**Additional file 1.** The transfection gradient experiment

**Supplementary Table 1.** Concentration screening of QRT PCR

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Serial number | Actin | hnRNP G | δT | δδT1 | δδT2 | 2^(-δδT)1 | 2^(-δδT)2(Silence efficiency) |
| si1a | 17.843435 | 23.783972 | 5.940537 | 0.420238 | 0.444992 | 0.747301333 | 0.73458839 |
| si2a | 17.342852 | 23.546598 | 6.203746 | 0.683447 | 0.708201 | 0.62267575 | 0.612082913 |
| si3a | 17.399485 | 23.85893 | 6.459445 | 0.939146 | 0.9639 | 0.521541514 | 0.512669153 |
| si1b | 17.354746 | 23.706144 | 6.351398 | 0.831099 | 0.855853 | 0.562100888 | 0.552538539 |
| si2b | 17.640844 | 24.306606 | 6.665762 | 1.145463 | 1.170217 | 0.452044592 | 0.444354499 |
| si3b | 17.379593 | 23.866386 | 6.486793 | 0.966494 | 0.991248 | 0.51174819 | 0.503042431 |
| BC1 (Blank) | 19.85254 | 25.372839 | 5.520299 | 0 | 0 | 1 | 1 |
| BC2 (Blank) | 18.417885 | 23.91343 | 5.495545 | 0 | 0 | 1 | 1 |

**Supplementary Table 2.** Concentration of each transfection reagent

|  |  |  |
| --- | --- | --- |
| Concentration | Lipo | siRNA |
| a | 2ul | 2ul |
| b (Optimum concentration) | 2ul | 3ul |

*Lipo* Lip2000 transfection reagent

**Additional file 2.** The data of figure 1

**Supplementary Table 1.** Cervical anterior horn

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9375 | 0.965 | 0.9043 | 0.8938 | 0.9228 | 0.9404 |
| P value | 0.3519 | 0.7789 | 0.1106 | 0.0764 | 0.2125 | 0.3869 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 18.82 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | -3.733 | 1.239 | 15 | 15 | 3.014 | 27.65 | 0.0552 | ns |
| WT-onset vs. TG-onset | 3.933 | 1.478 | 15 | 15 | 2.661 | 23.94 | 0.1209 | ns |
| WT-progression vs. TG-progression | -1.667 | 1.839 | 15 | 15 | 0.9061 | 27.33 | 0.9416 | ns |

**Supplementary Table 2.** Thoracic anterior horn

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9081 | 0.959 | 0.9423 | 0.9093 | 0.9661 | 0.956 |
| P value | 0.1265 | 0.6746 | 0.4128 | 0.132 | 0.796 | 0.6227 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 50.52 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | -2.200 | 0.9572 | 15 | 15 | 2.298 | 26.63 | 0.2297 | ns |
| WT-onset vs. TG-onset | 2.600 | 0.9775 | 15 | 15 | 2.660 | 26.41 | 0.1179 | ns |
| WT-progression vs. TG-progression | 1.800 | 1.670 | 15 | 15 | 1.078 | 27.33 | 0.8860 | ns |

**Supplementary Table 3.** Lumbar anterior horn

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9444 | 0.9439 | 0.9321 | 0.9291 | 0.9292 | 0.8842 |
| P value | 0.4413 | 0.4333 | 0.293 | 0.2644 | 0.2652 | 0.0548 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 67.18 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | -7.067 | 1.237 | 15 | 15 | 5.712 | 26.29 | <0.0001 | \*\*\*\* |
| WT-onset vs. TG-onset | 10.07 | 1.318 | 15 | 15 | 7.636 | 27.87 | <0.0001 | \*\*\*\* |
| WT-progression vs. TG-progression | 3.133 | 1.158 | 15 | 15 | 2.705 | 27.31 | 0.1066 | ns |

*Diff* difference, *SE* standard error, *N* number, *q* q value, *DF* degrees of freedom, *ns* no significant

**Additional file 3.** The data of figure 2

**Supplementary Table 1.** Cervical central canal and its around grey

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.8781 | 0.9300 | 0.9120 | 0.9433 | 0.9617 | 0.9363 |
| P value | 0.0444 | 0.2733 | 0.1455 | 0.4260 | 0.7216 | 0.3378 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 5.766 |
| P value | 0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | -3.533 | 2.437 | 15 | 15 | 1.450 | 26.34 | 0.6974 | ns |
| WT-onset vs. TG-onset | 10.00 | 1.854 | 15 | 15 | 5.395 | 20.36 | <0.001 | \*\*\* |
| WT-progressive vs. TG-progressive | 0.9333 | 2.800 | 15 | 15 | 0.3333 | 27.74 | 0.9994 | ns |

