

**Figure 1. Panel A**

| Date (number of experiments)      |                          | 20100818      | 20100823  | 20100902  | 20100906  | 20100908  | 20100914  | Average       | ± SEM    |
|-----------------------------------|--------------------------|---------------|-----------|-----------|-----------|-----------|-----------|---------------|----------|
|                                   | Concentration (M)        | Diameter (µm) |           |           |           |           |           | Diameter (µm) |          |
|                                   | before incubation        |               | 258.1521  | 272.77082 | 265.16607 | 251.24986 | 234.78947 | 256.4257      | 6.486344 |
| <b>Achetylcholine</b>             | initial                  | 222.73592     | 218.92542 | 155.03428 | 203.57592 | 210.96635 | 96.812699 | 184.6751      | 20.22256 |
|                                   | 1.00E-009                | 222.73592     | 218.92542 | 170.84188 | 206.1009  | 210.96635 | 95.840219 | 187.5684      | 19.83664 |
|                                   | 1.00E-008                | 222.73592     | 218.92542 | 170.84188 | 207.99472 | 210.96635 | 98.363303 | 188.3046      | 19.50965 |
|                                   | 1.00E-007                | 232.83765     | 218.92542 | 258.62929 | 250.46074 | 210.59411 | 119.82272 | 215.2117      | 20.47147 |
|                                   | 1.00E-006                | 265.10568     | 228.41133 | 283.50008 | 268.77237 | 257.71132 | 187.75249 | 248.5422      | 14.24825 |
|                                   | 1.00E-005                | 266.37109     | 255.00985 | 272.68275 | 268.77237 | 262.63581 | 212.92972 | 256.4003      | 9.033473 |
| <b>Norepinephrine</b>             | initial                  | 229.68718     | 205.6926  | 196.2417  | 246.15293 | 224.61245 | 101.31244 | 200.6166      | 21.13503 |
|                                   | 1.00E-009                | 227.1565      | 206.32511 | 190.55038 | 243.62241 | 224.61245 | 101.31244 | 198.9299      | 20.90281 |
|                                   | 1.00E-008                | 227.1565      | 206.32511 | 172.78623 | 243.62241 | 222.08164 | 90.391016 | 193.7272      | 22.86673 |
|                                   | 1.00E-007                | 227.1565      | 203.79506 | 161.36055 | 218.3074  | 194.89994 | 57.241778 | 177.1269      | 25.72086 |
|                                   | 1.00E-006                | 157.54953     | 189.82947 | 87.966976 | 123.37981 | 128.45388 | 15.394466 | 117.0957      | 24.68929 |
|                                   | 1.00E-005                | 52.518633     | 42.82367  | 45.082433 | 51.882109 | 43.403997 | 12.904776 | 41.43594      | 5.958388 |
| <b>H<sub>2</sub>O<sub>2</sub></b> | initial                  | 204.36588     | 216.38636 | 175.90323 | 236.21736 | 196.2519  | 118.48051 | 191.2675      | 16.71513 |
|                                   | 1.00E-006                |               |           | 175.90323 | 236.21736 | 196.2519  | 122.95403 | 182.8316      | 23.56457 |
|                                   | 3.00E-006                |               |           | 167.69764 | 230.45277 | 200.05704 | 135.64925 | 183.4642      | 20.44933 |
|                                   | 1.00E-005                | 174.05124     | 210.70053 | 166.41321 | 202.50334 | 160.67561 | 117.85546 | 172.0332      | 13.56892 |
|                                   | 3.00E-005                | 174.05124     | 172.75843 | 169.57065 | 179.06103 | 155.65791 | 108.54965 | 159.9415      | 10.77204 |
|                                   | 1.00E-004                | 150.61789     | 144.25896 | 94.377567 | 172.02695 | 137.43766 | 70.908544 | 128.2713      | 15.48421 |
|                                   | 3.00E-004                | 138.5762      | 137.39105 | 100.98989 | 189.10792 | 228.01402 | 128.62828 | 153.7846      | 18.86612 |
|                                   | 1.00E-003                | 138.5762      | 131.7007  | 253.70275 | 248.08715 | 241.4279  | 203.0837  | 202.7631      | 22.59352 |
|                                   | 3.00E-003                | 210.76892     | 235.39822 | 267.18741 | 260.1056  | 243.85564 | 220.89417 | 239.7017      | 8.941266 |
|                                   | 1.00E-002                | 247.40202     | 236.66349 | 270.03542 | 265.16607 | 243.85564 | 226.09044 | 248.2022      | 6.846087 |
| <b>Norepinephrine</b>             | initial                  | 250.55341     | 250.05523 | 263.84026 |           | 254.98473 | 212.98331 | 246.4834      | 8.732446 |
|                                   | 1.00E-009                | 250.55341     | 250.05523 | 264.47297 |           | 254.98473 | 214.87236 | 246.9877      | 8.435657 |
|                                   | 1.00E-008                | 250.55341     | 250.05523 | 264.47297 |           | 254.98473 | 223.74997 | 248.7633      | 6.767717 |
|                                   | 1.00E-007                | 255.61742     | 253.21707 | 264.47297 |           | 254.98473 | 223.74997 | 250.4084      | 6.944239 |
|                                   | 1.00E-006                | 255.61742     | 253.21707 | 264.47297 |           | 248.11942 | 216.46035 | 247.5774      | 8.217277 |
|                                   | 1.00E-005                | 255.61742     | 253.21707 | 241.06947 |           | 248.75187 | 218.34683 | 243.4005      | 6.735635 |
|                                   | without Ca <sup>2+</sup> | 279.66367     | 269.65935 | 274.85858 | 265.16607 | 250.01681 | 226.09044 | 260.9092      | 8.107592 |

**Figure 1. Panel A**

| Date (number of experiments)  |                          | 20110603      | 20110602    | 20110607    | 20110627    | 20110629    | 20110922    | 20110922    | Average       | ± SEM    |
|-------------------------------|--------------------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|----------|
|                               | Concentration (M)        | Diameter (µm) |             |             |             |             |             |             | Diameter (µm) |          |
| SHT                           | before incubation        | 289.9250522   | 199.5165487 | 202.5758187 | 171.6375765 | 237.3960979 |             | 112.0427851 | 202.1823      | 24.49774 |
|                               | initial                  | 191.8658385   | 169.843471  | 120.3299514 | 76.59562062 | 94.18308252 | 48.12465423 | 96.216      | 113.8798      | 19.31517 |
|                               | 1.00E-09                 | 193.7641802   | 169.843471  | 110.8039408 | 76.59562062 | 81.73547934 | 48.12465423 | 96.216      | 111.0119      | 19.8353  |
|                               | 1.00E-08                 | 193.7641802   | 169.843471  | 110.8039408 | 66.465      | 75.46517124 | 43.69534434 | 93.684      | 107.6744      | 20.88001 |
|                               | 1.00E-07                 | 173.1437177   | 136.2421345 | 89.30909646 | 59.502      | 59.84444667 | 36.73581951 | 89.88822816 | 92.09506      | 18.05912 |
|                               | 0.000001                 | 122.1755579   | 112.2571568 | 67.92004545 | 51.906      | 39.61690002 | 34.20543999 | 89.25524082 | 73.90519      | 13.19097 |
|                               | 0.00001                  | 108.243       | 86.54293077 | 49.374      | 41.78279814 | 24.10392471 | 34.20543999 | 80.40096975 | 60.66472      | 11.79557 |
| Achetylcholine                | initial                  | 170.2781774   | 149.9782598 | 114.5747471 | 76.59562062 | 120.43646   | 53.89800669 | 89.26198227 | 110.7176      | 15.46987 |
|                               | 1.00E-09                 | 173.442       | 149.5006107 | 114.5747471 | 76.59562062 | 120.43646   | 53.89800669 | 89.26198227 | 111.1013      | 15.73584 |
|                               | 1.00E-08                 | 197.6187071   | 214.4982914 | 131.1288175 | 81.024      | 120.43646   | 58.2256821  | 100.0320215 | 128.9949      | 21.95569 |
|                               | 1.00E-07                 | 265.8871241   | 232.3247931 | 177.3123266 | 120.0131919 | 141.153322  | 82.90367451 | 108.8833618 | 161.2111      | 25.46861 |
|                               | 0.000001                 | 278.5660318   | 240.6099465 | 199.4110719 | 156.2843514 | 181.1541555 | 96.46762383 | 116.5149934 | 181.2869      | 24.55596 |
|                               | 0.00001                  | 286.7937215   | 240.6099465 | 200.0440339 | 169.843471  | 223.0900763 | 97.55595972 | 117.1323709 | 190.7242      | 25.53449 |
|                               | initial                  | 180.4594      | 161.4348572 | 117.7448111 | 79.78060443 | 93.07037613 | 48.17458527 | 93.15643248 | 110.5459      | 17.57561 |
| H <sub>2</sub> O <sub>2</sub> | 1.00E-06                 | 180.4594      | 161.4348572 | 125.3355952 | 86.09731143 | 97.50049626 | 48.17458527 | 93.15643248 | 113.1655      | 17.32654 |
|                               | 3.00E-06                 | 180.4594      | 183.0256896 | 125.3355952 | 86.09731143 | 126.6       | 48.17458527 | 93.15643248 | 120.407       | 18.72565 |
|                               | 1.00E-05                 | 191.8157112   | 177.8775006 | 136.7411854 | 85.47609789 | 124.0744629 | 49.43887617 | 93.18869649 | 122.6589      | 19.29983 |
|                               | 3.00E-05                 | 195.1653067   | 181.0424247 | 146.857361  | 86.7302418  | 124.0744629 | 52.37094483 | 90.6605388  | 125.2716      | 19.79704 |
|                               | 1.00E-04                 | 195.1653067   | 181.0424247 | 164.58      | 91.16079237 | 124.0744629 | 49.63301094 | 90.55441002 | 128.0301      | 20.45836 |
|                               | 3.00E-04                 | 194.9732545   | 181.0391014 | 184.8750245 | 117.1888029 | 124.0744629 | 47.3566923  | 113.3087661 | 137.5452      | 19.96844 |
|                               | 1.00E-03                 | 201.4143903   | 221.5509052 | 201.9309626 | 162.6822344 | 175.7370301 | 89.30909646 | 128.8042263 | 168.7755      | 17.55809 |
| SHT                           | 3.00E-03                 | 223.2911361   | 246.2443238 | 201.9359253 | 172.1806526 | 176.5332428 | 96.2347368  | 128.8042263 | 177.8892      | 19.77445 |
|                               | 1.00E-02                 | 276.8063551   | 258.2709757 | 205.7600619 | 179.1568886 | 245.0527709 | 102.5772575 | 129.6908694 | 199.6165      | 24.98839 |
|                               | initial                  | 292.8553801   | 243.7123998 | 208.3531844 | 165.9667574 | 235.0101563 | 103.8428714 | 121.6694491 | 195.9157      | 25.9357  |
|                               | 1.00E-09                 | 292.8553801   | 239.287388  | 212.3042754 | 165.9667574 | 235.0101563 | 103.8428714 | 121.6694491 | 195.848       | 25.80245 |
|                               | 1.00E-08                 | 292.8553801   | 245.6561972 | 212.3042754 | 165.9667574 | 235.0101563 | 95.02592835 | 121.6694491 | 195.4983      | 26.83963 |
|                               | 1.00E-07                 | 292.8553801   | 238.0618556 | 212.3042754 | 165.9667574 | 235.0101563 | 95.02592835 | 121.6694491 | 194.4134      | 26.52176 |
|                               | 0.000001                 | 292.8553801   | 222.8169052 | 212.3042754 | 169.1294913 | 235.0101563 | 95.02592835 | 121.6694491 | 192.6874      | 25.93662 |
| 0.00001                       | 292.8553801              | 222.8169052   | 212.3042754 | 169.1294913 | 235.0101563 | 95.02592835 | 121.6694491 | 192.6874    | 25.93662      |          |
|                               | without Ca <sup>2+</sup> | 300.8128864   | 258.2709757 | 215.2209242 | 180.0225667 | 245.0527709 | 102.5772575 | 129.6908694 | 204.5212      | 26.95267 |

**Figure 1. Panel B / 10  $\mu$ M**

| Date (number of experiments)                           |                          | 20101015                            | 20101020  | 20101029  | 20101028  | 20101026  | 20101025  | Average                             | $\pm$ SEM |
|--|--------------------------|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-------------------------------------|-----------|
|  | <b>Concentration (M)</b> | <b>Diameter (<math>\mu</math>m)</b> |           |           |           |           |           | <b>Diameter (<math>\mu</math>m)</b> |           |
| <b>Achetylcholine</b>                                  | before incubation        | 234.34916                           | 257.66472 | 242.60478 | 229.729   | 261.99029 | 266.41842 | 248.79273                           | 6.2553604 |
|  | initial                  | 105.18388                           | 227.79709 | 196.44559 | 184.11387 | 210.6074  | 247.50557 | 195.27557                           | 20.218104 |
|  | 1.00E-009                | 112.13411                           | 227.16443 | 196.44559 | 184.11387 | 210.6074  | 247.50557 | 196.3285                            | 19.158758 |
|  | 1.00E-008                | 169.05165                           | 227.79709 | 196.44559 | 197.76575 | 212.86203 | 241.85697 | 207.62985                           | 10.513888 |
|  | 1.00E-007                | 200.10505                           | 227.79709 | 203.5474  | 227.53068 | 234.37907 | 264.11323 | 226.24542                           | 9.4915846 |
|  | 1.00E-006                | 213.96875                           | 251.82518 | 210.55133 | 230.55698 | 248.75187 | 264.05866 | 236.6188                            | 8.8706903 |
| <b>Norepinephrine</b>                                  | 1.00E-005                | 221.60072                           | 252.02144 | 235.70837 | 233.71713 | 252.58471 | 270.2266  | 244.30983                           | 7.0746401 |
|  | initial                  | 141.74933                           | 229.77867 | 187.90062 | 233.77878 | 217.35178 | 228.49544 | 206.5091                            | 14.635771 |
|  | 1.00E-009                | 141.74933                           | 229.77867 | 187.90062 | 226.79583 | 214.89937 | 228.49544 | 204.93654                           | 14.179899 |
|  | 1.00E-008                | 138.58631                           | 222.12489 | 187.90062 | 226.79583 | 214.86118 | 228.49544 | 203.12738                           | 14.25918  |
|  | 1.00E-007                | 117.05281                           | 215.7991  | 187.90062 | 195.46499 | 214.86118 | 211.4847  | 190.42723                           | 15.383688 |
|  | 1.00E-006                | 55.136484                           | 215.7991  | 158.76953 | 171.09476 | 162.19199 | 211.4847  | 162.41276                           | 23.703063 |
|  | 1.00E-005                | 35.572633                           | 55.692742 | 69.936488 | 139.66103 | 67.655466 | 86.085585 | 75.767324                           | 14.499742 |
|  | <b>Time (sec)</b>        | <b>Diameter (<math>\mu</math>m)</b> |           |           |           |           |           | <b>Diameter (<math>\mu</math>m)</b> |           |
| <b>H<sub>2</sub>O<sub>2</sub> 10 <math>\mu</math>M</b> | initial                  | 136.78365                           | 217.65546 | 198.92122 | 153.85362 | 219.70393 | 235.77885 | 193.78279                           | 16.201979 |
|  | 0                        | 136.78365                           | 217.65546 | 198.1833  | 153.8315  | 219.70393 | 235.77885 | 193.65611                           | 16.196455 |
|  | 10                       | 140.5767                            | 215.75736 | 196.93914 | 150.64978 | 208.19577 | 232.58389 | 190.78377                           | 15.103514 |
|  | 20                       | 142.49998                           | 213.22656 | 196.93914 | 147.48763 | 203.76756 | 230.6889  | 189.10163                           | 14.709938 |
|  | 30                       | 142.49998                           | 213.33637 | 196.93914 | 147.48763 | 201.23717 | 230.6889  | 188.6982                            | 14.637832 |
|  | 40                       | 142.49998                           | 210.17454 | 194.45165 | 146.22278 | 183.61746 | 226.89906 | 183.97758                           | 13.885468 |
|  | 50                       | 142.49998                           | 210.76892 | 194.45165 | 146.22278 | 167.11176 | 223.74101 | 180.79935                           | 13.878374 |
|  | 60                       | 143.13206                           | 208.23902 | 191.9653  | 146.22278 | 164.85551 | 223.74101 | 179.69262                           | 13.641628 |
|  | 70                       | 145.02836                           | 209.43038 | 187.61706 | 146.22278 | 157.75902 | 223.74101 | 178.29977                           | 13.758241 |
|  | 80                       | 145.02836                           | 208.16498 | 189.97809 | 146.22278 | 150.7454  | 220.58315 | 176.78713                           | 13.781187 |
|  | 90                       | 146.29258                           | 206.2669  | 190.59763 | 146.22278 | 146.9247  | 220.22715 | 176.08862                           | 13.783753 |
|  | 100                      | 146.29258                           | 206.2669  | 182.79258 | 146.22278 | 141.16352 | 220.22715 | 173.82759                           | 13.991357 |
|  | 110                      | 146.29258                           | 203.73218 | 182.79258 | 142.42832 | 134.20734 | 219.04882 | 171.41697                           | 14.489771 |
|  | 120                      | 146.29258                           | 202.46775 | 187.79833 | 142.41006 | 133.51502 | 218.72785 | 171.8686                            | 14.581711 |
|  | 130                      | 146.32131                           | 205.00639 | 187.16737 | 142.41006 | 132.88237 | 218.72785 | 172.08589                           | 14.796472 |
|  | 140                      | 146.32131                           | 201.84298 | 187.16737 | 141.14509 | 132.88237 | 218.72785 | 171.34783                           | 14.655149 |
|  | 150                      | 146.32131                           | 201.84298 | 187.16737 | 141.77757 | 123.41874 | 218.72785 | 169.87597                           | 15.502693 |
|  | 160                      | 146.32131                           | 201.84298 | 182.12011 | 141.77757 | 123.41874 | 218.72785 | 169.03476                           | 15.336977 |
|  | 170                      | 146.67518                           | 208.16979 | 179.59677 | 143.64715 | 125.40566 | 219.72853 | 170.53718                           | 15.542845 |
|  | 180                      | 146.67518                           | 210.06784 | 179.59677 | 143.64715 | 125.40566 | 220.51053 | 170.98385                           | 15.779956 |
|  | 190                      | 149.4318                            | 211.3332  | 175.46118 | 143.64715 | 125.40566 | 220.44517 | 170.95403                           | 15.688309 |
|  | 200                      | 149.4318                            | 212.59858 | 175.46118 | 139.21891 | 124.14157 | 223.63632 | 170.74806                           | 16.524208 |
|  | 210                      | 149.4318                            | 212.59858 | 171.68337 | 139.21891 | 124.14157 | 223.63632 | 170.11843                           | 16.500269 |
| 220  | 149.4318                 | 214.49663                           | 171.68337 | 139.21891 | 124.14157 | 223.63632 | 170.43477 | 16.665361                           |           |
| 230  | 149.4318                 | 214.50316                           | 171.68337 | 139.21891 | 121.0476  | 228.69158 | 170.76274 | 17.503752                           |           |

