unit expressed as nmol/mg protein.

Table 18 Total glutathione in cerebral cortex of mice.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	48.37	38.00	41.84	62.97	49.94	24.64
2	50.03	32.72	52.71	36.29	45.19	33.80
3	46.06	28.32	62.40	44.61	43.04	30.12
4	38.57	28.47	50.14	49.68	46.60	53.69
5	37.60	29.83	40.91	47.49	51.18	21.68
6	47.03	36.26	38.03	46.08	38.73	32.96
7	43.74	24.29	59.53	42.14	39.33	37.04
8	41.06	30.24	51.21	43.28	43.98	27.88

Unit expressed as nmol/mg protein.

Table 9 Escape latency time (sec) in water maze task on day 12 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	7.49	8.68	7.54	4.39	4.20	5.19
2	7.85	7.59	6.47	6.01	5.91	10.93
3	7.73	10.95	7.40	7.15	3.62	8.81
4	5.01	9.94	4.57	7.81	6.88	6.72
5	5.84	11.75	5.14	5.30	4.87	9.99
6	4.07	8.69	7.97	5.90	4.98	8.74
7	5.67	11.60	4.78	9.23	6.80	3.88
8	5.10	11.84	8.08	5.41	6.00	12.18

Table 10 Escape latency time (sec) in water maze task on day 13 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	6.72	8.89	4.41	5.18	3.50	7.33
2	5.54	6.11	4.35	4.54	3.94	8.09
3	6.15	8.68	4.53	2.81	5.00	7.64
4	5.05	10.04	3.97	5.64	3.41	8.60
5	4.45	9.40	5.61	6.89	3.37	8.76
6	6.50	5.35	2.36	3.59	3.46	3.88
7	3.67	8.54	6.17	4.55	4.51	7.99
8	2.56	6.43	5.95	7.95	4.34	8.26

Table 11 Probe test - Time spent in the platform quadrant (sec) in water maze task on day 13 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	21.01	16.49	24.53	16.59	21.48	20.10
2	20.00	14.94	20.36	24.28	20.19	17.60
3	20.89	19.87	18.63	18.53	22.44	17.62
4	18.05	13.95	19.82	19.46	19.33	17.57
5	20.19	12.43	19.97	17.50	20.73	18.00
6	18.54	17.88	22.96	20.74	19.57	17.16
7	18.38	17.57	20.49	18.05	18.55	17.11
8	19.15	15.70	20.96	22.07	22.60	18.00

Table 12 Escape latency time (sec) in water maze task on day 14 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	11.03	9.46	12.53	9.48	8.15	6.05
2	2.21	25.02	13.36	6.35	18.61	14.26
3	3.29	11.12	4.34	5.93	11.99	21.45
4	2.58	3.89	9.52	10.48	9.72	8.13
5	14.40	22.16	8.17	6.24	4.60	4.79
6	8.16	5.58	6.60	34.34	15.27	6.91
7	13.12	14.03	4.84	3.88	17.03	18.19
8	17.10	7.93	9.18	8.84	2.10	21.78

Table 13 Escape latency time (sec) in water maze task on day 15 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	6.42	4.67	9.82	10.67	15.82	20.85
2	13.68	20.22	10.34	9.06	9.69	3.56
3	8.09	6.71	10.04	7.33	22.49	16.82
4	17.20	7.47	8.89	4.79	7.34	14.93
5	17.58	6.93	8.47	6.41	16.45	8.24
6	10.21	6.16	4.95	12.59	21.47	11.58
7	6.86	11.03	8.18	4.48	6.29	6.42
8	9.74	13.90	4.61	15.90	11.73	10.84

Table 14 Escape latency time (sec) in water maze task on day 16 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	4.09	28.70	10.46	4.90	13.76	10.36
2	9.44	7.73	12.85	8.82	6.30	8.90
3	5.77	14.71	8.36	8.01	3.55	9.42
4	8.19	6.46	11.42	12.83	9.79	4.72
5	4.89	7.04	5.54	6.24	2.42	10.93
6	6.05	15.09	5.03	3.53	7.59	10.14
7	6.04	8.38	12.69	14.24	11.73	12.31
8	4.43	14.01	5.44	10.16	13.83	5.18

Table 15 Step-through latency (sec) in passive avoidance task on day 18 after $A\beta_{25-35}$ injection.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	9.81	21.46	5.23	159.34	68.29	13.33
2	84.65	71.59	4.24	98.87	48.92	15.50
3	149.36	139.83	2.50	7.55	6.73	6.27
4	38.37	10.67	4.21	84.65	300.00	27.30
5	29.41	106.74	2.26	14.81	300.00	300.00
6	13.16	30.75	300.00	40.69	101.17	13.86
7	13.47	11.81	70.09	300.00	300.00	57.37
8	98.87	300.00	198.63	123.63	300.00	15.25

