Supplementary material

**Table S1** Sex differences in behaviour recorded in SHIRPA screen prior to surgery. Behavioral measurements recorded as part of the SHIRPA primary behavioural observation assessment. Data represent score, mean, standard error and statistics (Mann-Whitney U test) of female (n=21) and male (n=24) C57BL/6J mice at 12 weeks of age. Measure with significant effects are given bold face. NA = Not available

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Behavioural measurement | Sex | Mean | Std. error | Statistics |
| Body position | female | 3.286 | 0.055 | U=301.5P=0.197 |
| male | 3.188 | 0.050 |
| Tremor | female | 1.905 | 0.066 | U=302.5P=0.102 |
| male | 1.667 | 0.115 |
| Palpebral closure | female | 2.000 | 0.000 | NA |
| male | 1.917 | 0.058 |
| Lacrimation | female | 1.000 | 0.000 | NA |
| male | 1.000 | 0.000 |
| Spontaneous activity | female | 1.881 | 0.084 | U=311P=0.115 |
| male | 1.604 | 0.138 |
| Urination | female | 0.810 | 0.088 | U=267P=0.647 |
| male | 0.750 | 0.090 |
| Defecation | female | 1.286 | 0.269 | U=189P=0.145 |
| male | 2.083 | 0.366 |
| Transfer arousal | female | 3.381 | 0.146 | U=268P=0.682 |
| male | 3.333 | 0.143 |
| Locomotor activity | female | 21.24 | 1.234 | U=216.5P=0.424 |
| male | 21.75 | 0.730 |
| Gait | female | 3.000 | 0.000 | NA |
| male | 3.000 | 0.000 |
| Pelvic elevation | female | 2.000 | 0.000 | NA |
| male | 1.854 | 0.070 |
| Tail elevation | female | 1.048 | 0.048 | U=232.5P=0.381 |
| male | 1.125 | 0.069 |
| Startle response | female | 1.190 | 0.088 | U=289.5P=0.122 |
| male | 1.042 | 0.042 |
| Touch escape | female | 2.619 | 0.109 | U=275.5P=0.549 |
| male | 2.458 | 0.144 |
| **Positional Passivity** | **female** | **2.952** | **0.048** | **U=313.5****P=0.036** |
| **male** | **2.708** | **0.095** |
| Limb grasping | female | 0.095 | 0.066 | U=255P=0.908 |
| male | 0.083 | 0.058 |
| Trunk curl | female | 1.000 | 0.000 | NA |
| male | 1.000 | 0.000 |
| Pinna reflex | female | 1.000 | 0.000 | NA |
| male | 1.000 | 0.000 |
| Corneal reflex | female | 1.000 | 0.000 | NA |
| male | 1.000 | 0.000 |
| Contact righting reflex | female | 1.000 | 0.000 | NA |
| male | 1.000 | 0.000 |

**Table S2** Sex differences in behaviour recorded in in the open field area prior to surgery. ANY-maze measures data represent mean, standard error and statistics (Mann-Whitney U test) of female (n=21) and male (n=24) C57BL/6J mice at 12 weeks of age. Measure with significant effects are given bold face.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Open field behaviour | Sex | Mean | Std. error | Statistics |
| **Distance (m)** | **female** | **29.22** | **5.69** | **U=362****P=0.012** |
| **male** | **24.94** | **5.62** |
| **Time immobile (s)** | **female** | **128.1** | **45.7** | **U=110****P<0.001** |
| **male** | **190.0** | **60.0** |
| Line crossings  | female | 306.2 | 53.6 | U=335P=0.061 |
| male | 276.7 | 53.9 |
| Max speed (m/s) | female | 0.344 | 0.054 | U=330.5P=0.076 |
| male | 0.314 | 0.046 |
| Photobeam Array: number active (n) | female | 160.8 | 37.1 | U=330P=0.078 |
| male | 139.0 | 61.5 |
| Photobeam Array: time active (s) | female | 75.27 | 13.54 | U=174P=0.078 |
| male | 96.52 | 42.62 |
| Centre time (s) | female | 34.03 | 12.95 | U=184P=0.125 |
| male | 44.15 | 27.09 |
| Centre distance (m) | female | 3.40 | 0.85 | U=275P=0.612 |
| male | 3.18 | 0.76 |

**Table S3** Sex differences in startle pulse and prepulse inhibition prior to surgery. Data represent mean, standard error and statistics (Mann-Whitney U test) of female (n=21) and male (n=24) C57BL/6J mice at 12 weeks of age. Measure with significant effects are given bold face.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Measure | Sex | Mean | Std. error | Statistics |
| Startle pulse | female | 571.3 | 52.0 | U=179P=0.099 |
| male | 801.7 | 74.7 |
| **%PPI****4 dB prepulse** | **female** | **-3.54** | **8.21** | **U=130.5****P=0.006** |
| **male** | **24.53** | **4.15** |
| **%PPI****8 dB prepulse** | **female** | **6.45** | **6.55** | **U=126****P=0.004** |
| **male** | **33.07** | **5.17** |
| **%PPI****12 dB prepulse** | **female** | **13.10** | **7.53** | **U=92****P<0.001** |
| **male** | **50.23** | **5.47** |
| **%PPI****16 dB prepulse** | **female** | **30.79** | **4.09** | **U=77****P<0.001** |
| **male** | **62.23** | **4.82** |
| **%PPI****Mean prepulse** | **female** | **11.70** | **5.98** | **U=95****P<0.001** |
| **male** | **42.51** | **4.61** |