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Appendix

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## Appendix

Effects of VPA and HPP on the level of cortical amino acid neurotransmitters

Table 1 Total change of GABA within 180 min after treatment

Group	n	The Mean	Standard Error of the Mean
NSS	5	97.6	4.25
PEG400	5	98.4	5.36
VPA 220	5	95.6	6.53
VPA 440	5	97.4	6.28
HPP 80	5	104.8	6.35
HPP 160	5	103.4	5.88

Table 2 Total change of glycine within 180 min after treatment

Group	n	The Mean	Standard Error of the Mean
NSS	5	103.5	6.93
PEG400	5	104.3	7.67
VPA 220	5	104.5	8.45
VPA 440	5	99.7	8.44
HPP 80	5	105.3	7.68
HPP 160	5	106.2	6.71



## Appendix (cont.)

Table 3 Total change of glutamate within 180 min after treatment

Group	n	The Mean	Standard Error of the Mean
NSS	5	95.62	6.07
PEG400	5	94.24	7.53
VPA 220	5	98.18	8.00
VPA 440	5	74.79*	7.87
HPP 80	5	81.73*	9.05
HPP 160	5	70.84*	8.83

\*  $p < 0.05$  denote statistically significant difference from PEG-400

Table 4 Total change of aspartate within 180 min after treatment

Group	n	The Mean	Standard Error of the Mean
NSS	5	102.48	6.93
PEG400	5	104.36	7.67
VPA 220	5	102.01	8.45
VPA 440	5	93.99	8.44
HPP 80	5	93.21	8.68
HPP 160	5	97.44	7.71

## Appendix (cont.)

Table 5 The level of GABA at various times

Time (min)	NSS	PEG-400	VPA	HPP	High dose VPA	High dose HPP
-40	101.41	100.01	99.96	100.27	99.85	99.70
-20	99.16	99.92	100.34	99.64	100.17	99.89
0	99.78	100.07	99.70	100.10	99.98	100.23
20	98.46	98.42	97.52	98.00	98.47	99.77
40	100.30	97.72	98.48	97.89	102.00	101.38
60	98.60	99.25	98.34	96.36	98.42	98.67
80	101.82	99.69	98.92	98.00	101.00	96.90
100	99.01	99.55	99.75	96.00	98.26	97.91
120	98.70	98.54	99.12	97.49	99.56	99.84
140	98.16	98.24	99.47	98.02	98.87	98.45
160	98.83	98.29	99.64	98.61	101.00	98.64
180	98.83	97.99	99.59	96.99	98.42	98.01

Standard Error of the Mean

Time (min)	NSS	PEG-400	VPA	HPP	High dose VPA	High dose HPP
-40	5.23	3.52	4.30	3.32	4.21	3.26
-20	4.29	4.17	4.10	3.20	4.29	3.25
0	5.20	3.73	4.20	4.20	4.27	4.16
20	4.30	4.34	5.70	4.30	6.15	4.87
40	4.40	4.26	5.10	3.30	4.50	3.90
60	4.83	4.73	5.70	3.30	5.83	3.28
80	4.52	3.71	5.47	3.50	5.80	3.34
100	5.38	3.65	3.32	4.40	4.22	4.97
120	4.05	4.28	4.12	4.50	4.86	4.82
140	4.21	4.13	5.76	3.6	5.43	3.62
160	5.45	4.36	5.60	4.40	5.70	4.34
180	5.23	4.44	5.40	4.30	5.66	4.03

## Appendix (cont.)

Table 6 The level of glycine at various times

Time (min)	NSS	PEG-400	VPA	HPP	High dose VPA	High dose HPP
-40	100.31	99.70	99.96	100.01	99.85	100.27
-20	100.16	99.89	100.34	99.92	100.17	99.64
0	99.78	100.23	99.70	100.07	99.98	100.10
20	98.46	99.77	97.52	98.42	98.47	98.00
40	99.30	101.38	98.48	97.72	98.07	97.89
60	98.60	98.67	98.34	99.25	98.42	96.36
80	98.82	96.90	98.92	99.69	98.03	94.56
100	99.01	97.91	99.75	99.55	98.26	96.27
120	98.70	99.84	99.12	98.54	99.56	97.49
140	98.16	98.45	99.47	98.24	98.87	98.02
160	98.83	98.64	99.64	98.29	97.47	98.61
180	98.83	98.01	99.59	97.99	98.42	96.99