|                       |                                       |           |           |                      |           |           |                      |           |           |
|-----------------------|---------------------------------------|-----------|-----------|----------------------|-----------|-----------|----------------------|-----------|-----------|
| 240                   | 149.4318                              | 214.50316 | 170.42427 | 140.48412            | 120.41595 | 228.69158 | 170.65848            | 17.48869  |           |
| 250                   | 149.4318                              | 214.51156 | 158.90437 | 140.48412            | 120.41595 | 231.85124 | 169.2665             | 17.962514 |           |
| 260                   | 150.14537                             | 214.51156 | 158.90437 | 140.48412            | 118.52105 | 231.85124 | 169.06962            | 18.111001 |           |
| 270                   | 150.14537                             | 215.77684 | 167.84319 | 140.48412            | 118.52105 | 231.85124 | 170.7703             | 18.108619 |           |
| 280                   | 150.14537                             | 215.77684 | 167.84319 | 140.48412            | 137.19278 | 229.4256  | 173.47798            | 16.22827  |           |
| 290                   | 150.14537                             | 219.72853 | 167.84319 | 140.48412            | 144.7576  | 224.45111 | 174.56832            | 15.513281 |           |
| 300                   | 150.14537                             | 215.30324 | 167.84319 | 141.11672            | 160.49987 | 224.45111 | 176.55992            | 14.238991 |           |
| 310                   | 150.14537                             | 215.30324 | 167.84319 | 141.11672            | 172.04557 | 229.58608 | 179.34003            | 14.510632 |           |
| 320                   | 150.23467                             | 218.46413 | 167.84319 | 141.74933            | 172.04557 | 229.58608 | 179.98716            | 14.717809 |           |
| 340                   | 151.48715                             | 217.67477 | 173.97186 | 136.0559             | 172.04557 | 228.95487 | 180.03169            | 14.899263 |           |
| 350                   | 153.8419                              | 217.67477 | 171.45002 | 136.06914            | 176.51778 | 228.95487 | 180.75142            | 14.733154 |           |
| 360                   | 153.8419                              | 221.46249 | 171.45002 | 136.06914            | 176.51778 | 228.95487 | 181.3827             | 15.059483 |           |
| 370                   | 153.8419                              | 221.46249 | 171.45002 | 136.06914            | 178.18248 | 228.95487 | 181.66015            | 15.044105 |           |
| 380                   | 153.8419                              | 221.46249 | 177.12451 | 136.06914            | 180.68124 | 228.91203 | 183.01522            | 14.921879 |           |
| 390                   | 153.7417                              | 221.46249 | 177.12451 | 138.5993             | 181.20339 | 228.91203 | 183.50724            | 14.663962 |           |
| 400                   | 153.7417                              | 221.46249 | 177.12451 | 138.5993             | 183.8386  | 227.64941 | 183.736              | 14.528567 |           |
| 410                   | 155.71575                             | 221.46249 | 177.12451 | 140.49694            | 183.8386  | 228.20004 | 184.47306            | 14.2543   |           |
| 420                   | 155.71575                             | 222.72783 | 173.97186 | 141.76204            | 185.10161 | 223.77948 | 183.8431             | 13.865936 |           |
| 430                   | 156.3405                              | 222.72783 | 175.86342 | 144.29226            | 187.35015 | 223.74101 | 185.05253            | 13.529876 |           |
| 440                   | 156.3405                              | 222.72783 | 175.86342 | 144.29226            | 187.35015 | 223.74101 | 185.05253            | 13.529876 |           |
| 450                   | 156.3405                              | 220.21534 | 177.12451 | 144.29226            | 189.52238 | 223.74101 | 185.206              | 13.293725 |           |
| 460                   | 156.3405                              | 221.49232 | 177.12451 | 144.29226            | 193.94352 | 223.74101 | 186.15569            | 13.472242 |           |
| 470                   | 156.3405                              | 221.49232 | 177.7551  | 144.29226            | 193.94352 | 223.74101 | 186.26079            | 13.458554 |           |
| 480                   | 156.3405                              | 221.49232 | 181.64469 | 144.29226            | 194.61319 | 223.74101 | 187.02066            | 13.404248 |           |
| 490                   | 156.3405                              | 221.49232 | 181.64469 | 144.29226            | 194.73966 | 223.74101 | 187.04174            | 13.406652 |           |
| 500                   | 156.44162                             | 221.49232 | 185.90547 | 144.29226            | 195.37077 | 223.74101 | 187.87391            | 13.371704 |           |
| 510                   | 156.54522                             | 220.82982 | 185.90547 | 144.29226            | 195.37077 | 223.74101 | 187.78076            | 13.308411 |           |
| 520                   | 156.54522                             | 221.46249 | 189.06028 | 144.29226            | 196.58921 | 223.74101 | 188.61508            | 13.378537 |           |
| 530                   | 155.92128                             | 222.72783 | 189.06028 | 144.29226            | 197.22047 | 223.74101 | 188.82719            | 13.546081 |           |
| 540                   | 155.92128                             | 221.44893 | 191.58434 | 144.29226            | 199.11433 | 223.74101 | 189.35036            | 13.492093 |           |
| 550                   | 155.92128                             | 221.44893 | 193.52406 | 144.29226            | 202.90227 | 223.74101 | 190.30497            | 13.609283 |           |
|                       | <b>Concentration (M)</b>              |           |           | <b>Diameter (µm)</b> |           |           | <b>Diameter (µm)</b> |           |           |
| <b>Norepinephrine</b> | initial                               | 134.80406 | 205.01322 | 213.61297            | 162.70579 | 227.23051 | 224.36905            | 194.6226  | 15.290156 |
|                       | 1.00E-009                             | 135.43661 | 202.48258 | 189.6459             | 162.70579 | 224.0682  | 219.34559            | 188.94744 | 14.015749 |
|                       | 1.00E-008                             | 114.58318 | 201.21726 | 189.6459             | 159.54423 | 224.0682  | 219.97342            | 184.8387  | 16.970973 |
|                       | 1.00E-007                             | 85.425044 | 198.68664 | 174.02592            | 150.06003 | 224.0682  | 217.46224            | 174.95468 | 21.148994 |
|                       | 1.00E-006                             | 83.527127 | 85.941309 | 150.80913            | 102.81272 | 175.98516 | 193.91977            | 132.16587 | 19.532273 |
|                       | 1.00E-005<br>without Ca <sup>2+</sup> | 34.798975 | 50.84553  | 72.19813             | 71.675026 | 89.775542 | 90.539259            | 68.305411 | 8.9616717 |
|                       |                                       | 254.03153 | 223.34704 | 223.41874            | 222.72783 | 245.67433 | 233.83989            | 6.6705876 |           |

**Figure 1. Panel B/30  $\mu$ M**

| Date (number of experiments)                           |                          | 20101015                            | 20101025    | 20101013    | 20101014    | Average                             | $\pm$ SEM |
|--|--------------------------|-------------------------------------|-------------|-------------|-------------|-------------------------------------|-----------|
|  | <b>Concentration (M)</b> | <b>Diameter (<math>\mu</math>m)</b> |             |             |             | <b>Diameter (<math>\mu</math>m)</b> |           |
|  | before incubation        | 234.3491576                         | 266.4184192 | 230.9603195 | 217.651774  | 237.3449                            | 10.33935  |
| <b>Achetylcholine</b>                                  | initial                  | 105.1838832                         | 247.5055683 | 143.0047511 | 139.8286106 | 158.8807                            | 30.75812  |
|  | 1.00E-009                | 112.1341117                         | 247.5055683 | 143.6374028 | 146.1556971 | 162.3582                            | 29.41871  |
|  | 1.00E-008                | 169.051645                          | 241.8569733 | 157.5495333 | 155.0962372 | 180.8886                            | 20.54916  |
|  | 1.00E-007                | 200.1050549                         | 264.1132275 | 198.6745513 | 170.2738736 | 208.2917                            | 19.83454  |
|  | 1.00E-006                | 213.9687517                         | 264.0586564 | 232.2738922 | 183.6490687 | 223.4876                            | 16.8348   |
|  | 1.00E-005                | 221.6007174                         | 270.226604  | 238.5991249 | 213.462996  | 235.9724                            | 12.56141  |
| <b>Norepinephrine</b>                                  | initial                  | 134.8040625                         | 224.3690519 | 153.7482008 | 117.7263261 | 157.6619                            | 23.42095  |
|  | 1.00E-009                | 135.4366066                         | 219.345592  | 155.0136181 | 122.1275233 | 157.9808                            | 21.54093  |
|  | 1.00E-008                | 114.583175                          | 219.9734161 | 153.7482008 | 120.8738554 | 152.2947                            | 24.1384   |
|  | 1.00E-007                | 85.42504386                         | 217.4622398 | 144.9027125 | 107.6274419 | 138.8544                            | 28.93325  |
|  | 1.00E-006                | 83.52712672                         | 193.9197712 | 42.56112108 | 49.99999684 | 92.502                              | 34.96024  |
|  | 1.00E-005                | 34.79897549                         | 90.53925948 | 36.89293741 | 22.77751123 | 46.25217                            | 15.08635  |
|  | <b>Time (sec)</b>        | <b>Diameter (<math>\mu</math>m)</b> |             |             |             | <b>Diameter (<math>\mu</math>m)</b> |           |
| <b>H<sub>2</sub>O<sub>2</sub> 30 <math>\mu</math>M</b> | initial                  | 151.5716894                         | 231.3084548 | 128.4788109 | 157.5444527 | 167.2259                            | 22.26113  |
|  | 0                        | 151.5716894                         | 231.3084548 | 128.439855  | 157.5444527 | 167.2161                            | 22.26678  |
|  | 10                       | 147.9307485                         | 229.6043806 | 131.068462  | 145.5724979 | 163.544                             | 22.33343  |
|  | 20                       | 142.1174025                         | 220.6638784 | 136.6782467 | 139.2878978 | 159.6869                            | 20.35599  |
|  | 30                       | 123.7151728                         | 201.0231848 | 137.9435501 | 139.2878978 | 150.4925                            | 17.20803  |
|  | 40                       | 119.4127603                         | 180.2775541 | 139.8414926 | 153.3036154 | 148.2089                            | 12.75926  |
|  | 50                       | 89.14234002                         | 160.5260479 | 142.3720994 | 164.0473246 | 139.022                             | 17.29136  |
|  | 60                       | 81.8740615                          | 158.1328654 | 142.3720994 | 176.6390745 | 139.7545                            | 20.52485  |
|  | 70                       | 79.9969921                          | 155.2974259 | 143.0047511 | 181.0652511 | 139.8411                            | 21.46636  |
|  | 80                       | 79.9969921                          | 155.2974259 | 143.0047511 | 187.3886109 | 141.4219                            | 22.5111   |
|  | 90                       | 79.37152797                         | 155.2974259 | 143.0047511 | 190.5503825 | 142.056                             | 23.19713  |
|  | 100                      | 69.61520495                         | 153.841905  | 144.9027125 | 193.7122048 | 140.518                             | 25.90621  |
|  | 110                      | 70.24205471                         | 153.841905  | 146.8224961 | 198.1196532 | 142.2565                            | 26.55473  |
|  | 120                      | 70.24205471                         | 153.841905  | 146.1899329 | 200.6494691 | 142.7308                            | 26.99477  |
|  | 130                      | 70.24205471                         | 149.8932019 | 146.1899329 | 201.9143612 | 142.0599                            | 27.109    |
|  | 140                      | 70.24205471                         | 148.0186697 | 146.1899329 | 201.9143612 | 141.5913                            | 27.06789  |
| 150  | 70.24205471              | 145.2269694                         | 146.8224961 | 205.6925999 | 141.996     | 27.7483                             |           |

|     |             |             |             |             |          |          |
|-----|-------------|-------------|-------------|-------------|----------|----------|
| 160 | 85.12224216 | 145.2269694 | 146.8224961 | 206.9576312 | 146.0323 | 24.87168 |
| 170 | 85.12224216 | 145.2269694 | 146.8224961 | 205.6925999 | 145.7161 | 24.61412 |
| 180 | 88.27363105 | 145.2269694 | 148.075449  | 206.9576312 | 147.1334 | 24.23485 |
| 190 | 89.57018393 | 145.2269694 | 149.3406828 | 206.9576312 | 147.7739 | 23.97799 |
| 200 | 86.34791902 | 145.2269694 | 149.3406828 | 208.2226816 | 147.2846 | 24.89175 |
| 210 | 86.34791902 | 145.8527245 | 149.9733029 | 209.4877129 | 147.9154 | 25.14987 |
| 220 | 89.66622278 | 145.8527245 | 149.9733029 | 209.4877129 | 148.745  | 24.47763 |
| 230 | 89.66622278 | 155.0910743 | 148.075449  | 209.4877129 | 150.5801 | 24.50719 |
| 240 | 89.66622278 | 155.0910743 | 149.3406828 | 210.1202444 | 151.0546 | 24.62471 |
| 250 | 91.33823763 | 155.0910743 | 148.075449  | 210.1202444 | 151.1563 | 24.28978 |
| 260 | 93.82879398 | 155.0910743 | 148.075449  | 210.136448  | 151.7829 | 23.78463 |
| 270 | 98.81604395 | 158.2151238 | 148.075449  | 212.6663525 | 154.4432 | 23.34361 |
| 280 | 100.7577319 | 161.3407046 | 147.4428352 | 212.6663525 | 155.5519 | 23.02848 |
| 290 | 103.8586939 | 165.814328  | 147.4428352 | 212.6663525 | 157.4456 | 22.52957 |
| 300 | 103.8586939 | 170.587444  | 147.4428352 | 213.9313269 | 158.9551 | 22.95983 |
| 310 | 105.9706753 | 170.587444  | 149.3406828 | 213.9490934 | 159.962  | 22.46364 |
| 320 | 105.9706753 | 170.587444  | 149.3406828 | 213.9490934 | 159.962  | 22.46364 |
| 340 | 105.3512156 | 171.8360249 | 149.3406828 | 213.9490934 | 160.1193 | 22.63966 |
| 350 | 105.3512156 | 177.7956279 | 149.3406828 | 213.9490934 | 161.6092 | 22.94367 |
| 360 | 105.3512156 | 177.7956279 | 153.1364032 | 213.9490934 | 162.5581 | 22.79366 |
| 370 | 110.3110756 | 180.7820317 | 153.1364032 | 213.9490934 | 164.5447 | 21.93908 |
| 380 | 110.3110756 | 180.7820317 | 153.1364032 | 217.1112826 | 165.3352 | 22.53855 |
| 390 | 110.3110756 | 180.7820317 | 149.9733029 | 217.1112826 | 164.5444 | 22.69454 |
| 400 | 110.3110756 | 180.7820317 | 149.9733029 | 217.1112826 | 164.5444 | 22.69454 |
| 410 | 110.3110756 | 184.6837498 | 149.9733029 | 217.1306309 | 165.5247 | 22.95037 |
| 420 | 110.3110756 | 185.1372943 | 149.9733029 | 217.1306309 | 165.6381 | 22.98218 |
| 430 | 112.4478276 | 207.1819011 | 149.9733029 | 216.4982512 | 171.5253 | 24.57742 |
| 440 | 111.8248817 | 206.5539441 | 149.9733029 | 216.4982512 | 171.2126 | 24.6269  |
| 450 | 112.0537577 | 207.1055522 | 149.3406828 | 205.0220047 | 168.3805 | 23.05328 |
| 460 | 113.9191853 | 210.2468937 | 149.3406828 | 205.0220047 | 169.6322 | 23.12588 |
| 470 | 113.9191853 | 216.3234465 | 149.3406828 | 205.0220047 | 171.1513 | 24.04677 |
| 480 | 113.9191853 | 223.2457662 | 147.4428352 | 205.0327417 | 172.4101 | 25.31971 |
| 490 | 115.1634005 | 223.2457662 | 147.4428352 | 205.6653555 | 172.8793 | 25.1493  |
| 500 | 115.1634005 | 223.2457662 | 147.4428352 | 205.6925999 | 172.8862 | 25.15226 |

|                       |                          |                      |             |             |                      |          |          |
|-----------------------|--------------------------|----------------------|-------------|-------------|----------------------|----------|----------|
| 510                   | 114.5412328              | 223.2457662          | 147.4428352 | 205.6925999 | 172.7306             | 25.27144 |          |
| 520                   | 114.5412328              | 224.6899807          | 151.2385493 | 205.6925999 | 174.0406             | 25.2113  |          |
| 530                   | 114.5412328              | 224.6899807          | 153.1364032 | 205.6925999 | 174.5151             | 25.07234 |          |
| 540                   | 119.9312587              | 232.2006182          | 153.1364032 | 205.6925999 | 177.7402             | 25.32208 |          |
| 550                   | 119.9312587              | 239.6162167          | 153.1364032 | 205.6925999 | 179.5941             | 26.68247 |          |
| 560                   | 121.0790049              | 242.7656252          | 155.6669024 | 205.6925999 | 181.301              | 26.85865 |          |
| 570                   | 121.0790049              | 245.9153817          | 155.6669024 | 205.6925999 | 182.0885             | 27.46404 |          |
| 580                   | 121.0790049              | 246.5453823          | 155.6669024 | 205.6925999 | 182.246              | 27.58623 |          |
| 590                   | 121.7039375              | 249.6955691          | 151.8500749 | 205.6925999 | 182.2355             | 28.41426 |          |
| 600                   | 121.7039375              | 254.1063772          | 151.8500749 | 205.6925999 | 183.3382             | 29.29468 |          |
| 610                   | 121.7039375              | 254.1063772          | 151.8500749 | 205.6925999 | 183.3382             | 29.29468 |          |
| 620                   | 147.860366               | 254.1063772          | 150.5846576 | 205.6925999 | 189.561              | 25.30552 |          |
| 630                   | 113.6518089              | 259.1480591          | 150.5846576 | 205.6925999 | 182.2693             | 31.84765 |          |
| 640                   | 113.6518089              | 264.7672142          | 150.5846576 | 207.5901437 | 184.1485             | 33.09733 |          |
| 650                   | 113.6518089              | 264.7672142          | 150.5846576 | 207.5901437 | 184.1485             | 33.09733 |          |
| 660                   | 113.6518089              | 264.7672142          | 150.5846576 | 207.5901437 | 184.1485             | 33.09733 |          |
| 670                   | 122.7666793              | 264.7672142          | 150.5846576 | 207.5901437 | 186.4272             | 31.52033 |          |
| 680                   | 122.7666793              | 264.7672142          | 148.053823  | 207.5901437 | 185.7945             | 31.76555 |          |
| initial               | 110.180358               | 216.5943913          | 156.6512959 | 143.0383416 | 156.6161             | 22.24491 |          |
|                       | <b>Concentration (M)</b> | <b>Diameter (µm)</b> |             |             | <b>Diameter (µm)</b> |          |          |
| <b>Norepinephrine</b> | 1.00E-009                | 115.1529734          | 216.5943913 | 105.0315396 | 143.0383416          | 144.9543 | 25.19577 |
|                       | 1.00E-008                | 115.1529734          | 212.8310023 | 105.0315396 | 138.0668207          | 142.7706 | 24.35425 |
|                       | 1.00E-007                | 82.9234594           | 212.8310023 | 88.58146912 | 90.73139411          | 118.7668 | 31.39793 |
|                       | 1.00E-006                | 41.75877059          | 153.9927554 | 35.48812808 | 41.24755466          | 68.1218  | 28.65893 |
|                       | 1.00E-005                | 28.47188904          | 78.26173803 | 25.59148293 | 36.3518513           | 42.16924 | 12.24388 |
|                       | without Ca <sup>2+</sup> | 234.3491576          | 266.4184192 | 230.9603195 | 212.7745584          | 236.1256 | 11.15333 |

