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Appendices

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## Anticonvulsant activity

Table 8 Anticonvulsant activity of ameltolide (i.p.) in MES test

| Dose<br>(mg/kg) | Pretreated time<br>(min) | No. of animals |            |
|-----------------|--------------------------|----------------|------------|
|                 |                          | No protection  | Protection |
| 0.50            | 15                       | 8              | 0          |
|                 | 30                       | 8              | 0          |
|                 | 60                       | 8              | 0          |
| 0.75            | 15                       | 7              | 1          |
|                 | 30                       | 7              | 1          |
|                 | 60                       | 7              | 1          |
| 1.00            | 15                       | 3 (dead 2)     | 5          |
|                 | 30                       | 6              | 2          |
|                 | 60                       | 7              | 1          |
| 1.25            | 15                       | 3              | 5          |
|                 | 30                       | 2              | 6          |
|                 | 60                       | 4              | 4          |
| 1.50            | 15                       | 1              | 7          |
|                 | 30                       | 1              | 7          |
|                 | 60                       | 6              | 2          |

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Table 9 Anticonvulsant activity of CU-17-06 (i.p.) in MES test

| Dose<br>(mg/kg) | Pretreated time<br>(min) | No. of animals |            |
|-----------------|--------------------------|----------------|------------|
|                 |                          | No protection  | Protection |
| 50              | 15                       | 6              | 2          |
|                 | 30                       | 6              | 2          |
|                 | 60                       | 7(dead 2)      | 1          |
| 75              | 15                       | 6(dead 2)      | 2          |
|                 | 30                       | 4              | 4          |
|                 | 60                       | 5(dead 1)      | 3          |
| 100             | 15                       | 4(dead 1)      | 4          |
|                 | 30                       | 3(dead 1)      | 5          |
|                 | 60                       | 5(dead 1)      | 3          |
| 125             | 15                       | 3(dead 1)      | 5          |
|                 | 30                       | 2              | 6          |
|                 | 60                       | 4(dead 1)      | 4          |
| 150             | 15                       | 1(dead)        | 7          |
|                 | 30                       | 4              | 4          |
|                 | 60                       | 3              | 5          |

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Table 10 Anticonvulsant activity of ameltolide (i.p.) in PTZ test

| Dose<br>(mg/kg) | Pretreated time<br>(min) | No. of animals |            |
|-----------------|--------------------------|----------------|------------|
|                 |                          | No protection  | Protection |
| 3               | 30                       | 4              | 0          |
| 6               | 30                       | 4              | 0          |
| 8               | 30                       | 4              | 0          |

Table 11 Anticonvulsant activity of CU-17-06 (i.p.) in PTZ test

| Dose<br>(mg/kg) | Pretreated time<br>(min) | No. of animals |            |
|-----------------|--------------------------|----------------|------------|
|                 |                          | No protection  | Protection |
| 150             | 30                       | 4              | 0          |
| 300             | 30                       | 4              | 0          |
| 600             | 30                       | 4              | 0          |

Table 12 Duration of action of ameltolide in 3 hours

| Dose<br>(mg/kg) | Pretreated time<br>(min) | No. of animals |            |
|-----------------|--------------------------|----------------|------------|
|                 |                          | No protection  | Protection |
| 2               | 30                       | 7              | 1          |
| 3               | 30                       | 6              | 2          |
| 3.5             | 30                       | 5              | 3          |
| 4               | 30                       | 2              | 6          |

Table 13 Duration of action of ameltolide in 6 hours

| Dose<br>(mg/kg) | Pretreated time<br>(min) | No. of animals |            |
|-----------------|--------------------------|----------------|------------|
|                 |                          | No protection  | Protection |
| 6               | 30                       | 7 (dead 2)     | 1          |
| 8               | 30                       | 5              | 3          |
| 10              | 30                       | 4              | 4          |
| 12              | 30                       | 3              | 5          |

Table 14 Duration of action of CU-17-06 in 3 hours

| Dose<br>(mg/kg) | Pretreated time<br>(min) | No. of animals |            |
|-----------------|--------------------------|----------------|------------|
|                 |                          | No protection  | Protection |
| 150             | 30                       | 5              | 3          |
| 300             | 30                       | 4              | 4          |
| 450             | 30                       | 3              | 5          |
| 600             | 30                       | 2              | 6          |