Standard Error of the Mean

Time (min)	NSS	PEG-400	VPA	HPP	High dose VPA	High dose HPP
-40	3.32	0.25	0.16	0.39	0.32	4.30
-20	3.20	0.13	0.22	0.35	0.27	4.10
0	4.20	0.13	0.28	0.28	0.28	4.20
20	4.30	0.26	0.22	5.61	3.42	5.70
40	3.30	0.26	0.52	6.43	3.93	5.10
60	3.30	0.25	0.68	7.29	3.71	5.70
80	3.50	0.04	0.54	6.23	3.78	5.47
100	4.40	0.16	0.39	3.62	4.19	3.32
120	4.50	0.27	0.33	1.97	3.83	4.12
140	3.6	0.25	0.25	2.38	2.65	5.76
160	4.40	0.22	0.50	1.62	2.40	5.60
180	4.30	0.21	0.52	0.75	2.22	5.40



## Appendix (cont.)

Table 7 The level of glutamate at various times

Time (min)	NSS	PEG-400	VPA	HPP	High dose VPA	High dose HPP
-40	100.27	95.00	97.00	100.03	99.85	100.01
-20	102.00	99.82	95.00	100.11	100.17	99.92
0	104.00	103.00	103.00	99.86	99.98	100.07
20	98.00	95.00	99.79	81.53*	92.68	81.95*
40	97.89	102.00	99.84	78.44*	87.73*	74.16*
60	96.36	94.00	94.00	71.63*	82.58*	66.75*
80	98.00	93.00	91.00	73.11*	77.16*	68.60*
100	96.00	95.00	91.00	76.64*	89.00	75.00*
120	97.49	92.00	99.83	84.96*	93.00	80.89*
140	98.02	100.01	99.84	90.92	96.00	87.04
160	98.61	99.84	100.10	91.00	96.50	88.86
180	96.99	99.94	100.05	92.74	97.00	91.52

\*  $p < 0.05$  denote statistically significant difference from 'NSS'

Standard Error of the Mean

Time (min)	NSS	PEG-400	VPA	HPP	High dose VPA	High dose HPP
-40	4.23	3.32	4.30	5.21	4.21	3.26
-20	4.25	3.20	4.10	5.29	4.29	3.25
0	5.20	4.20	4.20	5.20	4.27	4.16
20	5.30	4.30	5.70	6.70	6.15	4.87
40	4.40	3.30	5.10	5.10	4.50	3.90
60	4.00	3.30	5.70	6.70	5.83	3.28
80	4.52	3.50	5.47	6.47	5.80	3.34
100	5.38	4.40	3.32	4.32	4.22	4.97
120	5.05	4.50	4.12	5.12	4.86	4.82
140	4.21	3.60	5.76	6.76	5.43	3.62
160	5.45	4.40	5.60	6.60	5.70	4.34
180	5.23	4.30	5.40	6.40	5.66	4.03

## Appendix (cont.)

Table 8 The level of aspartate at various times

Time (min)	NSS	PEG-400	VPA	HPP	High dose VPA	High dose HPP
-40	100.31	99.70	99.96	100.27	99.85	100.01
-20	100.16	99.89	100.34	99.64	100.17	99.92
0	99.78	100.23	99.70	100.10	99.98	100.07
20	98.46	99.77	97.52	98.00	98.47	98.42
40	99.30	101.38	98.48	97.89	98.07	97.72
60	98.60	98.67	98.34	96.36	98.42	99.25
80	98.82	96.90	98.92	94.56	98.03	99.69
100	99.01	97.91	99.75	93.59	98.26	99.55
120	98.70	99.84	99.12	97.49	99.56	98.54
140	98.16	98.45	99.47	98.02	98.87	98.24
160	98.83	98.64	99.64	98.61	97.47	98.29
180	98.83	98.01	99.59	96.99	98.42	97.99

Standard Error of the Mean

Time (min)	NSS	PEG-400	VPA	HPP	High dose VPA	High dose HPP
-40	2.33	2.84	2.28	3.45	0.21	0.26
-20	2.39	2.69	2.54	3.76	0.29	0.25
0	2.50	2.49	3.32	3.52	0.27	0.16
20	2.60	2.32	2.51	3.38	2.15	1.87
40	2.10	2.89	2.67	3.17	3.50	2.90
60	3.19	4.28	2.45	3.12	1.83	1.28
80	2.56	4.41	2.56	3.60	1.80	0.34
100	3.48	4.22	2.47	3.44	2.22	0.97
120	2.53	4.45	2.96	3.29	1.86	1.82
140	2.74	2.38	3.19	3.01	1.43	0.62
160	2.18	2.19	3.43	2.13	2.70	2.34
180	3.16	2.19	2.67	3.01	1.66	2.03

## Vitae

Miss Sumittra Gomonchareonsiri was born on 24<sup>th</sup> February 1965, in Songkhla, Thailand. She had graduated with Bachelor degree of Nursing, Khon Kaen University in 1990, and Master degree of Science (Physiology), Chiang Mai University in 1996. Now, she is an instructor in the Department of Physiology, Faculty of Medicine, Chiang Mai University.



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