**Figure 1. Panel B/100  $\mu$ M**

| Date (number of experiments) |   | 20101020            | 20101029            | 20101028   | 20101026   | 20101025   | Average             | $\pm$ SEM           |
|------------------------------|---|---------------------|---------------------|------------|------------|------------|---------------------|---------------------|
|                              | Concentration (M)                         | Diameter ( $\mu$ m) |                     |            |            |            | Diameter ( $\mu$ m) |                     |
| Achetylcholine               | before incubation                         | 257.664724          | 242.604784          | 229.728999 | 261.990288 | 266.418419 | 251.6814            | 6.795388            |
|                              | initial                                   | 227.797086          | 196.445588          | 184.113869 | 210.607405 | 228.495445 | 209.4919            | 8.693991            |
|                              | 1.00E-009                                 | 227.164435          | 196.445588          | 184.113869 | 210.607405 | 228.495445 | 209.3653            | 8.628059            |
|                              | 1.00E-008                                 | 227.797086          | 196.445588          | 197.765748 | 212.86203  | 228.495445 | 212.6732            | 6.945065            |
|                              | 1.00E-007                                 | 227.797086          | 203.547401          | 227.530684 | 234.379066 | 211.4847   | 220.9478            | 5.757474            |
|                              | 1.00E-006                                 | 251.825184          | 210.551334          | 230.55698  | 248.751871 | 211.4847   | 230.634             | 8.795847            |
|                              | 1.00E-005                                 | 252.021438          | 235.708374          | 233.717126 | 252.584713 | 86.0855854 | 212.0234            | 31.73089            |
| Norepinephrine               | initial                                   | 229.778666          | 187.900624          | 233.778777 | 217.351775 | 247.505568 | 223.2631            | 10.06523            |
|                              | 1.00E-009                                 | 229.778666          | 187.900624          | 226.795831 | 214.899371 | 247.505568 | 221.376             | 9.862254            |
|                              | 1.00E-008                                 | 222.124891          | 187.900624          | 226.795831 | 214.861181 | 241.856973 | 218.7079            | 8.879346            |
|                              | 1.00E-007                                 | 215.799102          | 187.900624          | 195.464991 | 214.861181 | 264.113228 | 215.6278            | 13.27929            |
|                              | 1.00E-006                                 | 215.799102          | 158.769535          | 171.094762 | 162.191989 | 264.058656 | 194.3828            | 20.19934            |
|                              | 1.00E-005                                 | 55.6927423          | 69.9364881          | 139.661031 | 67.6554658 | 270.226604 | 120.6345            | 40.2084             |
|                              | H <sub>2</sub> O <sub>2</sub> 100 $\mu$ M | Time (sec)          | Diameter ( $\mu$ m) |            |            |            |                     | Diameter ( $\mu$ m) |
| initial                      |   | 191.000485          | 184.145384          | 168.991253 | 206.775721 | 231.308455 | 196.4443            | 10.62265            |
| 0                            |   | 191.000485          | 184.145384          | 168.991253 | 206.775721 | 231.308455 | 196.4443            | 10.62265            |
| 10                           |   | 189.561446          | 163.243734          | 163.931374 | 201.773565 | 229.604381 | 189.6229            | 12.45407            |
| 20                           |   | 189.561446          | 163.243734          | 163.931374 | 199.880861 | 220.663878 | 187.4563            | 10.95722            |
| 30                           |   | 187.334122          | 138.563193          | 163.931374 | 199.249987 | 201.023185 | 178.0204            | 11.87843            |
| 40                           |   | 183.669771          | 136.670926          | 163.931374 | 185.141616 | 180.277554 | 169.9382            | 9.13618             |
| 50                           |   | 176.662864          | 149.706142          | 161.351866 | 165.890367 | 160.526048 | 162.8275            | 4.361437            |
| 60                           |   | 169.831294          | 147.507985          | 156.382743 | 139.402817 | 158.132865 | 154.2515            | 5.139531            |
| 70                           |   | 163.680885          | 117.078458          | 156.382743 | 122.642694 | 155.297426 | 143.0164            | 9.603042            |
| 80                           |   | 163.680885          | 99.3674938          | 149.427781 | 118.521046 | 155.297426 | 137.2589            | 12.16235            |
| 90                           |   | 150.71752           | 98.71066            | 149.427781 | 123.02075  | 155.297426 | 135.4348            | 10.78578            |
| 100                          |   | 144.944149          | 98.71066            | 149.427781 | 117.435229 | 153.841905 | 132.8719            | 10.64157            |
| 110                          |   | 144.944149          | 96.1800342          | 149.427781 | 115.994672 | 153.841905 | 132.0777            | 11.15248            |
| 120                          |   | 140.616561          | 96.1800342          | 146.898813 | 113.579573 | 153.841905 | 130.2234            | 10.90846            |
| 130                          |   | 139.381273          | 96.1800342          | 148.720185 | 113.579573 | 149.893202 | 129.5509            | 10.5986             |
| 140                          |   | 134.445753          | 94.9400392          | 148.087616 | 135.352336 | 148.01867  | 132.1689            | 9.761985            |
| 150                          |   | 131.51363           | 80.9965958          | 164.110773 | 135.352336 | 145.226969 | 131.4401            | 13.81541            |
| 160                          |   | 131.51363           | 68.9768525          | 175.316252 | 135.352336 | 145.226969 | 131.2772            | 17.36668            |
| 170                          |   | 130.135116          | 68.9768525          | 184.778017 | 136.3733   | 145.226969 | 133.0981            | 18.63996            |
| 180                          |   | 129.845626          | 68.9768525          | 184.778017 | 172.811712 | 145.226969 | 140.3278            | 20.31731            |
| 190                          | 133.829476                                | 68.9768525          | 187.941092          | 172.811712 | 145.226969 | 141.7572   | 20.57815            |                     |



|     |            |            |            |            |            |          |          |
|-----|------------|------------|------------|------------|------------|----------|----------|
| 200 | 137.345875 | 68.9768525 | 183.290139 | 157.60034  | 145.226969 | 138.488  | 19.04079 |
| 210 | 139.339628 | 68.9768525 | 183.489873 | 157.60034  | 145.852725 | 139.0519 | 19.07305 |
| 220 | 151.005434 | 72.8054928 | 183.489873 | 159.97022  | 145.852725 | 142.6247 | 18.60942 |
| 230 | 165.939832 | 72.8054928 | 183.699198 | 166.041129 | 155.091074 | 148.7153 | 19.52395 |
| 240 | 177.073657 | 74.7025051 | 183.699198 | 167.452771 | 155.091074 | 151.6038 | 19.81917 |
| 250 | 180.299756 | 74.7025051 | 178.464211 | 169.003104 | 155.091074 | 151.5121 | 19.71497 |
| 260 | 193.116105 | 74.7025051 | 178.464211 | 179.261006 | 155.091074 | 156.127  | 21.25247 |
| 270 | 198.066113 | 74.7025051 | 178.464211 | 179.261006 | 158.215124 | 157.7418 | 21.69596 |
| 280 | 198.066113 | 74.7025051 | 179.729363 | 184.893885 | 161.340705 | 159.7465 | 22.06255 |
| 290 | 195.311338 | 75.3348531 | 186.687646 | 198.574779 | 165.814328 | 164.3446 | 22.97254 |
| 300 | 198.417475 | 75.9672075 | 186.687646 | 198.574779 | 170.587444 | 166.0469 | 23.09429 |
| 310 | 212.554325 | 77.2319351 | 186.687646 | 198.731957 | 170.587444 | 169.1587 | 23.99749 |
| 320 | 204.248303 | 77.8643084 | 187.952816 | 203.494279 | 170.587444 | 168.8294 | 23.55801 |
| 340 | 218.335827 | 78.4966817 | 188.153973 | 208.971125 | 171.836025 | 173.1587 | 25.01101 |
| 350 | 219.582725 | 78.4966817 | 193.209366 | 208.870531 | 177.795628 | 175.591  | 25.28376 |
| 360 | 219.582725 | 78.4966817 | 195.838403 | 218.66836  | 177.795628 | 178.0764 | 26.07889 |
| 370 | 228.526973 | 78.5196301 | 199.472871 | 221.347678 | 180.782032 | 181.7298 | 27.13633 |
| 380 | 237.22187  | 78.5196301 | 201.237167 | 217.969729 | 180.782032 | 183.1461 | 27.76369 |
| 390 | 244.146853 | 78.5196301 | 207.606537 | 217.880637 | 180.782032 | 185.7871 | 28.67342 |
| 400 | 244.146853 | 79.1113582 | 208.239018 | 217.880637 | 180.782032 | 186.032  | 28.58707 |
| 410 | 256.517902 | 78.478833  | 212.017833 | 217.010764 | 184.68375  | 189.7418 | 30.08646 |
| 420 | 256.517902 | 105.755124 | 215.813021 | 223.998519 | 185.137294 | 197.4444 | 25.58378 |
| 430 | 256.517902 | 109.090416 | 215.813021 | 223.998519 | 207.181901 | 202.5204 | 24.80386 |
| 440 | 252.104816 | 109.090416 | 217.078091 | 223.998519 | 206.553944 | 201.7652 | 24.3664  |
| 450 | 256.465615 | 114.140355 | 217.710629 | 223.998519 | 207.105552 | 203.8841 | 23.90073 |
| 460 | 256.465615 | 114.140355 | 221.740685 | 223.998519 | 210.246894 | 205.3184 | 24.05452 |
| 470 | 259.618788 | 124.243099 | 221.740685 | 223.998519 | 216.323446 | 209.1849 | 22.56849 |
| 480 | 259.618788 | 134.772876 | 224.410969 | 223.998519 | 223.245766 | 213.2094 | 20.79511 |
| 490 | 259.618788 | 133.507522 | 224.410969 | 219.181278 | 223.245766 | 211.9929 | 20.92927 |
| 500 | 259.618788 | 133.507522 | 226.936995 | 219.181278 | 223.245766 | 212.4981 | 21.01015 |
| 510 | 259.618788 | 132.874839 | 225.673975 | 219.728526 | 223.245766 | 212.2284 | 21.09651 |
| 520 | 260.104057 | 135.40556  | 225.042463 | 219.728526 | 224.689981 | 212.9941 | 20.69618 |
| 530 | 260.104057 | 152.547092 | 225.042463 | 219.728526 | 224.689981 | 216.4224 | 17.52389 |
| 540 | 261.320932 | 155.076876 | 225.042463 | 219.728526 | 232.200618 | 218.6739 | 17.44705 |
| 550 | 261.320932 | 155.8314   | 225.042463 | 219.728526 | 239.616217 | 220.3079 | 17.65623 |
| 560 | 261.320932 | 157.727299 | 225.042463 | 219.728526 | 242.765625 | 221.317  | 17.49344 |
| 570 | 265.323036 | 157.727299 | 225.042463 | 219.728526 | 245.915382 | 222.7473 | 18.15411 |
| 580 | 264.620508 | 160.887249 | 225.042463 | 219.728526 | 246.545382 | 223.3648 | 17.5483  |

|                       |                          |  |            |            |            |            |  |          |  |
|-----------------------|--------------------------|--|------------|------------|------------|------------|--|----------|--|
|                       | 590                      | 265.252869                                 | 160.887249 | 225.042463 | 211.666338 | 249.695569 | 222.5089                                   | 18.01023 |  |
|                       | 600                      | 265.252869                                 | 160.887249 | 225.042463 | 211.666338 | 254.106377 | 223.3911                                   | 18.36132 |  |
|                       | 610                      | 265.252869                                 | 162.78328  | 225.042463 | 211.666338 | 254.106377 | 223.7703                                   | 18.03971 |  |
|                       | 620                      | 265.252869                                 | 164.679356 | 225.042463 | 211.371084 | 254.106377 | 224.0904                                   | 17.73086 |  |
|                       | initial                  | 222.189769                                 | 165.446958 | 146.189933 | 211.439265 | 216.594391 | 192.3721                                   | 15.32502 |  |
|                       | <b>Concentration (M)</b> | <b>Diameter (<math>\mu\text{m}</math>)</b> |            |            |            |            | <b>Diameter (<math>\mu\text{m}</math>)</b> |          |  |
| <b>Norepinephrine</b> | 1.00E-009                | 202.348096                                 | 165.446958 | 146.189933 | 208.909822 | 216.594391 | 187.8978                                   | 13.63341 |  |
|                       | 1.00E-008                | 202.348096                                 | 157.237962 | 143.027143 | 179.939707 | 212.831002 | 179.0768                                   | 13.14944 |  |
|                       | 1.00E-007                | 198.440664                                 | 152.777847 | 136.666535 | 179.939707 | 212.831002 | 176.1312                                   | 14.07468 |  |
|                       | 1.00E-006                | 142.920753                                 | 122.204524 | 87.3160835 | 150.532813 | 153.992755 | 131.3934                                   | 12.32309 |  |
|                       | 1.00E-005                | 71.9898997                                 | 56.9613484 | 49.35533   | 114.647781 | 78.261738  | 74.24322                                   | 11.33981 |  |
|                       | without $\text{Ca}^{2+}$ | 254.031534                                 | 223.347038 | 229.728999 | 222.727831 | 256.31026  | 237.2291                                   | 7.435262 |  |

**Figure 1. Panel B/300  $\mu$ M**

Date (number of experiments)

|   |                   | 20120301            | 20120301A | Average             | $\pm$ SEM |
|---|-------------------|---------------------|-----------|---------------------|-----------|
|   | Concentration (M) | Diameter ( $\mu$ m) |           | Diameter ( $\mu$ m) |           |
| Norepinephrine                            | before incubation | 175.597903          | 95.583    | 135.5905            | 40.00745  |
|   | initial           | 180.991519          | 97.482    | 139.2368            | 41.75476  |
|   | 1.00E-009         | 180.991519          | 96.85728  | 138.9244            | 42.06712  |
|   | 1.00E-008         | 180.991519          | 96.85728  | 138.9244            | 42.06712  |
|   | 1.00E-007         | 180.991519          | 96.21809  | 138.6048            | 42.38671  |
|   | 1.00E-006         | 180.991519          | 65.832    | 123.4118            | 57.57976  |
|   | 1.00E-005         | 96.2680389          | 42.41572  | 69.34188            | 26.92616  |
| Achetylcholine                            | initial           | 130.496299          | 73.56157  | 102.0289            | 28.46736  |
|   | 1.00E-009         | 130.496299          | 79.24897  | 104.8726            | 25.62366  |
|   | 1.00E-008         | 130.496299          | 79.24897  | 104.8726            | 25.62366  |
|   | 1.00E-007         | 130.496299          | 83.90056  | 107.1984            | 23.29787  |
|   | 1.00E-006         | 148.316648          | 88.17124  | 118.2439            | 30.0727   |
|   | 1.00E-005         | 156.535406          | 94.16393  | 125.3497            | 31.18574  |
| H <sub>2</sub> O <sub>2</sub> 300 $\mu$ M | Time (sec)        | Diameter ( $\mu$ m) |           | Diameter ( $\mu$ m) |           |
|   | initial           | 124.715458          | 74.69668  | 99.70607            | 25.00939  |
|   | 0                 | 124.715458          | 74.69668  | 99.70607            | 25.00939  |
|   | 10                | 112.048147          | 62.03723  | 87.04269            | 25.00546  |
|   | 20                | 106.360952          | 53.805    | 80.08298            | 26.27798  |
|   | 30                | 106.360952          | 53.805    | 80.08298            | 26.27798  |
|   | 40                | 106.360952          | 45.576    | 75.96848            | 30.39248  |
|   | 50                | 103.210061          | 42.411    | 72.81053            | 30.39953  |
|   | 60                | 103.210061          | 41.7828   | 72.49643            | 30.71363  |
|   | 70                | 106.391089          | 44.31452  | 75.3528             | 31.03828  |
|   | 80                | 118.413303          | 57.60648  | 88.00989            | 30.40341  |
|   | 90                | 119.67886           | 65.832    | 92.75543            | 26.92343  |
|   | 100               | 122.209993          | 73.43073  | 97.82036            | 24.38963  |
|   | 110               | 129.170778          | 75.96     | 102.5654            | 26.60539  |
|   | 120               | 133.744373          | 77.23638  | 105.4904            | 28.254    |
|   | 130               | 133.744373          | 85.455    | 109.5997            | 24.14469  |
|   | 140               | 144.436402          | 85.455    | 114.9457            | 29.4907   |
| 150                                       | 155.1315          | 84.822              | 119.9768  | 35.15475            |           |

|     |            |          |          |          |
|-----|------------|----------|----------|----------|
| 160 | 159.561203 | 89.88823 | 124.7247 | 34.83649 |
| 170 | 169.053671 | 89.88823 | 129.4709 | 39.58272 |
| 180 | 169.053671 | 89.88823 | 129.4709 | 39.58272 |
| 190 | 170.352283 | 89.88823 | 130.1203 | 40.23203 |
| 200 | 176.046846 | 89.88823 | 132.9675 | 43.07931 |
| 210 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 220 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 230 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 240 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 250 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 260 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 270 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 280 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 290 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 300 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 310 | 179.229563 | 89.88823 | 134.5589 | 44.67067 |
| 320 | 179.229563 | 94.95    | 137.0898 | 42.13978 |
| 340 | 179.229563 | 94.95    | 137.0898 | 42.13978 |
| 350 | 179.229563 | 94.95    | 137.0898 | 42.13978 |
| 360 | 179.229563 | 94.95    | 137.0898 | 42.13978 |
| 370 | 179.229563 | 94.95    | 137.0898 | 42.13978 |
| 380 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 390 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 400 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 410 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 420 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 430 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 440 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 450 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 460 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 470 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 480 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 490 | 183.02569  | 94.95    | 138.9878 | 44.03784 |
| 500 | 183.02569  | 94.95    | 138.9878 | 44.03784 |

|                       |                          |  |          |  |          |
|-----------------------|--------------------------|--|----------|--|----------|
|                       | 510                      | 183.02569                                  | 94.95    | 138.9878                                   | 44.03784 |
|                       | 520                      | 183.02569                                  | 94.95    | 138.9878                                   | 44.03784 |
|                       | 530                      | 183.02569                                  | 94.95    | 138.9878                                   | 44.03784 |
|                       | 540                      | 183.02569                                  | 94.95    | 138.9878                                   | 44.03784 |
|                       | 550                      | 183.02569                                  | 94.95    | 138.9878                                   | 44.03784 |
|                       | 560                      | 183.02569                                  | 94.95    | 138.9878                                   | 44.03784 |
|                       | 570                      | 183.02569                                  | 94.95    | 138.9878                                   | 44.03784 |
|                       | initial                  | 175.414118                                 | 80.391   | 127.9026                                   | 47.51156 |
|                       | <b>Concentration (M)</b> | <b>Diameter (<math>\mu\text{m}</math>)</b> |          | <b>Diameter (<math>\mu\text{m}</math>)</b> |          |
| <b>Norepinephrine</b> | 1.00E-009                | 175.414118                                 | 80.391   | 127.9026                                   | 47.51156 |
|                       | 1.00E-008                | 175.414118                                 | 81.657   | 128.5356                                   | 46.87856 |
|                       | 1.00E-007                | 169.719568                                 | 73.428   | 121.5738                                   | 48.14578 |
|                       | 1.00E-006                | 167.803515                                 | 67.10098 | 117.4522                                   | 50.35127 |
|                       | 1.00E-005                | 120.909628                                 | 41.7828  | 81.34621                                   | 39.56341 |
|                       | without $\text{Ca}^{2+}$ | 194.989693                                 | 87.99611 | 141.4929                                   | 53.49679 |