Table 15 Duration of action of CU-17-06 in 6 hours

| Dose<br>(mg/kg) | Pretreated time<br>(min) | No. of animals |            |
|-----------------|--------------------------|----------------|------------|
|                 |                          | No protection  | Protection |
| 300             | 30                       | 6              | 2          |
| 450             | 30                       | 5              | 3          |
| 600             | 30                       | 3              | 5          |
| 800             | 30                       | 1              | 7          |

## Toxicity

Table 16 Acute toxicity (lethality) of ameltolide and CU-17-06 within 72 hours

| Substance  | Dose<br>(Mg/kg) | No. Of animals |          |
|------------|-----------------|----------------|----------|
|            |                 | Dead           | Survival |
| ameltolide | 60              | 3              | 5        |
|            | 65              | 5              | 3        |
|            | 70              | 6              | 2        |
| CU-17-06   | 600             | 0              | 8        |
|            | 800             | 0              | 8        |
|            | 1,000           | 0              | 8        |

Table 17 Neurotoxicity of ameltolide and CU-17-06 (i.p.) by rotarod test

| Substance  | Dose<br>(Mg/kg) | No. of animals                     |                                 |
|------------|-----------------|------------------------------------|---------------------------------|
|            |                 | In able to maintaining on rotating | Able to maintaining on rotating |
| ameltolide | 6               | 2                                  | 6                               |
|            | 8               | 3                                  | 5                               |
|            | 10              | 4                                  | 4                               |
|            | 12              | 6                                  | 2                               |
| CU-17-06   | 150             | 2                                  | 6                               |
|            | 300             | 3                                  | 5                               |
|            | 450             | 5                                  | 3                               |
|            | 600             | 6                                  | 2                               |

Effect of ameltolide and CU-17-06 on the release of cortical amino acid neurotransmitters

Table 18 Total amount of aspartate within 180 min after injection

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 100.15   | 33.21              | 14.85                      |
| PEG 400           | 5     | 123.54   | 57.44              | 25.68                      |
| CU-17-06 (77.62)  | 5     | 103.35   | 26.21              | 11.72                      |
| CU-17-06 (155.24) | 5     | 83.42    | 43.61              | 19.50                      |
| Ameltolide (1.08) | 5     | 88.85    | 41.39              | 18.51                      |
| Ameltolide (2.16) | 5     | 110.27   | 22.64              | 10.12                      |

Table 19 Total amount of glutamate within 180 min after injection

|                   | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 78.46    | 18.78              | 8.40                       |
| PEG 400           | 5     | 109.01   | 25.51              | 11.41                      |
| CU-17-06 (77.62)  | 5     | 63.87    | 31.84              | 14.24                      |
| CU-17-06 (155.24) | 5     | 93.03    | 40.51              | 18.11                      |
| Ameltolide (1.08) | 5     | 99.10    | 53.45              | 23.90                      |
| Ameltolide (2.16) | 5     | 66.15    | 45.82              | 20.49                      |

Table 20 Total amount of glycine within 180 min after injection

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 95.06    | 24.74              | 11.06                      |
| PEG 400           | 5     | 86.68    | 32.59              | 14.57                      |
| CU-17-06 (77.62)  | 5     | 82.16    | 15.54              | 6.95                       |
| CU-17-06 (155.24) | 5     | 97.86    | 36.71              | 16.41                      |
| Ameltolide (1.08) | 5     | 67.55    | 10.73              | 4.79                       |
| Ameltolide (2.16) | 5     | 96.18    | 36.76              | 16.44                      |

Table 21 Total amount of GABA within 180 min after injection

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 114.16   | 54.69              | 24.45                      |
| PEG 400           | 5     | 96.70    | 54.72              | 24.47                      |
| CU-17-06 (77.62)  | 5     | 49.00    | 18.77              | 8.39                       |
| CU-17-06 (155.24) | 5     | 68.76    | 38.79              | 17.34                      |
| Ameltolide (1.08) | 5     | 87.96    | 45.45              | 20.32                      |
| Ameltolide (2.16) | 5     | 110.82   | 25.57              | 11.43                      |

