**Supplementary Table 1.** Morphological and functional characteristics of neurons in the temporal cortex and in the hippocampal areas of CA1-CA2 and CA3-CA4 in olfactory-bulbectomized (OBX) mice after immunization against different p75NTR fragments.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Group  Of mice | Neuronal density (n/mm2) | Normal neurons  (%) | Pathological neurons (%) | | | |
| Pyknosis | Cytolysis | Karyolysis | Vacuolization |
| Temporal cortex | SO  OBX  (32-46)  (39-47)  (66-72)  (86-93)  (97-105)  (115-122)  (147-154)  (155-164)  (167-176) | 1200±15.7\*\*  1110±16.1  883±12.8\*\*  1122±7.9  1099±8.3  971±12.9\*\*  1123±8.7  1049±18.4\*  950±24.4\*\*  1113±8.9  1298±9.1\*\* | 79.1±0.80\*\*  50.4±0.73  63.6±0.39  69.6±0.96\*\*  73.5±0.40\*\*  65.9±0.44\*\*  75.0±0.62\*\*  67.7±0.89\*\*  71.6±1.05\*\*  69.9±0.69\*\*  74.0±1.38\*\* | 3.1±0.26\*\*  14.1±0.34  4.4±0.25\*\*  4.1±0.23\*\*  2.4±0.18\*\*  2.4±0.21\*\*  3.8±0.34\*\*  3.8±0.31\*\*  2.4±0.49\*\*  5.6±0.31\*\*  4.2±0.26\*\* | 10.9±0.43\*\*  24.3±0.57  20.9±0.25\*\*  13.7±0.49\*\*  15.3±0.44\*\*  19.9±0.27\*\*  13.1±0.33\*\*  18.3±0.47\*\*  18.4±0.58\*\*  14.6±0.39\*\*  11.7±0.63\*\* | 4.4±0.21\*\*  7.3±0.21  5.4±0.23\*\*  4.4±0.23\*\*  5.1±0.19\*\*  6.5±0.19  4.1±0.21\*\*  6.1±0.34\*  4.8±0.42\*\*  5.5±0.25\*\*  4.5±0.27\*\* | 1.7±0.15\*\*  3.9±0.3  5.7±0.23\*\*  8.1±0.59\*\*  3.7±0.21  5.2±0.23\*\*  3.9±0.29  4.2±0.29  2.8±0.33\*  4.7±0.22\*  5.6±0.61\* |
| СА1-СА2 (Hippocampus) | SO  OBX  (32-46)  (39-47)  (66-72)  (86-93)  (97-105)  (115-122)  (147-154)  (155-164)  (167-176) | 2782±21.1\*  2749±22.3  2693±13.9  2741±18.4  2783±14.3  2664±13.3\*\*  2781±11.7  2652±17.5\*  2656±32.4\*  2745±14.6  2814±18.8\* | 83.6±0.68\*\*  58.9±0.79  73.2±0.47\*\*  74.4±0.70\*\*  80.5±0.46\*\*  69.8±0.46\*\*  80.9±0.91\*\*  70.2±0.55\*\*  75.8±1.08\*\*  75.8±1.02\*\*  73.9±0.65\*\* | 2.2±0.22\*\*  10.3±0.41  1.3±0.13\*\*  2.6±0.25\*\*  1.0±0.13\*\*  1.1±0.15\*\*  2.4±0.31\*\*  2.1±0.31\*\*  0.9±0.35\*\*  3.6±0.27\*\*  3.6±0.24\*\* | 9.6±0.43\*\*  21.4±0.42  16.2±0.31\*\*  13.7±0.36\*\*  12.4±0.28\*\*  19.3±0.27\*\*  10.7±0.43\*\*  17.6±0.27\*\*  11.6±0.81\*\*  13.0±0.51\*\*  12.8±0.32\*\* | 3.5±0.29\*\*  6.3±0.37  5.8±0.33  3.2±0.21\*\*  3.8±0.21\*\*  4.4±0.22\*\*  3.2±0.25\*  6.3±0.26  6.3±0.37  4.6±0.22\*\*  5.6±0.27 | 1.2±0.17\*\*  3.1±0.24  3.6±0.19  6.1±0.52\*\*  2.2±0.21\*  5.8±0.21\*\*  2.8±0.27  3.7±0.24  5.4±0.56\*  3.4±0.41  4.0±0.45 |
| СА3-СА4 (Hippocampus) | SO  OBX  (32-46)  (39-47)  (66-72)  (86-93)  (97-105)  (115-122)  (147-154)  (155-164)  (167-176) | 2123±20.5  2066 ± 21.1  2037±11.2  2008±14.1\*  2045±9.7  2089±11.3  2006±11.2\*  2011±12.9\*  2042±34.5  2053±14.2  2119±10.3\* | 82.1±0.63\*\*  56.5±1.00  68.5±0.82\*\*  75.4±0.73\*\*  79.2±0.53\*\*  66.6±0.37\*\*  78.1±0.74\*\*  69.1±1.80\*\*  77.6±0.92\*\*  78.1±1.01\*\*  77.3±1.26\*\* | 2.1±0.23\*\*  10.2±0.46  1.4±0.16\*\*  3.9±0.37\*\*  1.1±0.13\*\*  0.9±0.12\*\*  2.9±0.26\*\*  1.5±0.19\*\*  1.3±0.37\*\*  3.4±0.24\*\*  2.8±0.23\*\* | 10.3±0.44\*\*  23.5±0.62  18.3±0.45\*\*  11.1±0.42\*\*  13.0±0.30\*\*  20.4±0.25\*\*  11.9±0.44\*\*  16.1±0.43\*\*  12.2±0.51\*\*  12.4±0.58\*\*  10.8±0.70\*\* | 3.9±0.24\*\*  7.4±0.32  6.1±0.27\*  3.5±0.24\*\*  3.3±0.19\*\*  6.6±0.22  3.5±0.21\*\*  5.9±0.22\*\*  4.4±0.37\*\*  3.4±0.31\*\*  4.3±0.27\*\* | 1.6±0.19\*  2.3±0.21  5.9±0.28\*\*  6.0±0.32\*\*  3.4±0.21\*\*  5.6±0.21\*\*  3.4±0.21\*  6.0±0.25\*\*  4.5±0.43\*\*  2.8±0.23  4.8±0.43\*\* |