## Figure 1. Panel B/3 mM

| Date (number of experiments)          |                          | 20120301             | 20130302   | Average              | ± SEM    |
|---------------------------------------|--------------------------|----------------------|------------|----------------------|----------|
|                                       | <b>Concentration (M)</b> | <b>Diameter (µm)</b> |            | <b>Diameter (µm)</b> |          |
| <b>Norepinephrine</b>                 | before incubation        | 175.597903           | 95.583     | 135.5905             | 40.00745 |
|                                       | initial                  | 175.414118           | 97.482     | 136.4481             | 38.96606 |
|                                       | 1.00E-009                | 175.414118           | 96.8572796 | 136.1357             | 39.27842 |
|                                       | 1.00E-008                | 175.414118           | 96.8572796 | 136.1357             | 39.27842 |
|                                       | 1.00E-007                | 169.719568           | 96.2180889 | 132.9688             | 36.75074 |
|                                       | 1.00E-006                | 167.803515           | 65.832     | 116.8178             | 50.98576 |
|                                       | 1.00E-005                | 120.909628           | 42.4157222 | 81.66267             | 39.24695 |
| <b>Achetylcholine</b>                 | initial                  | 130.496299           | 73.5615693 | 102.0289             | 28.46736 |
|                                       | 1.00E-009                | 130.496299           | 79.2489731 | 104.8726             | 25.62366 |
|                                       | 1.00E-008                | 130.496299           | 79.2489731 | 104.8726             | 25.62366 |
|                                       | 1.00E-007                | 130.496299           | 83.9005609 | 107.1984             | 23.29787 |
|                                       | 1.00E-006                | 148.316648           | 88.171241  | 118.2439             | 30.0727  |
|                                       | 1.00E-005                | 156.535406           | 94.1639343 | 125.3497             | 31.18574 |
| <b>H<sub>2</sub>O<sub>2</sub> 3mM</b> | <b>Time (sec)</b>        | <b>Diameter (µm)</b> |            | <b>Diameter (µm)</b> |          |
|                                       | initial                  | 150.033014           | 70.2658485 | 110.1494             | 39.88358 |
|                                       | 0                        | 150.033014           | 70.2658485 | 110.1494             | 39.88358 |
|                                       | 10                       | 150.033014           | 84.1913738 | 117.1122             | 32.92082 |
|                                       | 20                       | 184.845755           | 87.3631785 | 136.1045             | 48.74129 |
|                                       | 30                       | 184.845755           | 86.721     | 135.7834             | 49.06238 |
|                                       | 40                       | 184.845755           | 90.5278557 | 137.6868             | 47.15895 |
|                                       | 50                       | 184.845755           | 94.3191269 | 139.5824             | 45.26331 |
|                                       | 60                       | 184.845755           | 98.115     | 141.4804             | 43.36538 |
|                                       | 70                       | 184.845755           | 98.115     | 141.4804             | 43.36538 |
|                                       | 80                       | 184.845755           | 98.115     | 141.4804             | 43.36538 |
|                                       | 90                       | 184.25628            | 98.115     | 141.1856             | 43.07064 |
|                                       | 100                      | 184.25628            | 98.115     | 141.1856             | 43.07064 |
|                                       | 110                      | 184.25628            | 98.115     | 141.1856             | 43.07064 |
|                                       | 120                      | 184.25628            | 98.115     | 141.1856             | 43.07064 |
|                                       | 130                      | 184.25628            | 98.115     | 141.1856             | 43.07064 |
|                                       | 140                      | 184.25628            | 98.115     | 141.1856             | 43.07064 |

|                          |                      |        |                      |          |
|--------------------------|----------------------|--------|----------------------|----------|
| 150                      | 184.25628            | 98.115 | 141.1856             | 43.07064 |
| 160                      | 184.25628            | 98.115 | 141.1856             | 43.07064 |
| 170                      | 184.25628            | 98.115 | 141.1856             | 43.07064 |
| 180                      | 184.25628            | 98.115 | 141.1856             | 43.07064 |
| 190                      | 184.25628            | 98.115 | 141.1856             | 43.07064 |
| 200                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 210                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 220                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 230                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 240                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 250                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 260                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 270                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 280                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 290                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 300                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 310                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 320                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 340                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 350                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 360                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 370                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 380                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 390                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 400                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 410                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 420                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 430                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 440                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 450                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 460                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 470                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| 480                      | 184.207349           | 98.115 | 141.1612             | 43.04617 |
| <b>Concentration (M)</b> | <b>Diameter (μm)</b> |        | <b>Diameter (μm)</b> |          |

**Norepinephrine**

|                          |            |            |          |          |
|--------------------------|------------|------------|----------|----------|
| initial                  | 185.496004 | 71.5318042 | 128.5139 | 56.9821  |
| 1.00E-009                | 185.496004 | 71.5318042 | 128.5139 | 56.9821  |
| 1.00E-008                | 185.496004 | 74.694     | 130.095  | 55.401   |
| 1.00E-007                | 179.166953 | 86.088     | 132.6275 | 46.53948 |
| 1.00E-006                | 179.166953 | 74.6966776 | 126.9318 | 52.23514 |
| 1.00E-005                | 179.166953 | 80.393494  | 129.7802 | 49.38673 |
| without Ca <sup>2+</sup> | 194.989693 | 98.116     | 146.5528 | 48.43685 |



**Figure 2.**

| Date (number of experiments)      |                   | 20100831      | 20111212 | 20120223 | 20120228 | 20120229 | Average       | ± SEM    |
|-----------------------------------|-------------------|---------------|----------|----------|----------|----------|---------------|----------|
|                                   | Concentration (M) | Diameter (µm) |          |          |          |          | Diameter (µm) |          |
|                                   | before incubation | 173.391       | 163.7563 | 137.4543 | 196.4912 | 200.2382 | 174.2662      | 11.47788 |
| <b>Norepinephrine</b>             | initial           |               | 167.5    | 141.3306 | 184.8631 | 159.9224 | 163.404       | 9.021389 |
|                                   | 1.00E-009         |               | 167.5    | 141.3306 | 184.8631 | 159.9224 | 163.404       | 9.021389 |
|                                   | 1.00E-008         |               | 167.5    | 143.4161 | 181.0557 | 155.3754 | 161.8368      | 8.075227 |
|                                   | 1.00E-007         |               | 162.4049 | 143.4161 | 149.7751 | 143.8304 | 149.8566      | 4.427781 |
|                                   | 1.00E-006         |               | 157.3524 | 128.5551 | 105.0856 | 46.27831 | 109.3179      | 23.57485 |
|                                   | 1.00E-005         |               | 74.91094 | 65.39843 | 77.226   | 32.38214 | 62.47938      | 10.35363 |
| <b>Achetylcholine</b>             | initial           |               | 137.6407 | 121.4601 | 117.738  | 127.2724 | 126.0278      | 4.339679 |
|                                   | 1.00E-009         |               | 137.6407 | 121.4601 | 117.738  | 127.2724 | 126.0278      | 4.339679 |
|                                   | 1.00E-008         |               | 137.6407 | 123.7349 | 129.8638 | 127.2724 | 129.6279      | 2.951515 |
|                                   | 1.00E-007         |               | 152.9321 | 124.7845 | 151.4829 | 153.2461 | 145.6114      | 6.952905 |
|                                   | 1.00E-006         |               | 169.8387 | 128.1118 | 185.9426 | 182.0015 | 166.4737      | 13.23856 |
|                                   | 1.00E-005         |               | 169.5176 | 136.8481 | 190.3478 | 182.0015 | 169.6788      | 11.75067 |
| <b>endothelium removal</b>        |                   |               |          |          |          |          |               |          |
| <b>Norepinephrine</b>             | initial           | 151.8712      | 144.8173 | 92.83544 | 167.4581 | 143.0594 | 140.0083      | 12.55375 |
|                                   | 1.00E-009         | 151.8712      | 144.8173 | 92.83544 | 167.4581 | 143.0594 | 140.0083      | 12.55375 |
|                                   | 1.00E-008         | 151.8712      | 144.231  | 91.68235 | 165.5631 | 143.0594 | 139.2814      | 12.55721 |
|                                   | 1.00E-007         | 145.545       | 144.231  | 98.45745 | 165.5631 | 137.3668 | 138.2327      | 10.99822 |
|                                   | 1.00E-006         | 118.0167      | 91.3496  | 98.45745 | 165.5631 | 122.8281 | 119.243       | 12.98073 |
|                                   | 1.00E-005         | 56.59118      | 75.23119 | 51.94073 | 106.4118 | 55.071   | 69.04918      | 10.19184 |
| <b>Achetylcholine</b>             | initial           | 168.9628      | 140.429  | 106.5435 | 145.7564 | 119.719  | 136.2822      | 10.8021  |
|                                   | 1.00E-009         | 168.9628      | 140.429  | 106.9526 | 145.7564 | 119.719  | 136.364       | 10.74595 |
|                                   | 1.00E-008         | 171.4932      | 140.429  | 110.2384 | 145.7564 | 118.4539 | 137.2742      | 10.81199 |
|                                   | 1.00E-007         | 171.4932      | 140.429  | 108.7619 | 145.7564 | 118.4539 | 136.9789      | 10.99901 |
|                                   | 1.00E-006         | 171.4932      | 142.9866 | 99.19536 | 145.788  | 118.4539 | 135.5834      | 12.38137 |
|                                   | 1.00E-005         | 171.4932      | 142.9866 | 107.1342 | 147.0523 | 118.4539 | 137.424       | 11.31745 |
| <b>H<sub>2</sub>O<sub>2</sub></b> | initial           | 162.0179      | 142.0475 | 115.5758 | 130.4226 | 106.977  | 131.4082      | 9.743377 |
|                                   | 1.00E-006         | 162.0179      | 142.0475 | 117.3374 | 130.4226 | 106.977  | 131.7605      | 9.605648 |
|                                   | 3.00E-006         | 153.7495      | 140.5616 | 117.3374 | 130.4226 | 106.3459 | 129.6834      | 8.352012 |

**Norepinephrine**

|                          |          |          |          |          |          |          |          |
|--------------------------|----------|----------|----------|----------|----------|----------|----------|
| 1.00E-005                | 158.8905 | 136.8993 | 122.287  | 125.9924 | 102.5948 | 129.3328 | 9.237507 |
| 3.00E-005                | 156.361  | 134.9062 | 122.287  | 128.538  | 89.96621 | 126.4117 | 10.76783 |
| 1.00E-004                | 154.5105 | 128.84   | 122.287  | 129.1382 | 88.64034 | 124.6832 | 10.5632  |
| 3.00E-004                | 147.7263 | 123.7786 | 119.0595 | 163.991  | 115.979  | 134.1069 | 9.328085 |
| 1.00E-003                | 138.2566 | 155.8685 | 125.4075 | 171.5477 | 174.1061 | 153.0373 | 9.42448  |
| 3.00E-003                | 172.5115 | 160.9277 | 122.8036 | 176.6172 | 179.782  | 162.5284 | 10.43183 |
| 1.00E-002                | 174.0823 | 167.2905 | 127.1684 | 176.6172 | 179.782  | 164.9881 | 9.675821 |
| initial                  | 168.9379 | 159.5524 | 104.891  | 173.4709 | 175.8442 | 156.5393 | 13.2093  |
| 1.00E-009                | 168.9379 | 159.5524 | 105.6503 | 173.4709 | 175.8442 | 156.6911 | 13.06088 |
| 1.00E-008                | 168.9379 | 159.5524 | 105.6503 | 170.9393 | 175.8442 | 156.1848 | 12.90717 |
| 1.00E-007                | 155.0343 | 154.1846 | 105.3142 | 170.9393 | 174.5818 | 152.0108 | 12.37373 |
| 1.00E-006                | 100.13   | 154.1846 | 107.1865 | 169.6865 | 174.5818 | 141.1539 | 15.71317 |
| 1.00E-005                | 62.24065 | 154.1846 | 98.5632  | 169.6865 | 174.5818 | 131.8513 | 22.03397 |
| without Ca <sup>2+</sup> | 175.893  | 175.1489 | 137.4543 | 184.9054 | 185.7809 | 171.8365 | 8.873567 |

**Figure 3. Panel A**

| Date (number of experiments)  |                          | 20111121      | 201111212   | 20111123    | 20111124   | 20111129   | Average       | ± SEM    |          |
|-------------------------------|--------------------------|---------------|-------------|-------------|------------|------------|---------------|----------|----------|
|                               | Concentration (M)        | Diameter (µm) |             |             |            |            | Diameter (µm) |          |          |
| Norepinephrine                | before incubation        | 166.479       | 158.5737605 | 196.280013  | 184.684181 | 176.475349 | 176.4985      | 6.633253 |          |
|                               | initial                  | 141.171768    | 150.4530605 | 178.793078  | 116.858383 | 141.228522 | 145.701       | 9.975172 |          |
|                               | 1.00E-09                 | 141.171768    | 150.4530605 | 178.793078  | 116.858383 | 137.413495 | 144.938       | 10.08923 |          |
|                               | 1.00E-08                 | 141.171768    | 146.5733339 | 178.793078  | 109.866993 | 136.096469 | 142.5003      | 11.04867 |          |
|                               | 1.00E-07                 | 128.513034    | 146.5733339 | 178.793078  | 73.8198523 | 134.1975   | 132.3794      | 17.03404 |          |
|                               | 0.000001                 | 113.308766    | 144.0474866 | 178.793078  | 53.2322489 | 75.9837312 | 113.0731      | 22.62204 |          |
|                               | 0.00001                  | 68.364        | 66.29900841 | 98.1333697  | 34.2347099 | 36.7194565 | 60.75011      | 11.76182 |          |
| Achetylcholine                | initial                  | 118.479275    | 133.7129134 | 151.308193  | 105.165671 | 110.83466  | 123.9001      | 8.362311 |          |
|                               | 1.00E-09                 | 118.479275    | 133.7129134 | 151.308193  | 105.165671 | 110.83466  | 123.9001      | 8.362311 |          |
|                               | 1.00E-08                 | 118.479275    | 142.7411519 | 151.308193  | 105.165671 | 110.83466  | 125.7058      | 9.058024 |          |
|                               | 1.00E-07                 | 140.890507    | 156.3394667 | 163.392486  | 123.869219 | 110.83466  | 139.0653      | 9.801607 |          |
|                               | 0.000001                 | 152.659331    | 161.5155014 | 181.829731  | 174.56115  | 141.978387 | 162.5088      | 7.204353 |          |
|                               | 0.00001                  | 165.223913    | 161.5155014 | 183.679104  | 181.263608 | 152.637024 | 168.8638      | 5.932129 |          |
|                               | PLA inhibitor            | 120.376566    | 130.6987826 | 170.616699  | 124.527362 | 105.399729 | 130.3238      | 10.90278 |          |
| H <sub>2</sub> O <sub>2</sub> | initial                  | 123.734909    | 130.6987826 | 170.616699  | 124.527362 | 105.399729 | 130.9955      | 10.76946 |          |
|                               | 1.00E-06                 | 123.734909    | 130.6987826 | 170.616699  | 124.527362 | 105.399729 | 130.9955      | 10.76946 |          |
|                               | 3.00E-06                 | 123.734909    | 128.8493275 | 174.581818  | 125.742551 | 105.399729 | 131.6617      | 11.48392 |          |
|                               | 1.00E-05                 | 116.349806    | 126.0957585 | 168.175611  | 124.082534 | 101.944447 | 127.3296      | 11.05763 |          |
|                               | 3.00E-05                 | 112.617093    | 124.8952487 | 156.362533  | 110.95029  | 98.1476691 | 120.5946      | 9.895349 |          |
|                               | 1.00E-04                 | 116.17749     | 126.8276774 | 155.846607  | 103.460166 | 95.6165237 | 119.5857      | 10.52015 |          |
|                               | 3.00E-04                 | 134.916645    | 149.8713588 | 160.329038  | 103.460166 | 110.776804 | 131.8708      | 10.9437  |          |
|                               | 1.00E-03                 | 166.194739    | 156.6390467 | 192.807477  | 188.912058 | 141.164678 | 169.1436      | 9.743333 |          |
|                               | 3.00E-03                 | 166.50908     | 162.8188674 | 197.062357  | 188.912058 | 151.308193 | 173.3221      | 8.508801 |          |
|                               | 1.00E-02                 | 169.686519    | 162.8188674 | 197.062357  | 188.912058 | 154.534999 | 174.603       | 7.984153 |          |
|                               | initial                  | 164.449703    | 149.4657641 | 187.40648   | 184.93678  | 134.1975   | 164.0912      | 10.21226 |          |
|                               | Norepinephrine           | 1.00E-09      | 164.449703  | 150.8785757 | 187.40648  | 184.93678  | 134.1975      | 164.3738 | 10.11454 |
|                               |                          | 1.00E-08      | 161.319398  | 150.8785757 | 187.40648  | 183.675844 | 130.399538    | 162.736  | 10.57204 |
|                               |                          | 1.00E-07      | 161.319398  | 149.0577259 | 185.507885 | 183.675844 | 125.340393    | 160.9802 | 11.24535 |
| 0.000001                      |                          | 161.319398    | 149.0577259 | 185.507885  | 183.675844 | 125.340393 | 160.9802      | 11.24535 |          |
| 0.00001                       |                          | 159.973773    | 149.0577259 | 185.507885  | 183.045376 | 125.340393 | 160.585       | 11.18269 |          |
|                               | without Ca <sup>2+</sup> | 172.738256    | 164.0691627 | 197.549761  | 190.106662 | 156.454755 | 176.1837      | 7.740225 |          |