## Amount of aspartate at various times

Table 22 (20 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 9.43     | 6.86               | 3.07                       |
| PEG 400           | 5     | 19.60    | 34.00              | 15.20                      |
| CU-17-06 (77.62)  | 5     | 2.85     | 1.82               | 0.817                      |
| CU-17-06 (155.24) | 5     | 4.18     | 2.21               | 0.99                       |
| Ameltolide (1.08) | 5     | 7.06     | 6.55               | 2.92                       |
| Ameltolide (2.16) | 5     | 7.65     | 6.46               | 2.88                       |

Table 23(40 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 12.04    | 7.79               | 3.48                       |
| PEG 400 <sup>a</sup>           | 5     | 5.06     | 3.23               | 1.44                       |
| CU-17-06 <sup>b</sup> (77.62)  | 5     | 3.96     | 2.18               | 0.97                       |
| CU-17-06 <sup>c</sup> (155.24) | 5     | 3.25     | 0.96               | 0.43                       |
| Ameltolide <sup>d</sup> (1.08) | 5     | 5.11     | 1.98               | 0.88                       |
| Ameltolide <sup>a</sup> (2.16) | 5     | 5.13     | 4.19               | 1.87                       |

<sup>a,b,c,d</sup> p < 0.05 denote statistically significant from NSS



Table 24 (60 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 10.84    | 5.23               | 2.34                       |
| PEG 400           | 5     | 14.58    | 21.50              | 9.61                       |
| CU-17-06 (77.62)  | 5     | 2.94     | 1.08               | 0.48                       |
| CU-17-06 (155.24) | 5     | 3.98     | 1.54               | 0.69                       |
| Ameltolide (1.08) | 5     | 5.95     | 3.13               | 1.40                       |
| Ameltolide (2.16) | 5     | 4.86     | 0.94               | 0.42                       |

Table 25 (80 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 7.00     | 3.68               | 1.64                       |
| PEG 400                        | 5     | 9.42     | 8.12               | 3.63                       |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 3.09     | 1.31               | 0.58                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 3.20     | 1.16               | 0.51                       |
| Ameltolide (1.08)              | 5     | 6.03     | 4.72               | 2.11                       |
| Ameltolide (2.16)              | 5     | 4.38     | 1.69               | 0.75                       |

<sup>a,b</sup>p < 0.05 denote statistically significant from NSS

Table 26 (100 min after injection)

| Group                         | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------------------|-------|----------|--------------------|----------------------------|
| NSS                           | 5     | 10.07    | 7.33               | 3.27                       |
| PEG 400                       | 5     | 6.52     | 5.29               | 2.36                       |
| CU-17-06 <sup>a</sup> (77.62) | 5     | 3.87     | 1.75               | 0.78                       |
| CU-17-06 (155.24)             | 5     | 4.35     | 1.57               | 0.70                       |
| Ameltolide (1.08)             | 5     | 6.60     | 3.65               | 1.63                       |
| Ameltolide (2.16)             | 5     | 4.75     | 1.47               | 0.65                       |

<sup>a</sup>p < 0.05 denote statistically significant from NSS

Table 27 (120 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 7.60     | 5.55               | 2.48                       |
| PEG 400           | 5     | 9.75     | 10.69              | 4.78                       |
| CU-17-06 (77.62)  | 5     | 2.57     | 1.35               | 0.60                       |
| CU-17-06 (155.24) | 5     | 3.52     | 2.03               | 0.91                       |
| Ameltolide (1.08) | 5     | 5.83     | 3.27               | 1.46                       |
| Ameltolide (2.16) | 5     | 5.07     | 1.74               | 0.78                       |

Table 28 (140 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 9.01     | 6.48               | 2.90                       |
| PEG 400           | 5     | 24.04    | 38.61              | 17.26                      |
| CU-17-06 (77.62)  | 5     | 5.05     | 3.94               | 1.76                       |
| CU-17-06 (155.24) | 5     | 3.20     | 1.43               | 0.64                       |
| Ameltolide (1.08) | 5     | 7.32     | 3.21               | 1.43                       |
| Ameltolide (2.16) | 5     | 4.87     | 1.47               | 0.66                       |

Table 29 (160 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 10.55    | 10.52              | 4.70                       |
| PEG 400           | 5     | 10.58    | 10.30              | 4.60                       |
| CU-17-06 (77.62)  | 5     | 3.96     | 1.83               | 0.81                       |
| CU-17-06 (155.24) | 5     | 2.60     | 1.32               | 0.59                       |
| Ameltolide (1.08) | 5     | 5.40     | 4.91               | 2.19                       |
| Ameltolide (2.16) | 5     | 10.46    | 8.11               | 3.62                       |

