**Supplementary Table 1**

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| **Postnatal Maturation of Fast and Slow Motoneuron Intrinsic Properties (257 cells from 95 animals)** | | | | | |
| **Parameter** | | **Week 1 (P1-4)1**  **57 cells, 18 animals** | **Week 2 (P7-12)2**  **122 cells, 42 animals** | **Week 3 (P14-20)3**  **81 cells, 35 animals** | **2W ANOVA**  **F, p** |
| Cells (n) | Del | 33 | 82 | 53 |  |
| Imm | 24 | 40 | 28 |
| **Passive Properties** | | | | | |
| Capacitance (pF) | Del | 285±94(112,542)2,3 | 494±211(139,1191)1 | 467±271(63,1220)1 | 32.1, 3.9e-8  9.9, 6.8e-5  3.6, 0.03 |
| Imm | 243±73(139,378) | 312±191(67,668) | 258±99(116,433) |
| P value | 0.9 | **3.6e-6** | **6.5e-6** |
| Tau (ms) | Del | 17.1±7.4(4.2,37.6)3 | 13.5±5.0(3.4,27.7) | 9.9±5.7(2.1,34.4)1 | 41.5,5.9e-10  1.1, 0.3  7.9, 4.7e-4 |
| Imm | 17.8±7.9(6.8,35.7)2,3 | 26.1±19.0(6.1,75.0)1 | 25.6±19.6(3.7,82)1 |
| P value | 0.97 | **1.8e-7** | **7.8e-8** |
| Passive Input Resistance (MΩ) | Del | 65.1±33.0(21.7,167.5) 2,3 | 30.8±15.9(10.4,114.1) 1 | 27.2±18.6(6.6,93.4)1 | 78.9, >1.0e-15  0.7, 0.5  10.6, 3.9e-5 |
| Imm | 76.6±35.5(30.4,114.1) 3 | 94.4±62.5(22.3,290.5) | 106.0±88.2(18.1,400) 1 |
| P value | 0.6 | **5.3x10e-12** | **1.2e-12** |
| Steady State Input Resistance (MΩ) | Del | 49.4±17.1(22.0,99.9) 2,3 | 27.2±18.4(2.8,99.4) 1 | 17.7±13.9(0.6,68) 1 | 52.9, 4.5e-12  3.7, 0.03  6.6, 0.002 |
| Imm | 57.2±18.4(17.2,90.0) | 73.5±65.4(17.8,326.0) | 59.9±42.5(15.7,180) |
| P value | 0.6 | **1.4e-10** | **6.1x10^-7** |
| Resting Membrane Potential (mV) | Del | -62.6±4.0(-69.0,-50.0) 3 | -63.9±4.2(-72.0,-52.0) 3 | -66.8±3.6(-77,-60.0) 1,2 | 25.5, 8.4e-7  10.4, 4.4e-5  4.4, 0.01 |
| Imm | -61.7±4.4(-69.0,-50.0) 2 | -58.3±5.4(-72.0,-52.0) 1,3 | -61.5±6.9(-73.0,-51.0) 2 |
| P value | 0.8 | **1.3e-8** | **3.5e-5** |
| **Recruitment Properties (Ramp)** | | | | | |
| Rheobase (pA) | Del | 349±214(118,1010) 2,3 | 550±254(149,1619) 1,3 | 816±631(127,2929) 1,2 | 45.4, 1.1e-10  3.4, 0.04  12.1, 9.6e-6 |
| Imm | 327±178(101,757) | 235±225(23,891) | 173±176(23,797) |
| P value | 0.8 | 1.0e-4 | 2.3e-12 |
| Derecruitment Current (pA) | Del | 1038±300(286,1501) 2,3 | 2372±752(967,4605) 1,3 | 3624±1374(1586,7828) 1,2 | 27.1, 4.0e-7  57.1, >1.0e-15  14.1, 1.7e-6 |
| Imm | 1290±344(413,1862) 3 | 1661±659(394,25430) | 2151±999(726,4023) 1 |
| P value | 0.99 | **0.001** | **1.7e-10** |
| Current Firing Range (pA) | Del | 937±297(210,1490) 2,3 | 1810±678(604,3776) 1,3 | 2853±1029(1136,6236) 1,2 | 24.7, 1.1e-6  70.1,>1.0e-15  3.4, 0.03 |
| Imm | 695±251(154,1089) 2,3 | 1396±571(311,2379) 1,3 | 1962±965(699,3904) 1,2 |
| P value | 0.99 | 0.08 | **7.0e-6** |
| First Spike TH (mV) | Del | -37.9±3.7(-44.8,-29.0) 3 | -38.8±3.3(-45.2,-31.2) 3 | -43.7±3.8(-51.8,-34.4) 1,2 | 7.4, 0.007  80.4, >1.0e-15  6.6, 0.002 |