Table 16 Protein concentration of cerebral cortex by Bradford's reagent assay.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	25.55	30.24	20.55	18.72	29.53	29.69
2	29.42	24.29	27.91	24.65	28.24	24.71
3	23.77	25.20	28.66	25.76	24.23	26.39
4	26.33	27.71	23.51	25.22	26.37	24.82
5	22.91	28.56	25.39	28.37	26.84	22.82
6	30.24	28.66	24.73	23.43	28.31	28.24
7	26.88	23.70	24.29	24.65	26.88	26.90
8	21.66	25.24	29.00	28.20	29.17	26.79

Unit expressed as mg protein/g cortex weight.

Table 17 Malondialdehyde in cerebral cortex of mice.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	11.19	14.46	15.60	9.41	11.79	11.92
2	8.87	16.97	10.99	12.44	13.71	11.68
3	9.22	17.51	11.48	10.13	11.11	12.57
4	10.02	16.93	11.69	9.68	12.42	11.46
5	13.50	18.52	13.66	8.17	11.84	11.67
6	12.16	17.10	14.09	10.07	10.64	16.47
7	9.08	18.04	12.63	11.14	11.30	14.70
8	9.74	18.75	11.82	8.51	12.27	14.51

Unit expressed as nmol/mg protein.

Table 18 Total glutathione in cerebral cortex of mice.

Number	Control	$A\beta_{25-35}$ 9 nmol	+ AS 5 mg/kg/day	+ AS 10 mg/kg/day	+ AS 25 mg/kg/day	+ AS 50 mg/kg/day
1	48.37	38.00	41.84	62.97	49.94	24.64
2	50.03	32.72	52.71	36.29	45.19	33.80
3	46.06	28.32	62.40	44.61	43.04	30.12
4	38.57	28.47	50.14	49.68	46.60	53.69
5	37.60	29.83	40.91	47.49	51.18	21.68
6	47.03	36.26	38.03	46.08	38.73	32.96
7	43.74	24.29	59.53	42.14	39.33	37.04
8	41.06	30.24	51.21	43.28	43.98	27.88

Unit expressed as nmol/mg protein.

Table 19 The cerebral cortex weight of control mice

Number	Cortex weight (g)
1	0.24
2	0.26
3	0.27
4	0.25
5	0.26
6	0.26
7	0.29
8	0.25

Table 20 The cerebral cortex weight of $A\beta_{25-35}$ -injected mice + asiaticoside 0 mg/kg/day

Number	Cortex weight (g)
1	0.21
2	0.28
3	0.29
4	0.25
5	0.27
6	0.31
7	0.21
8	0.26

Table 21 The cerebral cortex weight of $A\beta_{25-35}$-injected mice + asiaticoside 5 mg/kg/day

Number	Cortex weight (g)
1	0.25
2	0.25
3	0.27
4	0.30
5	0.33
6	0.29
7	0.24
8	0.30

Table 22 The cerebral cortex weight of $A\beta_{25-35}$ -injected mice + asiaticoside 10 mg/kg/day

Number	Cortex weight (g)
1	0.29
2	0.25
3	0.24
4	0.27
5	0.25
6	0.29
7	0.23
8	0.29

Table 23 The cerebral cortex weight of $A\beta_{25\text{-}35}$-injected mice + asiaticoside 25 mg/kg/day

Number	Cortex weight (g)
1	0.23
2	0.25
3	0.29
4	0.24
5	0.25
6	0.24
7	0.27
8	0.24

Table 24 The cerebral cortex weight of $A\beta_{25\text{-}35}$-injected mice + asiaticoside 50 mg/kg/day

Number	Cortex weight (g)
1	0.29
2	0.25
3	0.24
4	0.27
5	0.25
6	0.29
7	0.29
8	0.23

VITAE

Miss Anuch Salout was born in 23 May 1976 at Pitsanuloke. She has graduated the bachelor degree in Pharmacy from Naresuan University since 1999. She started to work as a pharmacist in Siridhorn College of Public Health, Pitsanuloke for a year. Consequently, move to a branch office, Chonburi. She has enrolled for the master's degree in Pharmacology at the Department of Pharmacology, Faculty of Pharmaceutical Sciences, Chulalongkorn University since June 2001.