Table 30 (180 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 7.21     | 6.67               | 2.98                       |
| PEG 400           | 5     | 20.60    | 37.84              | 16.92                      |
| CU-17-06 (77.62)  | 5     | 3.30     | 1.05               | 0.47                       |
| CU-17-06 (155.24) | 5     | 2.79     | 1.85               | 0.82                       |
| Ameltolide (1.08) | 5     | 7.31     | 2.34               | 1.05                       |
| Ameltolide (2.16) | 5     | 6.97     | 1.90               | 0.85                       |

Amount of glutamate at various times

Table 31 (20 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 20.16    | 8.93               | 3.99                       |
| PEG 400                        | 5     | 23.00    | 25.08              | 11.21                      |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 6.31     | 3.03               | 1.35                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 8.34     | 6.78               | 3.03                       |
| Ameltolide (1.08)              | 5     | 26.55    | 18.11              | 8.09                       |
| Ameltolide (2.16)              | 5     | 30.14    | 16.15              | 7.22                       |

<sup>a,b</sup>p < 0.05 denote statistically significant from ameltolide (2.16)

Table 32 (40 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 30.35    | 20.50              | 9.16                       |
| PEG 400           | 5     | 16.47    | 13.01              | 5.81                       |
| CU-17-06 (77.62)  | 5     | 17.61    | 21.87              | 9.78                       |
| CU-17-06 (155.24) | 5     | 8.32     | 5.85               | 2.61                       |
| Ameltolide (1.08) | 5     | 13.03    | 3.13               | 1.40                       |
| Ameltolide (2.16) | 5     | 26.12    | 17.37              | 7.77                       |

Table 33 (60 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 19.78    | 11.59              | 5.18                       |
| PEG 400           | 5     | 18.75    | 10.98              | 4.91                       |
| CU-17-06 (77.62)  | 5     | 12.57    | 8.71               | 3.89                       |
| CU-17-06 (155.24) | 5     | 7.32     | 4.02               | 1.79                       |
| Ameltolide (1.08) | 5     | 25.35    | 15.35              | 6.86                       |
| Ameltolide (2.16) | 5     | 25.22    | 18.04              | 8.07                       |

Table 34 (80 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 22.98    | 14.79              | 6.61                       |
| PEG 400           | 5     | 26.75    | 20.59              | 9.20                       |
| CU-17-06 (77.62)  | 5     | 8.40     | 3.29               | 1.47                       |
| CU-17-06 (155.24) | 5     | 15.56    | 18.00              | 8.05                       |
| Ameltolide (1.08) | 5     | 22.73    | 20.30              | 9.08                       |
| Ameltolide (2.16) | 5     | 14.99    | 4.93               | 2.20                       |

Table 35 (100 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 16.66    | 12.60              | 5.63                       |
| PEG 400           | 5     | 26.24    | 34.37              | 15.37                      |
| CU-17-06 (77.62)  | 5     | 8.85     | 5.05               | 2.46                       |
| CU-17-06 (155.24) | 5     | 7.80     | 3.07               | 1.37                       |
| Ameltolide (1.08) | 5     | 19.08    | 13.95              | 6.24                       |
| Ameltolide (2.16) | 5     | 18.01    | 4.07               | 1.82                       |

Table 36 (120 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 22.06    | 22.76              | 10.18                      |
| PEG 400           | 5     | 17.87    | 11.54              | 5.16                       |
| CU-17-06 (77.62)  | 5     | 11.54    | 10.47              | 4.68                       |
| CU-17-06 (155.24) | 5     | 9.28     | 2.47               | 1.07                       |
| Ameltolide (1.08) | 5     | 18.27    | 10.68              | 4.78                       |
| Ameltolide (2.16) | 5     | 22.45    | 7.91               | 3.54                       |

Table 37 (140 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 21.29    | 22.35              | 9.99                       |
| PEG 400           | 5     | 30.98    | 32.11              | 14.36                      |
| CU-17-06 (77.62)  | 5     | 9.40     | 9.79               | 4.38                       |
| CU-17-06 (155.24) | 5     | 10.82    | 6.50               | 2.90                       |
| Ameltolide (1.08) | 5     | 37.50    | 39.27              | 17.56                      |
| Ameltolide (2.16) | 5     | 17.36    | 5.60               | 2.50                       |