| Imm | -36.6±3.1(-43.5,-30.2) 2,3 | -41.3±4.6(-51.2,-30.5) 1,3 | -47.2±4.5(-54.1,-35.7) 1,2 |
| P value | 0.4 | **0.02** | **5.3e-4** |
| Spike TH-RMP (mV) | Del | 24.5±5.4(11.3,22.9) | 24.2±4.8(10.2,23.8) | 26.5±5.3(17.6,25.9) | 35.6, 8.5e-9  5.7, 0.004  9.7, 9.2e-5 |
| Imm | 25.1±5.6(12.3,19.8) 2,3 | 17.9±7.0(3.8,30.3) 1 | 18.9±7.1(6.3,30.5) 1 |
| P value | 0.9 | **1.0e-8** | **6.0e-7** |
| **Repetitive Firing Properties on Ramp** | | | | | |
| Minimum Firing Rate (Hz) | Del | 10.9±3.7(6.9,24.0) 3 | 10.5±5.2(4.9,43.8) 3 | 6.9±2.2(4.5,15.2) 1,2 | 2.4, 0.1  15.1, 6.5e-7  6.7, 0.002 |
| Imm | 11.3±4.8(6.2,24.3) 2,3 | 7.1±2.4(2.4,13.4) 1 | 7.4±2.5(2.2,12.3) |
| P value | 0.99 | **0.01** | 0.99 |
| Firing Rate at 2x Rheobase (Hz) | Del | 24.7±5.8(14.2,38.6) | 28.9±8.3(13.1,53.2) 3 | 24.5±9.8(8.2,52.6) 2 | 33.7, 2.0e-8  1.9, 0.2  3.0, 0.05 |
| Imm | 21.2±5.3(13.3,38.5) | 17.9±9.6(3.4,45.3) | 17.1±12.8(5.4,61.4) |
| P value | 0.99 | **4.8e-8** | **0.009** |
| Maximum Firing Rate (Hz) | Del | 36.1±6.4(19.6,49.0) 2,3 | 45.6±9.4(27.5,83.3) 1 | 46.6±11.8(30.6,73.5) 1 | 7.3, 0.007  58.5, >1.0e-15  37.5, 7.0e-14 |
| Imm | 28.3±6.7(16.9,39.7) 3 | 37.6±10.6(20.9,60.2) 3 | 82.4±45.2(25.4,196) 1,2 |
| P value | 0.99 | 0.4 | 7.0e-15 |
| SPR FI slope (Hz/pA) | Del | 0.084±0.03(0.03,0.15) | 0.096±0.06(0.01,0.41) 3 | 0.07±0.05(0.02,0.24) 2 | 0.3, 0.6  2.5, 0.08  12.2, 8.7e-6 |
| Imm | 0.062±0.03(0.013,0.12) 3 | 0.065±0.02(0.03,0.11) 3 | 0.11±0.08(0.02,0.31) 1,2 |
| P value | 0.99 | **0.03** | **0.006** |
| **Single Spike Properties** | | | | | |
| Amplitude (mV) | Del | 75.5±4.3(66,84) | 73.0±5.3(60,87) | 74.8±6.8(61,89) | 6.5, 0.01  3.2, 0.04  2.0, 0.14 |
| Imm | 75.2±5.9(61,87) | 76.2±7.8(62,92) | 76.7±10.4(68,91) |
| P value | 0.99 | 0.1 | 0.2 |
| Spike rise time (ms) | Del | 0.77±0.15(0.40,1.0) 2,3 | 0.59±0.12(0.31,0.92) 1,3 | 0.47±0.08(0.34,0.65) 1,2 | 39.3, 1.6e-9  85.9, >1.0e-15  7.1, 0.001 |
| Imm | 0.98±0.28(0.40,1.49) 2,3 | 0.78±0.22(0.45,1.38) 1,3 | 0.50±0.18(0.28,1.2) 1,2 |
| P value | **2.6e-5** | **8.4x10e-8** | 0.8 |
| Spike Half width (ms) | Del | 0.99±0.22(0.53,1.39) 2,3 | 0.66±0.14(0.44,0.99) 1,3 | 0.57±0.11(0.38,0.82) 1,2 | 28.1, 2.5e-7  128, >1.0e-15  13.5, 2.7e-6 |
| Imm | 1.26±0.28(0.73,1.95) 2,3 | 0.89±0.34(0.48,2.38) 1,2 | 0.51±0.13(0.32,0.81) 1,2 |
| P value | **5.8e-6** | **3.2e-7** | 0.2 |
| AHP Amplitude (mV) | Del | 6.7±2.2(3.6,12.7) | 6.6±2.0(2.9,12.3) | 6.3±2.5(1.3,12.5) | 0.07, 0.78  6.4, 0.002  9.3, 1.3e-4 |
| Imm | 4.5. ±1.9(1.1,9.6) 2,3 | 7.3±2.5(2.5,11.9) 1 | 7.5±3.6(1.6,14.9) 1 |
| P value | **0.008** | 0.6 | 0.3 |
| AHP Half width (ms) | Del | 61.1±18.8(31.8,135.1) 2,3 | 43.3±12.7(22.1,80.1) 1 | 49.9±19.7(14.6,94.9) 1 | 38.8, 2.0e-9  1.1, 0.3  6.7, 0.001 |
| Imm | 66.9±20.2(24.7,107.4) | 75.8±31.3(32.1,152.3) | 67.7±32.6(24.7,136.2) |
| P value | 0.6 | **4.0e-11** | **6.1 e-3** |