**Figure 3. Panel B**

| Date (number of experiments)                 |                   | 20111201      | 20111202 | 20111206 | 20111207 | 20111208 | Average       | ± SEM    |
|--|-------------------|---------------|----------|----------|----------|----------|---------------|----------|
|  | Concentration (M) | Diameter (μm) |          |          |          |          | Diameter (μm) |          |
| Norepinephrine                               | before incubation | 166.479       | 186.8648 | 177.8741 | 190.094  | 167.8596 | 177.8343      | 4.797339 |
|  | initial           | 98.31898      | 183.3571 | 145.788  | 159.4255 | 156.8576 | 148.7494      | 14.01679 |
|  | 1.00E-09          | 98.31898      | 180.1427 | 145.788  | 159.4255 | 156.8576 | 148.1066      | 13.62937 |
|  | 1.00E-08          | 93.89761      | 180.1427 | 145.788  | 159.4255 | 156.8576 | 147.2223      | 14.44142 |
|  | 1.00E-07          | 83.84562      | 177.625  | 143.8916 | 149.3464 | 149.85   | 140.9117      | 15.43425 |
|  | 0.000001          | 53.98715      | 168.1172 | 143.8916 | 146.8683 | 144.8575 | 131.5443      | 19.89624 |
|  | 0.00001           | 37.53962      | 65.39536 | 48.212   | 62.63822 | 78.75955 | 58.50895      | 7.142479 |
| Achetylcholine                               | initial           | 85.53936      | 139.411  | 118.7512 | 146.9051 | 134.1975 | 124.9608      | 10.88183 |
|  | 1.00E-09          | 85.53936      | 139.411  | 118.7512 | 146.9051 | 134.1975 | 124.9608      | 10.88183 |
|  | 1.00E-08          | 85.53936      | 139.411  | 138.6284 | 153.9492 | 134.1975 | 130.3451      | 11.68408 |
|  | 1.00E-07          | 109.025       | 151.8475 | 138.6284 | 175.1215 | 134.1975 | 141.764       | 10.84741 |
|  | 0.000001          | 135.7516      | 163.2858 | 169.5223 | 183.3319 | 149.3679 | 160.2519      | 8.205366 |
| cheleryrine<br>H <sub>2</sub> O <sub>2</sub> | 0.00001           | 143.6924      | 180.9683 | 176.8156 | 185.7119 | 162.7992 | 169.9975      | 7.607761 |
|  | initial           | 75.49703      | 130.616  | 117.7992 | 146.9392 | 134.7636 | 121.123       | 12.31957 |
|  | 1.00E-06          | 127.2582      | 192.1079 | 163.5898 | 172.7731 | 163.1876 | 163.7833      | 10.5299  |
|  | 3.00E-06          | 127.2582      | 185.8747 | 160.394  | 169.3426 | 156.1163 | 159.7972      | 9.601675 |
|  | 1.00E-05          | 127.2582      | 190.2373 | 160.394  | 168.1125 | 153.288  | 159.858       | 10.24021 |
|  | 3.00E-05          | 124.0938      | 190.2373 | 160.394  | 168.1125 | 153.3402 | 159.2356      | 10.74929 |
|  | 1.00E-04          | 119.0646      | 190.2373 | 160.394  | 168.1125 | 149.1316 | 157.388       | 11.70465 |
|  | 3.00E-04          | 121.536       | 193.3553 | 164.2217 | 182.6948 | 165.7445 | 165.5105      | 12.25991 |
|  | 1.00E-03          | 135.4635      | 193.3553 | 176.3425 | 186.4129 | 176.1515 | 173.5451      | 10.05697 |
|  | 3.00E-03          | 158.9448      | 193.3553 | 175.8783 | 185.1522 | 176.1515 | 177.8964      | 5.735447 |
| Norepinephrine                               | 1.00E-02          | 160.8131      | 193.3553 | 177.7817 | 185.1522 | 176.1515 | 178.6508      | 5.402202 |
|  | initial           | 161.694       | 185.4431 | 169.4608 | 178.7673 | 175.1764 | 174.1083      | 4.043745 |
|  | 1.00E-09          | 161.694       | 185.4431 | 169.4608 | 178.7673 | 168.699  | 172.8128      | 4.163931 |
|  | 1.00E-08          | 161.694       | 185.4431 | 169.9991 | 176.9594 | 168.699  | 172.5589      | 4.030286 |
|  | 1.00E-07          | 161.694       | 179.7196 | 169.9991 | 176.9594 | 162.5677 | 170.188       | 3.653471 |
|  | 0.000001          | 161.694       | 179.7196 | 168.7453 | 176.9594 | 162.5677 | 169.9372      | 3.665299 |
|  | 0.00001           | 161.0621      | 178.0026 | 165.6115 | 176.9594 | 162.5677 | 168.8407      | 3.606515 |
| without Ca <sup>2+</sup>                     | 166.0018          | 195.7854      | 179.026  | 189.4458 | 176.6989 | 185.239  | 4.476405      |          |

**Figure 3. Panel C**

| Date (number of experiments)      |                          | 20140508      | 20140508d | 20140513   | 20140513d | Average       | ± SEM    |
|-----------------------------------|--------------------------|---------------|-----------|------------|-----------|---------------|----------|
|                                   | Concentration (M)        | Diameter (µm) |           |            |           | Diameter (µm) |          |
| <b>U46619</b>                     | initial                  | 113.314071    | 124.8311  | 182.964371 | 148.1612  | 142.3177      | 15.36579 |
|                                   | 0.00000001               | 113.314071    | 124.8311  | 182.964371 | 148.1612  | 142.3177      | 15.36579 |
|                                   | 0.00000001               | 108.259654    | 124.8311  | 182.964371 | 148.1612  | 141.0541      | 16.19065 |
|                                   | 0.0000001                | 104.462262    | 124.8311  | 182.964371 | 141.0113  | 138.3173      | 16.65498 |
|                                   | 0.000001                 | 73.4716454    | 70.33425  | 102.563578 | 73.07793  | 79.86185      | 7.599342 |
|                                   | 0.000001                 | 29.751        | 29.77792  | 43.7182653 | 50.04304  | 38.32256      | 5.106906 |
| <b>Achetylcholine</b>             | initial                  | 127.258187    | 121.0686  | 127.966242 | 136.7177  | 128.2527      | 3.218948 |
|                                   | 0.000000001              | 127.258187    | 121.0686  | 133.026425 | 135.1199  | 129.1183      | 3.156352 |
|                                   | 0.00000001               | 127.258187    | 127.3904  | 133.026425 | 135.1199  | 130.6987      | 1.994737 |
|                                   | 0.0000001                | 127.258187    | 136.273   | 133.026425 | 169.9579  | 141.6289      | 9.625207 |
|                                   | 0.000001                 | 146.868274    | 141.5686  | 147.65327  | 179.3178  | 153.852       | 8.595484 |
|                                   | 0.000001                 | 155.800322    | 148.7765  | 183.727092 | 188.9566  | 169.3151      | 9.991561 |
| <b>U46619</b>                     | initial                  | 123.441488    | 132.4484  | 168.013512 | 140.1377  | 141.0103      | 9.625941 |
|                                   | 0.000000001              | 117.105       | 132.4196  | 178.596892 | 140.1377  | 142.0648      | 13.08412 |
|                                   | 0.00000001               | 117.105       | 132.4196  | 178.596892 | 140.1377  | 142.0648      | 13.08412 |
|                                   | 0.0000001                | 110.775       | 131.7613  | 169.739621 | 131.9088  | 136.0462      | 12.27925 |
|                                   | 0.0000001                | 105.078       | 130.0257  | 149.522057 | 117.8978  | 125.6309      | 9.453056 |
|                                   | 0.000001                 | 53.86454      | 75.98373  | 87.0530338 | 56.90314  | 68.45111      | 7.899871 |
| <b>U73122</b>                     | 0.000001                 | 27.2263618    | 39.879    | 40.1244141 | 40.2789   | 36.87717      | 3.217989 |
|                                   | initial                  | 134.1975      | 123.5664  | 134.830488 | 138.1188  | 132.6783      | 3.15655  |
|                                   | 1.00E-06                 | 119.005684    | 119.4342  | 134.830488 | 130.8168  | 126.0218      | 4.012553 |
|                                   | 3.00E-06                 | 119.005684    | 119.4342  | 134.830488 | 130.8168  | 126.0218      | 4.012553 |
|                                   | 1.00E-05                 | 113.94176     | 119.4342  | 153.851562 | 140.0433  | 131.8177      | 9.246854 |
|                                   | 3.00E-05                 | 113.94176     | 116.2275  | 157.637332 | 148.295   | 134.0254      | 11.1103  |
| <b>H<sub>2</sub>O<sub>2</sub></b> | 3.00E-05                 | 107.611861    | 113.653   | 162.067781 | 153.3402  | 134.1682      | 13.76004 |
|                                   | 1.00E-04                 | 97.5004963    | 102.7412  | 169.029971 | 157.5191  | 131.6977      | 18.41279 |
|                                   | 3.00E-04                 | 95.5850952    | 138.6328  | 189.318868 | 180.1071  | 150.911       | 21.48505 |
|                                   | 1.00E-03                 | 128.500557    | 145.0951  | 195.088309 | 192.1736  | 165.2144      | 16.76291 |
|                                   | 3.00E-03                 | 151.288323    | 145.0951  | 195.088309 | 193.3336  | 171.2013      | 13.34942 |
|                                   | 1.00E-02                 | 155.086291    | 153.3167  | 195.088309 | 195.6666  | 174.7895      | 11.89255 |
|                                   | without Ca <sup>2+</sup> | 155.719285    | 158.9448  | 200.044034 | 200.1662  | 178.7186      | 12.36509 |

**Figure 3. Panel D**

| Date (number of experiments) |                               | 20111214      | 20111215   | 20111219   | 20111220   | 20120103   | Average       | ± SEM    |
|------------------------------|-------------------------------|---------------|------------|------------|------------|------------|---------------|----------|
|                              | Concentration (M)             | Diameter (µm) |            |            |            |            | Diameter (µm) |          |
| Norepinephrine               | before incubation             | 189.927428    | 199.294492 | 188.209744 | 201.14365  | 182.849374 | 192.2849      | 3.455471 |
|                              | initial                       | 176.066203    | 183.606005 | 154.457184 | 187.991416 | 169.829317 | 174.39        | 5.877329 |
|                              | 1.00E-09                      | 176.066203    | 183.606005 | 154.457184 | 187.991416 | 169.829317 | 174.39        | 5.877329 |
|                              | 1.00E-08                      | 176.066203    | 183.606005 | 152.554317 | 187.991416 | 169.829317 | 174.0095      | 6.203288 |
|                              | 1.00E-07                      | 176.066203    | 178.596892 | 150.022336 | 187.991416 | 169.829317 | 172.5012      | 6.33345  |
|                              | 0.000001                      | 158.075197    | 174.121032 | 110.149273 | 164.014206 | 108.324404 | 142.9368      | 13.99808 |
| Achetylcholine               | 0.00001                       | 70.9214276    | 99.77534   | 68.364     | 101.684702 | 94.52282   | 87.05366      | 7.215432 |
|                              | initial                       | 141.300862    | 145.404107 | 125.99244  | 154.339111 | 114.824523 | 136.3722      | 7.073609 |
|                              | 1.00E-09                      | 141.300862    | 145.404107 | 125.99244  | 154.339111 | 114.824523 | 136.3722      | 7.073609 |
|                              | 1.00E-08                      | 141.300862    | 145.404107 | 134.901789 | 154.339111 | 114.824523 | 138.1541      | 6.630483 |
|                              | 1.00E-07                      | 157.844361    | 155.969972 | 137.871571 | 181.210543 | 114.824523 | 149.5442      | 11.07846 |
|                              | 0.000001                      | 166.777187    | 183.849178 | 184.863105 | 197.098963 | 142.336348 | 174.985       | 9.482828 |
| Src inhibitor-1              | 0.00001                       | 185.053727    | 185.900573 | 195.622599 | 197.098963 | 158.595245 | 184.4542      | 6.912887 |
|                              | initial                       | 103.674886    | 158.352508 | 126.601583 | 160.364024 | 139.329041 | 137.6644      | 10.54446 |
|                              | H <sub>2</sub> O <sub>2</sub> | 112.888948    | 177.69157  | 129.766545 | 167.389906 | 129.32114  | 143.4116      | 12.38232 |
|                              | 1.00E-06                      | 112.888948    | 177.69157  | 129.766545 | 167.389906 | 129.32114  | 143.4116      | 12.38232 |
|                              | 3.00E-06                      | 116.011828    | 171.659757 | 129.766545 | 163.407209 | 133.717414 | 142.9126      | 10.55332 |
|                              | 1.00E-05                      | 116.011828    | 172.924883 | 117.132371 | 162.552868 | 130.913211 | 139.907       | 11.77618 |
| Norepinephrine               | 3.00E-05                      | 111.587683    | 170.394624 | 117.132371 | 157.865934 | 124.707425 | 136.3376      | 11.70472 |
|                              | 1.00E-04                      | 98.9506803    | 170.394624 | 107.611861 | 160.262801 | 128.424141 | 133.1288      | 14.08259 |
|                              | 3.00E-04                      | 84.9069866    | 167.841703 | 115.840728 | 179.763075 | 147.668202 | 139.2041      | 17.36492 |
|                              | 1.00E-03                      | 93.7887299    | 191.925359 | 182.313894 | 202.501644 | 173.036076 | 168.7131      | 19.36208 |
|                              | 3.00E-03                      | 168.578959    | 191.925359 | 185.576983 | 196.994246 | 174.987583 | 183.6126      | 5.255618 |
|                              | 1.00E-02                      | 181.804386    | 191.808406 | 184.93678  | 202.041073 | 174.987583 | 187.1156      | 4.608889 |
| Norepinephrine               | initial                       | 181.760304    | 177.258078 | 165.232395 | 206.4638   | 177.552829 | 181.6535      | 6.787305 |
|                              | 1.00E-09                      | 181.760304    | 177.258078 | 165.232395 | 206.4638   | 177.552829 | 181.6535      | 6.787305 |
|                              | 1.00E-08                      | 181.760304    | 177.258078 | 165.232395 | 196.432041 | 177.552829 | 179.6471      | 5.020344 |
|                              | 1.00E-07                      | 181.760304    | 174.726351 | 165.232395 | 196.432041 | 177.552829 | 179.1408      | 5.105397 |
|                              | 0.000001                      | 181.042425    | 174.726351 | 165.232395 | 196.432041 | 174.369383 | 178.3605      | 5.17328  |
|                              | 0.00001                       | 181.042425    | 174.726351 | 165.232395 | 196.432041 | 174.369383 | 178.3605      | 5.17328  |
|                              | without Ca <sup>2+</sup>      | 184.291069    | 193.069152 | 186.106311 | 204.501132 | 179.776463 | 189.5488      | 4.306728 |