Table 38 (160 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 17.49    | 14.75              | 6.60                       |
| PEG 400           | 5     | 7.11     | 2.92               | 1.30                       |
| CU-17-06 (77.62)  | 5     | 9.73     | 6.27               | 2.80                       |
| CU-17-06 (155.24) | 5     | 14.80    | 4.86               | 2.17                       |
| Ameltolide (1.08) | 5     | 19.38    | 12.14              | 5.42                       |
| Ameltolide (2.16) | 5     | 20.17    | 8.58               | 3.83                       |

Table 39 (180 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 15.66    | 15.39              | 6.88                       |
| PEG <sup>a</sup> 400           | 5     | 6.92     | 6.92               | 3.09                       |
| CU-17-06 <sup>b</sup> (77.62)  | 5     | 8.35     | 4.00               | 1.78                       |
| CU-17-06 <sup>c</sup> (155.24) | 5     | 11.27    | 3.63               | 1.62                       |
| Ameltolide (1.08)              | 5     | 19.36    | 6.25               | 2.79                       |
| Ameltolide (2.16)              | 5     | 27.73    | 14.01              | 6.26                       |

<sup>a,b,c</sup> p < 0.05 denote statistically significant from ameltolide (2.16)

### Amount of glycine at various times

Table 40 (20 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 54.02    | 37.11              | 16.60                      |
| PEG 400           | 5     | 42.10    | 45.54              | 20.37                      |
| CU-17-06 (77.62)  | 5     | 27.40    | 11.27              | 5.04                       |
| CU-17-06 (155.24) | 5     | 17.37    | 6.74               | 3.01                       |
| Ameltolide (1.08) | 5     | 31.47    | 20.01              | 8.95                       |
| Ameltolide (2.16) | 5     | 40.22    | 31.86              | 14.25                      |

Table 41 (40 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 76.43    | 19.48              | 8.71                       |
| PEG 400 <sup>a</sup>           | 5     | 16.84    | 7.55               | 3.37                       |
| CU-17-06 <sup>b</sup> (77.62)  | 5     | 32.27    | 12.44              | 5.56                       |
| CU-17-06 <sup>c</sup> (155.24) | 5     | 13.16    | 4.07               | 1.82                       |
| Ameltolide <sup>d</sup> (1.08) | 5     | 29.28    | 21.03              | 9.40                       |
| Ameltolide <sup>e</sup> (2.16) | 5     | 24.57    | 15.43              | 6.90                       |

<sup>a,b,c,d,e</sup>p< 0.05 denote statistically significant from NSS

Table 42 (60 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 72.35    | 32.68              | 14.61                      |
| PEG 400 <sup>a</sup>           | 5     | 28.79    | 23.94              | 10.70                      |
| CU-17-06 <sup>b</sup> (77.62)  | 5     | 21.55    | 4.72               | 2.11                       |
| CU-17-06 <sup>c</sup> (155.24) | 5     | 15.64    | 6.25               | 2.79                       |
| Ameltolide <sup>d</sup> (1.08) | 5     | 22.73    | 9.31               | 4.16                       |
| Ameltolide <sup>e</sup> (2.16) | 5     | 26.41    | 9.81               | 4.38                       |

<sup>a,b,c,d,e</sup>p< 0.05 denote statistically significant from NSS

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Table 43 (80 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 51.18    | 31.62              | 14.14                      |
| PEG 400                        | 5     | 32.11    | 14.76              | 6.60                       |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 21.73    | 4.91               | 2.19                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 14.96    | 5.89               | 2.63                       |
| Ameltolide <sup>c</sup> (1.08) | 5     | 22.22    | 13.40              | 5.99                       |
| Ameltolide <sup>d</sup> (2.16) | 5     | 24.97    | 9.91               | 4.43                       |

<sup>a,b,c,d</sup> p < 0.05 denote statistically significant from NSS

Table 44 (100 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 65.71    | 33.01              | 14.76                      |
| PEG 400                        | 5     | 38.74    | 37.12              | 16.60                      |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 26.44    | 20.46              | 9.15                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 18.71    | 5.49               | 2.45                       |
| Ameltolide <sup>c</sup> (1.08) | 5     | 27.35    | 13.21              | 5.91                       |
| Ameltolide <sup>d</sup> (2.16) | 5     | 22.38    | 9.11               | 4.07                       |