Notes: Statistical characterization (mean ± SEM) of OBX-mice immunized against p75NTR fragments (shown in brackets), where stars denote significant (\*p < 0.05; \*\* р < 0.01, Mann-Whitney U-test) differenceversus "OBX" (underlined) group.

**Supplementary Table 2.** Morphological and functional characteristics of neurons in the temporal cortex and in the hippocampal areas of CA1-CA2 and CA3-CA4 in sham-operated (SO) mice after immunization against different p75NTR fragments.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Group  of mice | Neuronal density (n/mm2) | Normal neurons  (%) | Pathological neurons (%) | | | |
| Pyknosis | Cytolysis | Karyolysis | Vacuolization |
| Temporal cortex | Vehicle  (39-47)  (86-93)  (97-105)  (147-154)  (155-164)  (167-176) | 1200±15.7  1193±12.8  1181±13.7  1179±10.9  1175±12.8  1181±13.9  1198±15.0 | 79.1±0.80  74.2±0.48\*\*  68.8±0.52\*\*  73.5±0.40\*\*  71.1±0.33\*\*  73.9±0.47\*\*  79.2±0.86 | 3.1±0.26  2.8±0.25  1.0±0.19\*\*  2.7±0.25  2.7±0.18  4.2±0.24\*  3.8±0.28 | 10.9±0.44  13.8±0.28\*\*  15.9±0.36\*\*  13.4±0.31\*\*  14.3±0.22\*\*  14.3±0.25\*\*  10.3±0.46 | 4.4±0.21  4.5±0.2  8.1±0.28\*\*  5.0±0.19  6.2±0.22\*\*  3.5±0.20\*  3.5±0.20\* | 1.7±0.2  4.6±0.27\*\*  6.3±0.25\*\*  5.5±0.23\*\*  5.6±0.25\*\*  4.0±0.24\*\*  3.3±0.27\*\* |
| СА1-СА2 (Hipp) | Vehicle  (39-47)  (86-93)  (97-105)  (147-154)  (155-164)  (167-176) | 2782±21.1  2737±14.4  2843±20.2\*  2828±16.3  2762±11.7  2753±15.3  2819±18.8 | 83.6±0.68  75.5±0.69\*\*  74.1±0.87\*\*  75.0±0.60\*\*  69.3±0.40\*\*  84.1±0.44  89.5±0.49\*\* | 2.2±0.25  2.6±0.29  1.0±0.22\*\*  1.7±0.17  1.7±0.25  2.3±0.21  1.9±0.21 | 9.6±0.43  13.9±0.39\*\*  14.7±0.54\*\*  13.9±0.36\*\*  16.0±0.34\*\*  10.5±0.32  4.6±0.20\*\* | 3.5±0.29  2.6±0.29  5.8±0.45\*\*  4.1±0.28  8.0±0.24\*\*  2.1±0.21\*  2.4±0.22\* | 1.2±0.17  4.7±0.23\*\*  4.4±0.25\*\*  5.4±0.21\*\*  5.0±0.28\*\*  1.8±0.19  1.7±0.18 |
| СА3-СА4 (Hipp) | Vehicle  (39-47)  (86-93)  (97-105)  (147-154)  (155-164)  (167-176) | 2123±20.45  2118 ± 8.6  2028±17.9\*\*  2091±12.9  2002±11.6\*\*  2042±14.5\*  2131±13.0 | 82.1±0.63  76.5±0.39\*\*  67.2±0.58\*\*  77.4±0.50\*\*  66.7±0.51\*\*  82.5±0.40  90.7±0.43\*\* | 2.1±0.24  3.1±0.24\*  1.1±0.24\*  1.6±0.17  2.2±0.21  2.8±0.20  1.9±0.17 | 10.3±0.44  13.9±0.29\*\*  16.7±0.31\*\*  13.0±0.28\*\*  16.8±0.3\*\*  11.9±0.3\*  4.4±0.28\*\* | 3.9±0.40  2.7±0.29\*  5.3±0.98  4.0±0.19  9.4±0.22\*\*  2.1±0.35\*\*  2.1±0.20\*\* | 1.6±0.19  3.6±0.19\*\*  5.6±0.32\*\*  3.9±0.23\*\*  4.8±0.33\*\*  2.5±0.22\*  1.2±0.15 |

Notes: Statistical characterization (mean ± SEM) of SO-mice immunized against p75NTR fragments (shown in brackets), where stars denote significant (\*p < 0.05; \*\*р < 0.01, Mann-Whitney U-test) difference versus the "Vehicle" (underlined) group. The hippocampus is abbreviated as Hipp.