**Figure 4. Panel A**

| Date (number of experiments) |                          | 20111026      | 20111108   | 20111109   | 20111108   | 20111110   | Average       | ± SEM    |
|------------------------------|--------------------------|---------------|------------|------------|------------|------------|---------------|----------|
|                              | Concentration (M)        | Diameter (µm) |            |            |            |            | Diameter (µm) |          |
| Norepinephrine               | before incubation        | 160.81315     | 137.014895 | 154.743579 | 141.996731 | 152.45973  | 149.4056      | 0.946642 |
|                              | initial                  | 118.540125    | 90.5986441 | 145.006741 | 87.8297438 | 144.07531  | 117.2101      | 2.702528 |
|                              | 1.00E-09                 | 118.540125    | 90.5986441 | 145.006741 | 86.6077183 | 145.32555  | 117.2158      | 2.764389 |
|                              | 1.00E-08                 | 118.540125    | 90.5986441 | 145.006741 | 80.7788328 | 147.72924  | 116.5307      | 2.983661 |
|                              | 1.00E-07                 | 114.334941    | 92.6345303 | 137.397461 | 56.8573513 | 145.36967  | 109.3188      | 3.516379 |
|                              | 0.000001                 | 91.3298603    | 101.376881 | 117.765219 | 41.9598293 | 134.54488  | 97.39533      | 3.45595  |
|                              | 0.00001                  | 39.1284139    | 110.258352 | 39.6169    | 21.0418948 | 76.351973  | 57.27951      | 3.544227 |
| Achetylcholine               | initial                  | 97.6873072    | 90.55441   | 106.351533 | 60.8799904 | 122.35253  | 95.56515      | 2.261703 |
|                              | 1.00E-09                 | 97.6873072    | 90.55441   | 98.2802636 | 59.9080252 | 122.42455  | 93.77091      | 2.243738 |
|                              | 1.00E-08                 | 100.887572    | 90.55441   | 98.2802636 | 58.1016774 | 125.4714   | 94.65906      | 2.438433 |
|                              | 1.00E-07                 | 124.758825    | 88.6561633 | 99.4313931 | 85.2319878 | 137.25449  | 107.0666      | 2.362334 |
|                              | 0.000001                 | 151.925273    | 88.6561633 | 145.822374 | 120.843327 | 145.73442  | 130.5963      | 2.789435 |
|                              | 0.00001                  | 167.116792    | 31.017     | 154.49869  | 131.618342 | 159.55869  | 128.7619      | 6.134443 |
|                              | indomethacin             | initial       | 134.763598 | 88.62      | 106.345886 | 96.6025161 | 129.9933      | 111.2651 |
| 1.00E-06                     |                          | 148.144991    | 88.62      | 91.3298603 | 90.5809517 | 130.31347  | 109.7979      | 3.210125 |
| 3.00E-06                     |                          | 150.09577     | 98.7500256 | 87.5830511 | 93.6604714 | 130.78001  | 112.1739      | 3.248139 |
| 1.00E-05                     |                          | 150.09577     | 98.7500256 | 84.7227393 | 94.1660612 | 130.78001  | 111.7029      | 3.44669  |
| 3.00E-05                     |                          | 156.871649    | 106.984495 | 84.7227393 | 116.721149 | 130.78001  | 119.216       | 3.503807 |
| 1.00E-04                     |                          | 168.04927     | 111.424186 | 84.7227393 | 137.388713 | 146.60476  | 129.6379      | 4.395122 |
| 3.00E-04                     |                          | 174.345253    | 111.424186 | 97.2536073 | 140.967264 | 158.00294  | 136.3987      | 4.564515 |
| Norepinephrine               | 1.00E-03                 | 172.392302    | 115.840728 | 147.522948 | 140.967264 | 162.95786  | 147.9362      | 3.287897 |
|                              | 3.00E-03                 | 172.392302    | 121.537652 | 155.723146 | 139.640724 | 162.54178  | 150.3671      | 3.210771 |
|                              | 1.00E-02                 | 173.022188    | 121.537652 | 155.723146 | 140.249151 | 162.54178  | 150.6148      | 3.454926 |
|                              | initial                  | 164.342454    |            | 150.654    | 134.358624 | 158.14869  | 151.8759      | 2.404763 |
|                              | 1.00E-09                 | 164.342454    |            | 150.654    | 127.439111 | 163.14339  | 151.3947      | 3.42558  |
|                              | 1.00E-08                 | 164.342454    |            | 150.654    | 129.135102 | 163.14339  | 151.8187      | 3.565699 |
|                              | 1.00E-07                 | 161.899574    |            | 149.388    | 127.2078   | 160.94639  | 149.8604      | 3.913787 |
|                              | 0.000001                 | 161.899574    |            | 147.489    | 128.729545 | 156.33947  | 148.6144      | 4.028254 |
|                              | 0.00001                  | 161.16671     |            | 147.489    | 127.302263 | 154.14557  | 147.5259      | 4.864416 |
|                              | without Ca <sup>2+</sup> | 173.815856    | 137.014895 | 155.800322 | 141.126356 | 171.95361  | 155.9422      | 7.594752 |

**Figure 4. Panel B**

| Date (number of experiments)      |                                   | 20120704      | 20120704d   | 20120425    | 20120704    | 20120704d   | Average       | ± SEM       |             |
|-----------------------------------|-----------------------------------|---------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|
|                                   | Concentration (M)                 | Diameter (µm) |             |             |             |             | Diameter (µm) |             |             |
| <b>Achetylcholine</b>             | initial                           | 142.0700769   | 148.1436    | 143.7133006 | 142.0700769 | 148.1436    | 144.8281      | 1.386393121 |             |
|                                   | 1.00E-09                          | 142.0700769   | 148.1436    | 143.7133006 | 142.0700769 | 148.1436    | 144.8281      | 1.386393121 |             |
|                                   | 1.00E-08                          | 142.0700769   | 148.1436    | 143.7133006 | 142.0700769 | 148.1436    | 144.8281      | 1.386393121 |             |
|                                   | 1.00E-07                          | 142.0700769   | 172.8102    | 143.7133006 | 142.0700769 | 172.8102    | 154.6948      | 7.401665404 |             |
|                                   | 0.000001                          | 164.3424541   | 195.6011    | 149.4000713 | 164.3424541 | 195.6011    | 173.8574      | 9.286565315 |             |
|                                   | 0.00001                           | 180.3605697   | 204.5775    | 184.2910693 | 180.3605697 | 204.5775    | 190.8335      | 5.656699411 |             |
| <b>Norepinephrine</b>             | initial                           | 150.154487    | 160.843     | 181.7415668 | 150.154487  | 160.843     | 160.7473      | 5.767117771 |             |
|                                   | 1.00E-09                          | 150.154487    | 160.843     | 178.5778202 | 150.154487  | 160.843     | 160.1146      | 5.197881628 |             |
|                                   | 1.00E-08                          | 150.154487    | 158.9851    | 176.6625774 | 150.154487  | 158.9851    | 158.9884      | 4.839693197 |             |
|                                   | 1.00E-07                          | 143.1979753   | 131.1288    | 176.6625774 | 143.1979753 | 131.1288    | 145.0632      | 8.348092029 |             |
|                                   | 0.000001                          | 54.49685001   | 79.758      | 176.6625774 | 54.49685001 | 79.758      | 89.03446      | 22.62353353 |             |
|                                   | 0.00001                           | 27.85919088   | 34.18786    | 75.92306445 | 27.85919088 | 34.18786    | 40.00343      | 9.090728515 |             |
| <b>SC-560</b>                     |                                   | 101.4637979   | 136.1185    | 137.3741284 | 101.4637979 | 136.1185    | 122.5078      | 8.594220941 |             |
|                                   | <b>H<sub>2</sub>O<sub>2</sub></b> |               |             |             |             |             |               |             |             |
| <b>H<sub>2</sub>O<sub>2</sub></b> | initial                           | 79.45095702   | 131.251     | 137.3741284 | 79.45095702 | 136.1185    | 112.7291      | 13.62419459 |             |
|                                   | 0.000001                          | 79.45095702   | 131.251     | 137.3741284 | 79.45095702 | 131.251     | 111.7556      | 13.23561314 |             |
|                                   | 0.000003                          | 83.4264249    | 131.251     | 136.7411854 | 83.4264249  | 131.251     | 113.2192      | 12.20408403 |             |
|                                   | 0.00001                           | 87.02541603   | 131.251     | 138.6400082 | 87.02541603 | 131.251     | 115.0386      | 11.51561195 |             |
|                                   | 0.00003                           | 91.04864376   | 129.9871    | 138.6400082 | 91.04864376 | 129.9871    | 116.1423      | 10.365541   |             |
|                                   | 0.0001                            | 91.04864376   | 167.2905    | 139.9058879 | 91.04864376 | 167.2905    | 131.3168      | 17.18289838 |             |
|                                   | 0.0003                            | 138.6674614   | 187.0223    | 141.8047233 | 138.6674614 | 187.0223    | 158.6369      | 11.60246181 |             |
|                                   | 0.001                             | 168.8888563   | 203.3694    | 172.2178793 | 168.8888563 | 203.3694    | 183.3469      | 8.196728101 |             |
|                                   | 0.003                             | 175.1214756   | 204.8261    | 201.294     | 175.1214756 | 204.8261    | 192.2378      | 7.017421783 |             |
|                                   | 0.01                              | 175.1214756   | 204.8261    | 196.9647484 | 175.1214756 | 204.8261    | 191.372       | 6.787729175 |             |
|                                   | <b>Norepinephrine</b>             | initial       | 172.1597129 | 198.0794    | 191.1701905 | 172.1597129 | 198.0794      | 186.3297    | 5.920813323 |
|                                   |                                   | 1.00E-09      | 172.5224029 | 198.0794    | 187.368     | 172.5224029 | 198.0794      | 185.7143    | 5.729663291 |
|                                   |                                   | 1.00E-08      | 172.5224029 | 198.0794    | 187.368     | 172.5224029 | 198.0794      | 185.7143    | 5.729663291 |
| 1.00E-07                          |                                   | 172.5224029   | 198.0794    | 187.368     | 172.5224029 | 198.0794    | 185.7143      | 5.729663291 |             |
| 0.000001                          |                                   | 172.5224029   | 198.0794    | 187.368     | 172.5224029 | 198.0794    | 185.7143      | 5.729663291 |             |
| 0.00001                           |                                   | 172.5224029   | 198.0794    | 184.8370824 | 172.5224029 | 198.0794    | 185.2082      | 5.7154821   |             |
|                                   | without Ca <sup>2+</sup>          | 191.417358    | 207.7484    | 200.0640494 | 191.417358  | 207.7484    | 199.6791      | 3.653008981 |             |



**Figure 4. Panel B**

| Date (number of experiments)               |                   | 20120327      | 20120404  | 20120417  | 20120418  | Average       | ± SEM    |          |
|--|-------------------|---------------|-----------|-----------|-----------|---------------|----------|----------|
|  | Concentration (M) | Diameter (µm) |           |           |           | Diameter (µm) |          |          |
| Norepinephrine                             | before incubation | 184.33455     | 201.11575 | 170.44634 | 209.5316  | 191.3571      | 8.71837  |          |
|  | initial           | 162.54178     | 160.16902 | 86.72331  | 175.97514 | 146.3523      | 20.17864 |          |
|  | 1.00E-09          | 162.54178     | 160.16902 | 86.72331  | 198.1381  | 151.8931      | 23.39442 |          |
|  | 1.00E-08          | 162.54178     | 155.80032 | 88.62226  | 198.1381  | 151.2756      | 22.85632 |          |
|  | 1.00E-07          | 139.77838     | 113.96285 | 114.57475 | 195.7209  | 141.0092      | 19.20323 |          |
|  | 0.000001          | 112.76109     | 68.05854  | 138.64001 | 191.27078 | 127.6826      | 25.72483 |          |
|  | 0.00001           | 53.266114     | 24.654514 | 137.94318 | 49.374    | 66.30945      | 24.70402 |          |
| Achetylcholine                             | initial           | 132.29852     | 142.52765 | 101.94445 | 133.60049 | 127.5928      | 8.846487 |          |
|  | 1.00E-09          | 132.29852     | 142.52765 | 101.94445 | 133.60049 | 127.5928      | 8.846487 |          |
|  | 1.00E-08          | 132.29852     | 142.52765 | 101.94445 | 133.60049 | 127.5928      | 8.846487 |          |
|  | 1.00E-07          | 160.154       | 179.65159 | 101.94445 | 133.60049 | 143.8376      | 16.85403 |          |
|  | 0.000001          | 168.40775     | 185.53057 | 69.043443 | 177.25808 | 150.06        | 27.23083 |          |
| celecoxib<br>H <sub>2</sub> O <sub>2</sub> | 0.00001           | 178.506       | 190.71063 | 25.327913 | 197.5457  | 148.0226      | 41.08734 |          |
|  | initial           | 143.19798     | 168.54925 | 114.08233 | 165.94382 | 147.9433      | 12.64156 |          |
|  | 0.000001          | 173.45239     | 147.20483 | 109.51632 | 154.45718 | 146.1577      | 13.40885 |          |
|  | 0.000003          | 173.45239     | 147.20483 | 109.51632 | 154.45718 | 146.1577      | 13.40885 |          |
|  | 0.000003          | 173.45239     | 136.74119 | 105.08563 | 154.45718 | 142.4341      | 14.53159 |          |
|  | 0.00001           | 173.45239     | 132.30306 | 101.92086 | 154.45718 | 140.5334      | 15.37367 |          |
|  | 0.00003           | 171.55351     | 131.03253 | 93.053152 | 144.33649 | 134.9939      | 16.32638 |          |
|  | 0.0001            | 167.13118     | 128.59875 | 86.730242 | 131.03711 | 128.3743      | 16.44046 |          |
|  | 0.0003            | 167.13118     | 124.7797  | 108.89255 | 141.17177 | 135.4938      | 12.4351  |          |
|  | 0.001             | 163.96655     | 162.681   | 117.3511  | 161.45967 | 151.3646      | 11.34937 |          |
|  | 0.003             | 174.8467      | 176.22998 | 153.92446 | 206.36673 | 177.842       | 10.79073 |          |
|  | 0.01              | 177.37671     | 182.55109 | 152.553   | 206.36673 | 179.7119      | 11.0363  |          |
|  | initial           | 161.72747     | 165.85687 | 139.26    | 199.49545 | 166.5849      | 12.4294  |          |
|  | Norepinephrine    | 1.00E-09      | 161.72747 | 165.85687 | 139.26    | 196.3535      | 165.7995 | 11.74194 |
|  |                   | 1.00E-08      | 159.11863 | 165.85687 | 139.26    | 196.3535      | 165.1473 | 11.83507 |
| 1.00E-07                                   |                   | 159.11863     | 154.48442 | 139.26    | 196.3535  | 162.3041      | 12.1164  |          |
| 0.000001                                   |                   | 159.11863     | 154.48442 | 139.26    | 196.3535  | 162.3041      | 12.1164  |          |
| 0.00001                                    |                   | 159.6428      | 154.48442 | 135.462   | 211.60764 | 165.2992      | 16.28825 |          |
| without Ca <sup>2+</sup>                   |                   | 183.61474     | 187.50695 | 155.67811 | 211.60764 | 184.6019      | 11.45756 |          |

**Figure 5. Panel A**

| Date (number of experiments)              |                   | 20110927      | 20110928   | 20110929   | 20111004   | 20111005   | Average       | ± SEM    |          |
|---|-------------------|---------------|------------|------------|------------|------------|---------------|----------|----------|
|   | Concentration (M) | Diameter (μm) |            |            |            |            | Diameter (μm) |          |          |
| Norepinephrine                            | before incubation | 186.189183    | 191.808406 | 176.934552 | 215.279578 | 196.37697  | 193.3177      | 6.376459 |          |
|   | initial           | 160.194032    | 148.208544 | 138.04045  | 149.614468 | 177.402694 | 154.692       | 6.675098 |          |
|   | 1.00E-09          | 151.447155    | 148.841164 | 138.04045  | 149.614468 | 177.402694 | 153.0692      | 6.520831 |          |
|   | 1.00E-08          | 147.65327     | 148.841164 | 127.121149 | 144.462747 | 169.181612 | 147.452       | 6.694869 |          |
|   | 1.00E-07          | 145.155882    | 148.841164 | 117.4586   | 138.130399 | 169.181612 | 143.7535      | 8.35907  |          |
|   | 0.000001          | 145.155882    | 91.231087  | 111.184785 | 104.031778 | 163.854101 | 123.0915      | 13.54355 |          |
|   | 0.00001           | 114.152561    | 89.3337771 | 48.3737904 | 61.5183519 | 67.7783104 | 76.23136      | 11.56214 |          |
| Acetylcholine                             | initial           | 130.894848    | 144.358701 | 124.445293 | 146.573334 | 163.069687 | 141.8684      | 6.714969 |          |
|   | 1.00E-09          | 134.103411    | 144.358701 | 124.445293 | 146.573334 | 163.069687 | 142.5101      | 6.479327 |          |
|   | 1.00E-08          | 137.255954    | 144.358701 | 138.128956 | 180.494924 | 163.069687 | 152.6616      | 8.36807  |          |
|   | 1.00E-07          | 177.135973    | 184.905351 | 154.85229  | 196.239197 | 163.069687 | 175.2405      | 7.422113 |          |
|   | 0.000001          | 185.115432    | 185.179276 | 179.514382 | 202.5956   | 163.069687 | 183.0949      | 6.334563 |          |
|   | 0.00001           | 193.661799    | 186.283836 | 181.966307 | 202.679637 | 189.904209 | 190.8992      | 3.524903 |          |
|   | 144.462747        | 145.602381    | 123.189675 | 127.880103 | 91.9245892 | 126.6119   | 9.736069      |          |          |
| SQ-29548<br>H <sub>2</sub> O <sub>2</sub> | initial           | 144.462747    | 153.218694 | 123.189675 | 127.880103 | 117.106709 | 133.1716      | 6.764228 |          |
|   | 1.00E-06          | 144.462747    | 153.218694 | 123.189675 | 127.880103 | 117.106709 | 133.1716      | 6.764228 |          |
|   | 3.00E-06          | 144.462747    | 153.218694 | 129.469781 | 138.640008 | 124.069614 | 137.9722      | 5.199047 |          |
|   | 1.00E-05          | 143.859606    | 150.054378 | 129.469781 | 138.640008 | 124.069614 | 137.2187      | 4.710735 |          |
|   | 3.00E-05          | 177.605855    | 150.054378 | 126.251375 | 138.640008 | 119.005684 | 142.3115      | 10.29615 |          |
|   | 1.00E-04          | 182.788004    | 174.300437 | 145.987151 | 134.866138 | 150.362485 | 157.6608      | 8.992747 |          |
|   | 3.00E-04          | 182.788004    | 188.470363 | 188.265094 | 135.534453 | 173.421212 | 173.6958      | 9.923669 |          |
|   | 1.00E-03          | 194.111279    | 190.409926 | 188.265094 | 174.148637 | 184.555062 | 186.298       | 3.409322 |          |
|   | 3.00E-03          | 197.942854    | 190.996141 | 188.265094 | 198.763006 | 189.195003 | 193.0324      | 2.219815 |          |
|   | 1.00E-02          | 197.942854    | 191.975449 | 188.265094 | 203.193    | 189.195003 | 194.1143      | 2.829028 |          |
|   | initial           | 185.599664    | 192.803324 | 183.606005 | 214.587924 | 177.461417 | 190.8117      | 6.428813 |          |
|   | Norepinephrine    | 1.00E-09      | 185.599664 | 192.803324 | 183.606005 | 214.587924 | 177.461417    | 190.8117 | 6.428813 |
|   |                   | 1.00E-08      | 185.599664 | 182.99285  | 177.135973 | 211.42295  | 179.954665    | 187.4212 | 6.166633 |
| 1.00E-07                                  |                   | 185.599664    | 182.99285  | 177.135973 | 200.662006 | 179.954665 | 185.269       | 4.102579 |          |
| 0.000001                                  |                   | 185.599664    | 190.069783 | 177.135973 | 200.662006 | 179.954665 | 186.6844      | 4.150137 |          |
| 0.00001                                   |                   | 185.599664    | 190.069783 | 177.135973 | 200.662006 | 179.954665 | 186.6844      | 4.150137 |          |
| without Ca <sup>2+</sup>                  |                   | 192.25909     | 194.88692  | 188.265094 | 203.850573 | 193.07433  | 194.4672      | 2.583658 |          |