<sup>a,b,c,d</sup> p < 0.05 denote statistically significant from NSS



Table 45 (120 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 56.60    | 39.97              | 17.87                      |
| PEG 400                        | 5     | 33.91    | 24.48              | 10.94                      |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 23.14    | 10.89              | 4.87                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 15.62    | 5.71               | 2.55                       |
| Ameltolide <sup>c</sup> (1.08) | 5     | 22.18    | 9.57               | 4.27                       |
| Ameltolide <sup>d</sup> (2.16) | 5     | 27.36    | 6.99               | 3.12                       |

<sup>a,b,c,d</sup>p < 0.05 denote statistically significant from NSS

Table 46 (140 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 65.18    | 35.01              | 15.65                      |
| PEG 400           | 5     | 53.86    | 48.61              | 21.74                      |
| CU-17-06 (77.62)  | 5     | 34.85    | 54.07              | 13.07                      |
| CU-17-06 (155.24) | 5     | 15.47    | 4.16               | 1.86                       |
| Ameltolide (1.08) | 5     | 31.92    | 14.811             | 6.62                       |
| Ameltolide (2.16) | 5     | 23.58    | 8.43               | 3.77                       |

Table 47 (160 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 58.85    | 22.40              | 10.02                      |
| PEG 400                        | 5     | 37.99    | 23.89              | 10.68                      |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 21.98    | 14.43              | 6.45                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 14.69    | 4.81               | 2.15                       |
| Ameltolide <sup>c</sup> (1.08) | 5     | 19.44    | 11.26              | 5.03                       |
| Ameltolide (2.16)              | 5     | 40.39    | 39.96              | 17.87                      |

<sup>a,b,c</sup>p < 0.05 denote statistically significant from NSS

Table 48 (180 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 63.14    | 35.38              | 15.82                      |
| PEG 400                        | 5     | 38.20    | 37.77              | 16.89                      |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 23.70    | 9.13               | 4.08                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 13.57    | 7.14               | 3.19                       |
| Ameltolide <sup>c</sup> (1.08) | 5     | 25.09    | 12.29              | 5.49                       |
| Ameltolide (2.16)              | 5     | 35.59    | 7.40               | 3.31                       |

<sup>a,b,c</sup>p < 0.05 denote statistically significant from NSS

## Amount of GABA at various times

Table 49 (20 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 33.02    | 30.77              | 13.76                      |
| PEG 400           | 5     | 37.17    | 62.53              | 27.96                      |
| CU-17-06 (77.62)  | 5     | 13.71    | 5.30               | 2.37                       |
| CU-17-06 (155.24) | 5     | 10.15    | 6.44               | 2.88                       |
| Ameltolide (1.08) | 5     | 31.88    | 29.34              | 13.12                      |
| Ameltolide (2.16) | 5     | 19.39    | 18.50              | 8.27                       |

Table 50 (40 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 39.33    | 15.18              | 6.79                       |
| PEG 400 <sup>a</sup>           | 5     | 7.39     | 2.79               | 1.25                       |
| CU-17-06 (77.62)               | 5     | 19.88    | 19.12              | 8.55                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 6.61     | 1.67               | 0.74                       |
| Ameltolide (1.08)              | 5     | 28.43    | 26.82              | 11.99                      |
| Ameltolide <sup>c</sup> (2.16) | 5     | 15.04    | 15.86              | 7.09                       |

<sup>a,b,c</sup>p < 0.05 denote statistically significant from NSS

Table 51 (60 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 42.83    | 42.60              | 19.05                      |
| PEG 400           | 5     | 26.67    | 40.12              | 17.94                      |
| CU-17-06 (77.62)  | 5     | 12.80    | 6.47               | 2.89                       |
| CU-17-06 (155.24) | 5     | 6.57     | 1.87               | 0.83                       |
| Ameltolide (1.08) | 5     | 19.42    | 12.41              | 5.55                       |
| Ameltolide (2.16) | 5     | 17.06    | 9.75               | 4.36                       |