**Figure 5. Panel B**

| Date (number of experiments)              |                          | 20111025      | 20111102   | 20111117   | 20111116   | 20111115   | Average       | ± SEM       |
|---|--------------------------|---------------|------------|------------|------------|------------|---------------|-------------|
|   | Concentration (M)        | Diameter (µm) |            |            |            |            | Diameter (µm) |             |
|   | before incubation        |               | 130.111916 | 96.216     | 137.99545  | 166.43086  | 132.6886      | 14.44412406 |
| 5HT                                       | initial                  | 159.326246    | 119.474452 | 82.3119081 | 113.322907 | 151.873842 | 125.2619      | 13.9450905  |
|   | 1.00E-09                 | 159.326246    | 119.474452 | 82.3119081 | 113.322907 | 151.873842 | 125.2619      | 13.9450905  |
|   | 1.00E-08                 | 159.326246    | 119.474452 | 78.492     | 110.158369 | 148.107125 | 123.1116      | 14.33213266 |
|   | 1.00E-07                 | 150.489009    | 114.599225 | 78.492     | 106.360952 | 146.118827 | 119.212       | 13.31685801 |
|   | 0.000001                 | 130.810646    | 117.644379 | 73.4389129 | 98.2150077 | 140.91325  | 112.2044      | 12.03837605 |
|   | 0.00001                  | 126.884527    | 71.12354   | 51.0537161 | 69.1825829 | 131.773509 | 90.00358      | 16.44991331 |
| Acetylcholine                             | initial                  | 134.521064    | 105.085628 | 73.428     | 102.54795  | 121.917845 | 107.5001      | 10.31810387 |
|   | 1.00E-09                 | 134.521064    | 105.085628 | 73.428     | 102.54795  | 121.917845 | 107.5001      | 10.31810387 |
|   | 1.00E-08                 | 134.521064    | 105.085628 | 73.428     | 102.54795  | 138.736794 | 110.8639      | 11.91752851 |
|   | 1.00E-07                 | 147.335428    | 131.665526 | 84.9730275 | 136.75144  | 162.784407 | 132.702       | 13.06639866 |
|   | 0.000001                 | 149.131629    | 133.569001 | 93.7032432 | 144.957    | 159.980027 | 136.2682      | 11.45049127 |
|   | 0.00001                  | 156.339467    | 133.569001 | 93.7032432 | 155.723146 | 166.574045 | 141.1818      | 13.03483752 |
| SQ-29548<br>H <sub>2</sub> O <sub>2</sub> | initial                  | 134.521064    | 89.273199  | 74.1285981 | 110.820203 | 134.977514 | 108.7441      | 12.11260313 |
|   | 0.000001                 | 134.521064    | 85.6446911 | 74.1285981 | 109.65709  | 137.570865 | 108.3045      | 12.7025924  |
|   | 0.000003                 | 136.645919    | 85.6446911 | 75.2178771 | 109.65709  | 137.570865 | 108.9473      | 12.78223631 |
|   | 0.00001                  | 138.024485    | 81.679079  | 75.2178771 | 114.714551 | 135.674802 | 109.0622      | 13.18003629 |
|   | 0.00003                  | 140.169127    | 81.679079  | 75.2178771 | 114.714551 | 149.689441 | 112.294       | 14.98868417 |
|   | 0.0001                   | 142.318055    | 72.1731028 | 78.3617159 | 127.390364 | 163.511388 | 116.7509      | 17.90855985 |
|   | 0.0003                   | 142.318055    | 72.1731028 | 78.4358213 | 135.581738 | 164.809918 | 118.6637      | 18.37781248 |
|   | 0.001                    | 158.591447    | 135.674802 | 78.4358213 | 143.093005 | 166.088629 | 136.3767      | 15.45807317 |
|   | 0.003                    | 158.591447    | 138.697801 | 88.0939517 | 149.473809 | 165.795252 | 140.1305      | 13.77795065 |
|   | 0.01                     | 158.591447    | 138.697801 | 93.2252333 | 155.822179 | 165.795252 | 142.4264      | 13.07959508 |
|   | initial                  | 160.002562    | 138.697801 | 98.1660388 | 143.171396 |            | 135.0094      | 13.10951905 |
|   | 1.00E-09                 | 160.002562    | 138.697801 | 98.1660388 | 145.068908 |            | 135.4838      | 13.21611731 |
|   | 1.00E-08                 | 164.124107    | 138.697801 | 98.1660388 | 145.068908 |            | 136.5142      | 13.87695806 |
|   | 1.00E-07                 | 157.066929    | 138.697801 | 96.224324  | 141.906402 |            | 133.4739      | 13.0465774  |
|   | 0.000001                 | 157.066929    | 138.697801 | 94.9584442 | 141.906402 |            | 133.1574      | 13.34811752 |
|   | 0.00001                  | 157.066929    | 138.697801 | 94.9584442 | 141.906402 |            | 133.1574      | 13.34811752 |
|   | without Ca <sup>2+</sup> |               | 159.769504 | 138.697801 | 95.5578509 | 157.618272 | 166.43086     | 143.6149    |

**Figure 5. Panel C**

| Date (number of experiments) |                          | 20111006      | 20111010    | 20111013    | 20111012    | 20111019    | Average       | ± SEM    |
|------------------------------|--------------------------|---------------|-------------|-------------|-------------|-------------|---------------|----------|
|                              | Concentration (M)        | Diameter (µm) |             |             |             |             | Diameter (µm) |          |
| <b>5HT</b>                   | before incubation        | 171.641077    | 106.4588515 | 200.9961988 | 133.33631   | 117.3374376 | 145.954       | 17.64575 |
|                              | initial                  | 134.53149     | 91.66267908 | 171.8277234 | 101.2997813 | 109.510823  | 121.7665      | 14.39514 |
|                              | 1.00E-09                 | 134.53149     | 84.45273312 | 171.8277234 | 101.2997813 | 109.510823  | 120.3245      | 15.19882 |
|                              | 1.00E-08                 | 132.5934782   | 79.37779488 | 171.8277234 | 96.95651505 | 109.510823  | 118.0533      | 15.99523 |
|                              | 1.00E-07                 | 125.4937502   | 73.39798314 | 160.4502004 | 89.39429826 | 83.56798902 | 106.4608      | 16.10218 |
|                              | 0.000001                 | 83.21481933   | 60.42747132 | 111.5607556 | 68.79635166 | 76.63222701 | 80.12632      | 8.7358   |
| <b>Acetylcholine</b>         | 0.00001                  | 74.27979012   | 60.42747132 | 107.3191745 | 63.44226675 | 66.78974799 | 74.45169      | 8.534906 |
|                              | initial                  | 108.7157877   | 69.87414177 | 140.3491082 | 99.04376925 | 92.85917568 | 102.1684      | 11.48908 |
|                              | 1.00E-09                 | 108.7157877   | 69.87414177 | 140.3491082 | 98.43302553 | 92.85917568 | 102.0462      | 11.49803 |
|                              | 1.00E-08                 | 108.7157877   | 87.47546637 | 140.3491082 | 98.43302553 | 92.85917568 | 105.5665      | 9.379221 |
|                              | 1.00E-07                 | 147.5148074   | 95.91777471 | 140.3491082 | 113.518979  | 92.85917568 | 118.032       | 11.2035  |
|                              | 0.000001                 | 167.5908645   | 95.91777471 | 146.3448968 | 131.3135585 | 96.08681103 | 127.4508      | 14.07332 |
| <b>U46619</b>                | 0.00001                  | 168.6110453   | 94.91201367 | 168.4886104 | 135.9182348 | 95.98459419 | 132.7829      | 16.36567 |
|                              | initial                  | 138.1391026   | 87.34941075 | 155.8016066 | 116.0998656 | 99.28418898 | 119.3348      | 12.48797 |
|                              | 1.00E-10                 | 138.1391026   | 87.34941075 | 155.8016066 | 116.0998656 | 99.28418898 | 119.3348      | 12.48797 |
|                              | 1.00E-09                 | 138.1391026   | 87.08064528 | 155.8016066 | 115.702291  | 100.0580631 | 119.3563      | 12.46705 |
|                              | 1.00E-08                 | 123.4934196   | 79.81324191 | 151.4656706 | 115.702291  | 94.47830106 | 112.9906      | 12.33174 |
|                              | 1.00E-07                 | 79.79818284   | 66.65763456 | 130.0487676 | 109.6972795 | 83.21964279 | 93.8843       | 11.42664 |
|                              | 0.000001                 | 50.70326202   | 63.85774896 | 91.81118721 | 79.67255133 | 66.8107446  | 70.5711       | 7.028222 |
|                              | 0.00001                  | 48.80672439   | 59.65667988 | 89.96620743 | 71.35232337 | 66.8107446  | 67.31854      | 6.822161 |
|                              | without Ca <sup>2+</sup> | 151.8474519   | 106.4588515 | 175.2804409 | 137.640748  | 111.3648357 | 136.5185      | 12.79651 |

**Figure 5. Panel C**

| Date (number of experiments) |                          | 20111004      | 20111005   | 20101207  | 20101208  | 20101209  | Average       | ± SEM    |
|------------------------------|--------------------------|---------------|------------|-----------|-----------|-----------|---------------|----------|
|                              | Concentration (M)        | Diameter (μm) |            |           |           |           | Diameter (μm) |          |
| <b>Norepinephrine</b>        | before incubation        | 215.2796      | 196.37697  | 259.37811 | 262.00763 | 251.03188 | 236.8148      | 13.1242  |
|                              | initial                  | 149.6145      | 177.402694 | 230.0087  | 269.02972 | 239       | 213.0111      | 21.66739 |
|                              | 1.00E-09                 | 149.6145      | 177.402694 | 230.0087  | 269.02972 | 238       | 212.8111      | 21.60826 |
|                              | 1.00E-08                 | 144.4627      | 169.181612 | 220.00227 | 269.02972 | 238       | 208.1353      | 22.70732 |
|                              | 1.00E-07                 | 138.1304      | 169.181612 | 210.00952 | 269.02972 | 224.00223 | 202.0707      | 22.5805  |
|                              | 0.000001                 | 104.0318      | 163.854101 | 175       | 257.03113 | 205.00244 | 180.9839      | 25.11069 |
|                              | 0.00001                  | 61.51835      | 67.7783104 | 170.01176 | 127.67537 | 70        | 99.39676      | 21.31294 |
| <b>Acetylcholine</b>         | initial                  | 146.5733      | 163.069687 | 218.02065 | 215.00232 | 230.00217 | 194.5336      | 16.61144 |
|                              | 1.00E-09                 | 146.5733      | 163.069687 | 218.02065 | 215.00232 | 230.00217 | 194.5336      | 16.61144 |
|                              | 1.00E-08                 | 180.4949      | 163.069687 | 218.02065 | 215.00232 | 230.00217 | 201.3179      | 12.62053 |
|                              | 1.00E-07                 | 196.2392      | 163.069687 | 218.02065 | 240.00209 | 232.00215 | 209.8668      | 13.8569  |
|                              | 0.000001                 | 202.5956      | 163.069687 | 243.01852 | 262.00192 | 237.01898 | 221.5409      | 17.4868  |
|                              | 0.00001                  | 202.6796      | 189.904209 | 249       | 265.00189 | 237.01898 | 228.7209      | 14.10903 |
|                              | initial                  | 190.533       | 165.311191 | 187.00267 | 200.02249 | 203.00246 | 189.1744      | 6.651734 |
| <b>U46619</b>                | 1.00E-10                 | 190.533       | 165.311191 | 187.00267 | 200.02249 | 203.00246 | 189.1744      | 6.651734 |
|                              | 1.00E-09                 | 190.533       | 165.311191 | 182.01099 | 194.04123 | 197.00253 | 185.7798      | 5.700709 |
|                              | 1.00E-08                 | 190.533       | 158.985103 | 175.02571 | 173.07224 | 190.00262 | 177.5237      | 5.893642 |
|                              | 1.00E-07                 | 140.5773      | 119.744129 | 143.03146 | 149.27156 | 160.00313 | 142.5255      | 6.61067  |
|                              | 0.000001                 | 72.81976      | 60.1483247 | 114.00439 | 70.34202  | 95.7549   | 82.61388      | 9.770555 |
|                              | 0.00001                  | 44.31         | 58.236     | 66.0303   | 57.56735  | 65.96969  | 58.42267      | 3.967162 |
|                              | without Ca <sup>2+</sup> | 203.8506      | 193.07433  | 257.01752 | 224.0558  | 223.02017 | 220.2037      | 10.91205 |

**Figure 6. Panel A,B**

| Date (number of experiments)  |                   | 20121002      | 20121017 | 20121016   | 20121107   | 20121106 | Average       | ± SEM    |
|-------------------------------|-------------------|---------------|----------|------------|------------|----------|---------------|----------|
|                               | Concentration (M) | Diameter (μm) |          |            |            |          | Diameter (μm) |          |
| Norepinephrine                | 1.00E-09          | 352.103351    | 372.3595 | 316.810012 | 316.68288  |          | 339.4889      | 13.76604 |
|                               | 1.00E-08          | 347.110905    | 372.3595 | 321.555271 | 314.152368 |          | 338.7945      | 13.22938 |
|                               | 1.00E-07          | 273.74304     | 364.9782 | 308.15204  | 286.84959  |          | 308.4307      | 20.13842 |
|                               | 0.000001          | 174.939482    | 364.9782 | 156.985272 | 185.683834 |          | 220.6467      | 48.47328 |
|                               | 0.00001           | 160.364024    | 190.5961 | 101.944447 | 181.784548 |          | 158.6723      | 19.94621 |
| Acetylcholine                 | 1.00E-09          | 235.946034    | 315.6697 | 250.323294 | 268.633743 | 217.5992 | 257.6344      | 16.75669 |
|                               | 1.00E-08          | 240.297504    | 320.0859 | 258.502825 | 268.633743 | 217.5992 | 261.0238      | 17.12873 |
|                               | 1.00E-07          | 347.698544    | 336.1796 | 326.658061 | 324.513609 | 279.0331 | 322.8166      | 11.68827 |
|                               | 0.000001          | 360.230938    | 355.8794 | 324.21094  | 343.480505 | 313.5823 | 339.4768      | 8.998278 |
|                               | 0.00001           | 359.965546    | 349.8864 | 320.995287 | 342.979137 | 374.8579 | 349.7369      | 8.965098 |
| H <sub>2</sub> O <sub>2</sub> | 1.00E-06          | 250.787055    | 354.4941 | 241.691642 | 305.529888 | 216.4943 | 273.7994      | 24.86243 |
|                               | 3.00E-06          | 250.787055    | 354.4941 | 241.691642 | 305.529888 | 216.4943 | 273.7994      | 24.86243 |
|                               | 1.00E-05          | 250.787055    | 348.8111 | 222.791718 | 302.508434 | 209.5842 | 266.8965      | 25.94963 |
|                               | 3.00E-05          | 233.75619     | 339.2886 | 208.049104 | 292.358994 | 210.217  | 256.734       | 25.63828 |
|                               | 1.00E-04          | 210.042528    | 312.0748 | 192.981976 | 273.515344 | 180.8941 | 233.9017      | 25.23268 |
|                               | 3.00E-04          | 197.321444    | 287.6336 | 173.319508 | 256.270423 | 183.4193 | 219.5929      | 22.27167 |
|                               | 1.00E-03          | 229.2439      | 295.5432 | 218.003959 | 310.394702 | 204.459  | 251.529       | 21.49251 |
|                               | 3.00E-03          | 390.368093    | 355.2399 | 313.340121 | 351.342934 | 311.9052 | 344.4393      | 14.66184 |

**Figure 6. Panel A, B**

| Date (number of experiments)  |                   | 20121017             | 20121016   | 20121002   | 20121106   | 20121107             | Average  | ± SEM    |
|-------------------------------|-------------------|----------------------|------------|------------|------------|----------------------|----------|----------|
|                               | Concentration (M) | F <sub>340/380</sub> |            |            |            | F <sub>340/380</sub> |          |          |
| Norepinephrine                | 1.00E-09          | 0.8556701            | 0.90243902 | 0.90322581 | 1.05       | 1.06593407           | 0.955454 | 0.042802 |
|                               | 1.00E-08          | 0.85416667           | 0.91358025 | 0.91489362 | 1.16216216 | 1.06593407           | 0.982147 | 0.057022 |
|                               | 1.00E-07          | 0.88421053           | 1.06493506 | 0.96261682 | 1.20547945 | 1.07692308           | 1.038833 | 0.054599 |
|                               | 0.000001          | 0.9139785            | 1.40495868 | 1.14049587 | 1.45454545 | 1.11702128           | 1.2062   | 0.099711 |
|                               | 0.00001           | 1.10619469           | 1.53448276 | 1.32407407 | 1.44776119 | 1.36666667           | 1.355836 | 0.072046 |
| Acetylcholine                 | 1.00E-09          | 1.03409091           | 1.03488372 | 0.96212121 | 1.27160494 | 0.94117647           | 1.048775 | 0.0588   |
|                               | 1.00E-08          | 1.02272727           | 0.82291667 | 0.96923077 | 1.275      | 0.93984962           | 1.005945 | 0.074796 |
|                               | 1.00E-07          | 1.02298851           | 0.80851064 | 0.94117647 | 1.11235955 | 0.93939394           | 0.964886 | 0.050393 |
|                               | 0.000001          | 1.02439024           | 0.80851064 | 0.85981308 | 0.9893617  | 0.93577982           | 0.923571 | 0.039966 |
|                               | 0.00001           | 1.01204819           | 0.79787234 | 0.85849057 | 0.9893617  | 0.92938976           | 0.917433 | 0.040024 |
| H <sub>2</sub> O <sub>2</sub> | 1.00E-06          | 1.03846154           | 1.1625     | 1.16666667 | 1.2173913  | 1.0625               | 1.129504 | 0.033891 |
|                               | 3.00E-06          | 1.03846154           | 1.17721519 | 1.19277108 | 1.23529412 | 1.08510638           | 1.14577  | 0.036337 |
|                               | 1.00E-05          | 1.05128205           | 1.17857143 | 1.21428571 | 1.23880597 | 1.08080808           | 1.152751 | 0.036966 |
|                               | 3.00E-05          | 1.0625               | 1.16363636 | 1.22352941 | 1.20289855 | 1.05769231           | 1.142051 | 0.034822 |
|                               | 1.00E-04          | 1.03529412           | 1.16326531 | 1.21590909 | 1.17391304 | 1.05660377           | 1.128997 | 0.03519  |
|                               | 3.00E-04          | 1.02298851           | 1.14285714 | 1.20430108 | 1.1        | 1.04545455           | 1.10312  | 0.032843 |
|                               | 1.00E-03          | 1.01162791           | 0.98734177 | 1.01149425 | 0.98780488 | 1.02884615           | 1.005423 | 0.007941 |