Table 52 (80 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 32.11    | 23.92              | 10.70                      |
| PEG 400                        | 5     | 23.47    | 22.74              | 1.17                       |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 9.34     | 2.01               | 0.90                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 7.47     | 3.99               | 1.78                       |
| Ameltolide (1.08)              | 5     | 20.54    | 18.58              | 8.31                       |
| Ameltolide (2.16)              | 5     | 13.94    | 3.13               | 1.40                       |

<sup>a,b</sup>p < 0.05 denote statistically significant from NSS

Table 53 (100 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 33.80    | 23.39              | 10.46                      |
| PEG 400 <sup>a</sup>           | 5     | 12.82    | 5.90               | 2.63                       |
| CU-17-06 <sup>b</sup> (77.62)  | 5     | 9.82     | 6.65               | 2.97                       |
| CU-17-06 <sup>c</sup> (155.24) | 5     | 8.12     | 2.47               | 1.10                       |
| Ameltolide (1.08)              | 5     | 24.30    | 19.42              | 8.68                       |
| Ameltolide <sup>d</sup> (2.16) | 5     | 12.55    | 6.81               | 3.04                       |

<sup>a,b,c,d</sup>p < 0.05 denote statistically significant from NSS

Table 54 (120 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 33.80    | 26.80              | 11.98                      |
| PEG 400 <sup>a</sup>           | 5     | 13.50    | 5.25               | 2.34                       |
| CU-17-06 <sup>b</sup> (77.62)  | 5     | 9.13     | 3.27               | 1.46                       |
| CU-17-06 <sup>c</sup> (155.24) | 5     | 7.07     | 2.87               | 1.28                       |
| Ameltolide (1.08)              | 5     | 20.22    | 17.72              | 7.92                       |
| Ameltolide <sup>d</sup> (2.16) | 5     | 13.99    | 3.21               | 1.43                       |

<sup>a,b,c,d</sup> p < 0.05 denote statistically significant from NSS

Table 55 (140 min after injection)

| Group             | Count | The mean | Standard Deviation | Standard error Of the mean |
|-------------------|-------|----------|--------------------|----------------------------|
| NSS               | 5     | 31.25    | 18.68              | 8.35                       |
| PEG400            | 5     | 43.57    | 56.43              | 25.24                      |
| CU-17-06 (77.62)  | 5     | 10.56    | 5.60               | 2.50                       |
| CU-17-06 (155.24) | 5     | 6.99     | 3.17               | 1.41                       |
| Ameltolide (1.08) | 5     | 26.85    | 18.22              | 8.15                       |
| Ameltolide (2.16) | 5     | 19.35    | 18.09              | 8.09                       |

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Table 56 (160 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 27.64    | 12.71              | 5.68                       |
| PEG 400                        | 5     | 19.48    | 17.21              | 7.69                       |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 8.55     | 4.91               | 2.19                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 7.00     | 2.19               | 0.98                       |
| Ameltolide (1.08)              | 5     | 16.60    | 15.54              | 6.95                       |
| Ameltolide (2.16)              | 5     | 14.72    | 5.27               | 2.60                       |

<sup>a,b</sup>p < 0.05 denote statistically significant from NSS

Table 57 (180 min after injection)

| Group                          | Count | The mean | Standard Deviation | Standard error Of the mean |
|--------------------------------|-------|----------|--------------------|----------------------------|
| NSS                            | 5     | 32.84    | 20.80              | 9.30                       |
| PEG 400                        | 5     | 16.07    | 12.95              | 5.79                       |
| CU-17-06 <sup>a</sup> (77.62)  | 5     | 11.12    | 5.76               | 2.57                       |
| CU-17-06 <sup>b</sup> (155.24) | 5     | 6.39     | 2.85               | 1.27                       |
| Ameltolide (1.08)              | 5     | 20.89    | 14.31              | 6.40                       |
| Ameltolide (2.16)              | 5     | 19.93    | 3.82               | 1.70                       |

<sup>a,b</sup>p < 0.05 denote statistically significant from NSS

### Vitae

Miss Saichol Rodpaewpaln was born on 10<sup>th</sup> February 1970, in Bangkok, Thailand. She had graduated with Bachelor in Nursing from Faculty of Nurse, Mahidol University in 1996. After graduation, she has been working as a nurse at Siriraj Hospital.



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