## Figure 6. Panel C

| Date (number of experiments) | Concentration (M) | 20140415      | 20140415   | 20140416   | 20140422   | 20140422   | Average       | ± SEM    |
|------------------------------|-------------------|---------------|------------|------------|------------|------------|---------------|----------|
|                              |                   | Diameter (μm) |            |            |            |            | Diameter (μm) |          |
| U46619                       | initial           | 302.234801    | 247.648653 | 280.533282 | 286.927804 | 274.488524 | 278.3666      | 8.961896 |
|                              | 1.00E-09          | 302.234801    | 247.648653 | 280.533282 | 286.927804 | 274.488524 | 278.3666      | 8.961896 |
|                              | 1.00E-08          | 275.256037    | 243.231851 | 280.533282 | 286.927804 | 270.559924 | 271.3018      | 7.528282 |
|                              | 1.00E-07          | 207.632691    | 219.635485 | 268.383037 | 286.927804 | 243.303501 | 245.1765      | 14.74297 |
|                              | 0.000001          | 141.568583    | 143.446795 | 196.52382  | 228.754857 | 208.86794  | 183.8324      | 17.63959 |
|                              | 0.00001           | 135.940345    | 127.687253 | 183.045389 | 146.015965 | 191.690339 | 156.8759      | 12.85515 |



## Figure 6. Panel C

| Date (number of experiments) |                   | 20140415      | 20140415d | 20140416   | 20140422   | 20140422d | Average       | ± SEM    |
|------------------------------|-------------------|---------------|-----------|------------|------------|-----------|---------------|----------|
|                              | Concentration (M) | $F_{340/380}$ |           |            |            |           | $F_{340/380}$ |          |
| U46619                       | 0.000000001       | 0.92105263    | 0.872881  | 0.6875     | 0.90804598 | 0.97      | 0.871896      | 0.048657 |
|                              | 0.00000001        | 0.92207792    | 0.867769  | 0.67708333 | 0.90909091 | 0.979592  | 0.871123      | 0.051704 |
|                              | 0.0000001         | 0.96103896    | 0.866667  | 0.6875     | 0.92134831 | 0.979592  | 0.883229      | 0.05262  |
|                              | 0.000001          | 0.98863636    | 0.896     | 0.73958333 | 0.93859649 | 0.989691  | 0.910501      | 0.046146 |
|                              | 0.00001           | 1             | 0.917293  | 0.8        | 0.94890511 | 0.989247  | 0.931089      | 0.035933 |

**Figure 6. Panel D**

| Date (number of experiments)  |                   | 20130227      | 20130226    | 20130306    | 20130321    | 20130321    | Average       | ± SEM    |
|-------------------------------|-------------------|---------------|-------------|-------------|-------------|-------------|---------------|----------|
|                               | Concentration (M) | Diameter (μm) |             |             |             |             | Diameter (μm) |          |
| Norepinephrine                | 1.00E-09          | 296.0342871   | 307.2926605 | 267.8809348 | 340.8386285 | 280.2875069 | 298.4668      | 12.54027 |
|                               | 1.00E-08          | 291.0127487   | 307.2926605 | 243.115677  | 340.8386285 | 270.3510401 | 290.5222      | 16.53403 |
|                               | 1.00E-07          | 279.1537153   | 281.7561112 | 229.8731524 | 303.3021399 | 259.5925088 | 270.7355      | 12.34262 |
|                               | 0.000001          | 200.8296629   | 178.5239645 | 178.2544268 | 213.7347668 | 168.7963054 | 188.0278      | 8.307912 |
|                               | 0.00001           | 156.4854872   | 111.3216525 | 141.1263562 | 200.1281406 | 159.3815571 | 153.6886      | 14.40422 |
| Acetylcholine                 | 1.00E-09          | 265.559901    | 283.1102755 | 209.302007  | 262.5088537 | 249.1391847 | 253.924       | 12.39949 |
|                               | 1.00E-08          | 265.559901    | 283.1102755 | 209.302007  | 262.5088537 | 249.1391847 | 253.924       | 12.39949 |
|                               | 1.00E-07          | 265.559901    | 283.1102755 | 218.2537728 | 261.9136438 | 249.1391847 | 255.5954      | 10.79898 |
|                               | 0.000001          | 286.3182941   | 295.6930052 | 259.1104982 | 320.4462043 | 287.4551938 | 289.8046      | 9.832047 |
|                               | 0.00001           | 313.4270699   | 304.5526061 | 259.1104982 | 343.5347464 | 305.1243887 | 305.1499      | 13.53125 |
| H <sub>2</sub> O <sub>2</sub> | 1.00E-06          |               | 285.4008809 | 206.8602982 | 334.4427142 | 284.5600797 | 277.816       | 26.36966 |
|                               | 3.00E-06          |               | 285.4008809 | 203.6411324 | 337.9893942 | 284.5600797 | 277.8979      | 27.72745 |
|                               | 1.00E-05          |               | 280.3468317 | 201.0320709 | 333.1529134 | 297.5773385 | 278.0273      | 27.92055 |
|                               | 3.00E-05          |               | 293.6935924 | 218.5134041 | 335.9769226 | 284.6227277 | 283.2017      | 24.29317 |
|                               | 1.00E-04          |               | 293.6935924 | 232.649674  | 329.7808654 | 282.7477184 | 284.718       | 20.05454 |
|                               | 3.00E-04          |               | 299.7427113 | 232.649674  | 329.7808654 | 304.2050828 | 291.5946      | 20.73265 |
|                               | 1.00E-03          |               | 299.7427113 | 246.4354518 | 340.7804051 | 304.2050828 | 297.7909      | 19.43028 |

**Figure 6. Panel D**

| Date (number of experiments)  |                   | 20130221      | 20130221   | 20130227   | 20130226   | 20130306      | Average  | ± SEM    |
|-------------------------------|-------------------|---------------|------------|------------|------------|---------------|----------|----------|
|                               | Concentration (M) | $F_{340/380}$ |            |            |            | $F_{340/380}$ |          |          |
| Norepinephrine                | 1.00E-09          | 0.99065421    | 1.01869159 | 0.88571429 | 0.95       | 0.89411765    | 0.947836 | 0.02608  |
|                               | 1.00E-08          | 0.99056604    | 1.01869159 | 0.90196078 | 0.96402878 | 0.91666667    | 0.958383 | 0.021941 |
|                               | 1.00E-07          | 0.99074074    | 1.01869159 | 0.94392523 | 0.97142857 | 0.94047619    | 0.973052 | 0.014677 |
|                               | 0.000001          | 1.04504505    | 1.09482759 | 1.06338028 | 1.00649351 | 0.97752809    | 1.037455 | 0.020702 |
| Acetylcholine                 | 0.000001          | 1.0610687     | 1.14655172 | 1.1942446  | 1.10691824 | 1.09183673    | 1.120124 | 0.023081 |
|                               | 0.00001           | 1.03921569    | 1.04587156 | 1.03092784 | 0.97777778 | 0.95959596    | 1.010678 | 0.017543 |
|                               | 1.00E-09          | 1.02912621    | 1.0462963  | 1.04123711 | 0.97744361 | 0.95          | 1.008821 | 0.019121 |
|                               | 1.00E-08          | 1.03          | 1.04716981 | 1.04494382 | 0.97744361 | 0.9375        | 1.007411 | 0.021547 |
| H <sub>2</sub> O <sub>2</sub> | 1.00E-07          | 1.02040816    | 1.03809524 | 1.02352941 | 0.96153846 | 0.92783505    | 0.994281 | 0.021148 |
|                               | 0.000001          | 0.91964286    | 1.01886792 | 1.01176471 | 0.93333333 | 0.92708333    | 0.962138 | 0.021847 |
|                               | 0.00001           | 1.1047619     | 1.10655738 | 0.96296296 | 0.9921875  | 0.96907216    | 1.027108 | 0.032438 |
|                               | 1.00E-06          | 1.10576923    | 1.10743802 | 0.96296296 | 1.00787402 | 0.96938776    | 1.030686 | 0.031932 |
|                               | 3.00E-06          | 1.1047619     | 1.11570248 | 0.96296296 | 1.00787402 | 0.96969697    | 1.0322   | 0.03281  |
|                               | 1.00E-05          | 1.1047619     | 1.125      | 0.96296296 | 1.00787402 | 0.97916667    | 1.035953 | 0.03317  |
|                               | 3.00E-05          | 1.125         | 1.125      | 0.975      | 1.00793651 | 0.96875       | 1.040337 | 0.035199 |
|                               | 1.00E-04          | 1.11538462    | 1.13333333 | 0.9875     | 1.01587302 | 0.9893617     | 1.048291 | 0.031586 |
|                               | 3.00E-04          | 1.13592233    | 1.125      | 1.06493506 | 1.032      | 1.02150538    | 1.075873 | 0.023473 |
|                               | 1.00E-03          | 1.14545455    | 1.15625    | 1.13333333 | 1.06451613 | 1.06593407    | 1.113098 | 0.019879 |

## Supporting Fig. 1.

| Date (number of experiments)  |                   | 20120425      | 20120515   | 20120517   | Average       | ± SEM    |          |
|-------------------------------|-------------------|---------------|------------|------------|---------------|----------|----------|
|                               | Concentration (M) | Diameter (µm) |            |            | Diameter (µm) |          |          |
| Norepinephrine                | before incubation | 208.985893    | 225.370237 | 210.1684   | 214.8415      | 5.275419 |          |
|                               | initial           | 181.042425    | 193.10236  | 174.300437 | 182.8151      | 5.499539 |          |
|                               | 1.00E-09          | 181.042425    | 193.10236  | 174.300437 | 182.8151      | 5.499539 |          |
|                               | 1.00E-08          | 176.744215    | 188.027637 | 168.578959 | 177.7836      | 5.638351 |          |
|                               | 1.00E-07          | 176.744215    | 183.574368 | 166.682263 | 175.6669      | 4.905989 |          |
|                               | 0.000001          | 169.181612    | 172.205093 | 126.606324 | 155.9977      | 14.72157 |          |
|                               | 0.00001           | 62.063061     | 93.1886965 | 62.0372283 | 72.42966      | 10.37952 |          |
| Acetylcholine                 | initial           | 156.284351    | 163.436631 | 173.515909 | 164.4123      | 4.998186 |          |
|                               | 1.00E-09          | 156.284351    | 169.484497 | 173.515909 | 166.4283      | 5.203752 |          |
|                               | 1.00E-08          | 156.284351    | 169.484497 | 173.515909 | 166.4283      | 5.203752 |          |
|                               | 1.00E-07          | 165.066207    | 180.523782 | 179.193786 | 174.9279      | 4.945784 |          |
|                               | 0.000001          | 190.457274    | 224.843347 | 203.669662 | 206.3234      | 10.0147  |          |
|                               | 0.00001           | 199.249245    | 234.912098 | 207.340106 | 213.8338      | 10.79484 |          |
|                               | NS-398            |               | 156.720887 | 143.059399 | 169.701856    | 156.494  | 7.691851 |
| H <sub>2</sub> O <sub>2</sub> | initial           | 151.133308    | 143.059399 | 169.701856 | 154.6315      | 7.8874   |          |
|                               | 1,00E-06          | 151.133308    | 143.059399 | 169.701856 | 154.6315      | 7.8874   |          |
|                               | 3,00E-06          | 143.859606    | 143.059399 | 169.701856 | 152.207       | 8.750501 |          |
|                               | 1,00E-05          | 140.698398    | 138.62845  | 167.170723 | 148.8325      | 9.18855  |          |
|                               | 3,00E-05          | 136.975408    | 134.842369 | 164.122866 | 145.3135      | 9.424796 |          |
|                               | 1,00E-04          | 136.975408    | 129.771172 | 160.961335 | 142.5693      | 9.428244 |          |
|                               | 3,00E-04          | 146.454368    | 124.707425 | 154.60887  | 141.9236      | 8.92413  |          |
|                               | 1,00E-03          | 184.44756     | 134.924064 | 219.856136 | 179.7426      | 24.63038 |          |
|                               | 3,00E-03          | 187.608426    | 234.213418 | 219.651    | 213.8243      | 13.76553 |          |
|                               | 1,00E-02          | 190.738985    | 234.213418 | 219.651    | 214.8678      | 12.77583 |          |
|                               | initial           | 187.369063    | 217.752    | 218.393248 | 207.8381      | 10.23619 |          |
|                               | Norepinephrine    | 1.00E-09      | 187.369063 | 208.257    | 218.393248    | 204.6731 | 9.133423 |
|                               |                   | 1.00E-08      | 184.837082 | 213.32195  | 218.393248    | 205.5174 | 10.44329 |
|                               |                   | 1.00E-07      | 184.837082 | 206.358968 | 214.590728    | 201.9289 | 8.870153 |
| 0.000001                      |                   | 184.837082    | 206.991    | 214.590728 | 202.1396      | 8.925094 |          |
| 0.00001                       |                   | 184.837082    | 206.991    | 208.893842 | 200.2406      | 7.721343 |          |
| without Ca <sup>2+</sup>      |                   | 193.090947    | 238.641829 | 221.623232 | 217.7853      | 13.28869 |          |

## Supporting Fig. 2. Panel A

| Date (number of experiments) |                   | 20140505      | 20140505d | 20140506    | 20140506d | 20140507    | 20140507d | Average       | ± SEM    |
|------------------------------|-------------------|---------------|-----------|-------------|-----------|-------------|-----------|---------------|----------|
|                              | Concentration (M) | Diameter (μm) |           |             |           |             |           | Diameter (μm) |          |
| Norepinephrine               | initial           | 196.4911948   | 166.556   | 170.9287558 | 125.3915  | 176.1663054 | 189.9     | 170.9056      | 10.22014 |
|                              | 1.00E-09          | 196.4911948   | 166.556   | 170.9287558 | 125.3915  | 176.1663054 | 189.9     | 170.9056      | 10.22014 |
|                              | 1.00E-08          | 196.4911948   | 162.1086  | 165.2323951 | 122.228   | 171.7402491 | 186.735   | 167.4226      | 10.50743 |
|                              | 1.00E-07          | 196.4911948   | 148.2572  | 165.2323951 | 117.1888  | 146.890106  | 179.772   | 158.9719      | 11.38147 |
|                              | 0.000001          | 190.1698859   | 117.8469  | 150.1291291 | 63.93613  | 67.30073091 | 143.7412  | 122.1873      | 20.24148 |
|                              | 0.00001           | 49.41050511   | 44.35067  | 52.55424897 | 31.04283  | 39.64217571 | 48.74511  | 44.29092      | 3.222106 |
| U73122<br>Norepinephrine     | initial           | 187.3947379   | 142.425   | 152.5858274 | 144.9584  | 164.6104283 | 133.6005  | 154.2625      | 7.876648 |
|                              | 1.00E-09          | 187.3947379   | 142.425   | 152.5858274 | 144.9584  | 164.6104283 | 133.6005  | 154.2625      | 7.876648 |
|                              | 1.00E-08          | 187.3947379   | 142.425   | 148.1882624 | 144.9584  | 161.4460233 | 133.6005  | 153.0021      | 7.810944 |
|                              | 1.00E-07          | 187.3947379   | 143.058   | 145.0247057 | 128.5006  | 161.4460233 | 127.2724  | 148.7827      | 9.259597 |
|                              | 0.000001          | 187.3947379   | 125.9734  | 67.65997107 | 56.80448  | 140.0990732 | 90.52786  | 111.4099      | 20.11693 |
|                              | 0.00001           | 184.230181    | 96.26804  | 73.74381636 | 67.40187  | 102.4150196 | 82.94474  | 101.1673      | 17.4635  |

## Supporting Fig. 2. Panel B

Date (number of experiments)

|                      |                          | 20140508      | 20140508    | 20140513    | 20140513    | Average       | ± SEM       |
|----------------------|--------------------------|---------------|-------------|-------------|-------------|---------------|-------------|
|                      | Concentration (M)        | Diameter (μm) |             |             |             | Diameter (μm) |             |
| <b>U46619</b>        | initial                  | 113.3140706   | 124.8310625 | 182.9643709 | 148.1612144 | 142.3177      | 15.36579406 |
|                      | 1.00E-09                 | 113.3140706   | 124.8310625 | 182.9643709 | 148.1612144 | 142.3177      | 15.36579406 |
|                      | 1.00E-08                 | 108.2596542   | 124.8310625 | 182.9643709 | 148.1612144 | 141.0541      | 16.19064674 |
|                      | 1.00E-07                 | 104.4622619   | 124.8310625 | 182.9643709 | 141.0113148 | 138.3173      | 16.65498139 |
|                      | 0.000001                 | 73.47164535   | 70.33425048 | 102.5635784 | 73.07792568 | 79.86185      | 7.599341913 |
|                      | 0.00001                  | 29.751        | 29.77792149 | 43.71826527 | 50.04304302 | 38.32256      | 5.106905828 |
| <b>Acetylcholine</b> | initial                  | 127.2581871   | 121.0685928 | 127.9662419 | 136.7177454 | 128.2527      | 3.218947863 |
|                      | 1.00E-09                 | 127.2581871   | 121.0685928 | 133.0264249 | 135.1199205 | 129.1183      | 3.156351989 |
|                      | 1.00E-08                 | 127.2581871   | 127.3903638 | 133.0264249 | 135.1199205 | 130.6987      | 1.99473706  |
|                      | 1.00E-07                 | 127.2581871   | 136.2729996 | 133.0264249 | 169.9578541 | 141.6289      | 9.625206818 |
|                      | 0.000001                 | 146.8682739   | 141.5685827 | 147.6532698 | 179.3178415 | 153.852       | 8.595483848 |
|                      | 0.00001                  | 155.8003217   | 148.7765473 | 183.7270916 | 188.9566021 | 169.3151      | 9.991560971 |
| <b>U73122 10 μM</b>  |                          | 123.4414883   | 132.4483566 | 168.0135123 | 140.1376798 | 141.0103      | 9.625941337 |
| <b>U46619</b>        | initial                  | 117.105       | 132.4196121 | 178.5968925 | 140.1376798 | 142.0648      | 13.08411517 |
|                      | 1.00E-09                 | 117.105       | 132.4196121 | 178.5968925 | 140.1376798 | 142.0648      | 13.08411517 |
|                      | 1.00E-08                 | 110.775       | 131.7613491 | 169.739621  | 131.9087558 | 136.0462      | 12.2792459  |
|                      | 1.00E-07                 | 105.078       | 130.0256631 | 149.5220567 | 117.8978452 | 125.6309      | 9.453055716 |
|                      | 0.000001                 | 53.86453998   | 75.98373117 | 87.05303382 | 56.90314254 | 68.45111      | 7.899870932 |
|                      | 0.00001                  | 27.22636179   | 39.879      | 40.1244141  | 40.27889775 | 36.87717      | 3.21798887  |
|                      | Without Ca <sup>2+</sup> | 155.719285    | 158.9447808 | 200.0440339 | 200.1661776 | 178.7186      | 12.36508906 |