**Supplementary Table 2.** Thoracic central canal and its around grey

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.3663 | 0.6100 | 0.8815 | 0.2137 | 0.2753 | 0.2396 |
| P value | 0.3861 | 0.0917 | 0.0179 | 0.8173 | 0.6069 | 0.7315 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 29.90 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | -5.733 | 2.699 | 15 | 15 | 2.125 | 27.92 | 0.3043 | ns |
| WT-onset vs. TG-onset | 17.33 | 2.537 | 15 | 15 | 6.833 | 27.94 | <0.0001 | \*\*\*\* |
| WT-progressive vs. TG-progressive | 4.000 | 1.476 | 15 | 15 | 2.710 | 27.96 | 0.1048 | ns |

**Supplementary Table 3.** Lumbar central canal and its around grey

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9595 | 0.9635 | 0.9240 | 0.8967 | 0.9543 | 0.8232 |
| P value | 0.6829 | 0.7536 | 0.2217 | 0.0848 | 0.5942 | 0.0074 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 30.97 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | -13.80 | 1.908 | 15 | 15 | 7.232 | 26.02 | <0.0001 | \*\*\*\* |
| WT-onset vs. TG-onset | 19.07 | 1.934 | 15 | 15 | 9.860 | 22.52 | <0.0001 | \*\*\*\* |
| WT-progressive vs. TG-progressive | 10.47 | 2.487 | 15 | 15 | 4.208 | 27.87 | 0.0030 | \*\* |

*Diff* difference, *SE* standard error, *N* number, *q* q value, *DF* degrees of freedom, *ns* no significant

**Additional file 4.** The data of figure 3

**Supplementary Table 1.** Cervical posterior horn

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.977 | 0.9781 | 0.9489 | 0.8874 | 0.9616 | 0.948 |
| P value | 0.9452 | 0.9551 | 0.5078 | 0.0612 | 0.7203 | 0.4933 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 3.98 |
| P value | 0.0027 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | 13.07 | 11.51 | 15 | 15 | 1.135 | 22.19 | 0.8616 | ns |
| WT-onset vs. TG-onset | -10.67 | 13.05 | 15 | 15 | 0.8175 | 24.92 | 0.9615 | ns |
| WT-progressive vs. TG-progressive | 44.00 | 10.82 | 15 | 15 | 4.066 | 28.00 | 0.0043 | \*\* |

**Supplementary Table 2.** Thoracic posterior horn

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9237 | 0.9736 | 0.9841 | 0.9433 | 0.8263 | 0.876 |
| P value | 0.219 | 0.9068 | 0.9901 | 0.4259 | 0.0082 | 0.0413 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 13.62 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | 47.80 | 8.226 | 15 | 15 | 5.811 | 22.95 | <0.0001 | \*\*\*\* |
| WT-onset vs. TG-onset | -17.00 | 10.71 | 15 | 15 | -17.00 | 10.71 | 0.6137 | ns |
| WT-progressive vs. TG-progressive | -6.267 | 9.646 | 15 | 15 | 0.6497 | 21.91 | 0.9856 | ns |

**Supplementary Table 3.** Lumbar posterior horn

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9396 | 0.9237 | 0.891 | 0.9586 | 0.9421 | 0.9156 |
| P value | 0.3773 | 0.219 | 0.0694 | 0.6689 | 0.4092 | 0.1651 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 1.971 |
| P value | 0.0913 |

Ordinary one-way ANOVA with Turkey’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of  Diff. | N1 | N2 | q | DF | Adjusted P Value | Summary |
| WT-preonset vs. TG-preonset | 15.00 | 10.51 | 15 | 15 | 2.018 | 84 | 0.7105 | ns |
| WT-onset vs. TG-onset | 4.467 | 10.51 | 15 | 15 | 0.6010 | 84 | 0.9982 | ns |
| WT-progressive vs. TG-progressive | 29.00 | 10.51 | 15 | 15 | 3.902 | 84 | 0.0744 | ns |

*Diff* difference, *SE* standard error, *N* number, *q* q value, *DF* degrees of freedom, *ns* no significant

**Additional file 5.** The data of figure 5

**Supplementary Table 1.** Cervical spinal cord

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9742 | 0.9985 | 0.9553 | 0.9367 | 0.8907 | 0.9877 |
| P value | 0.6919 | 0.9257 | 0.5933 | 0.5143 | 0.3566 | 0.7874 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 27.40 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of Diff. | n1 | n2 | t | DF | Adjusted P Value | Summary |
| TG-preOnset vs. WT-preOnset | 0.4152 | 0.06913 | 3 | 3 | 8.494 | 12 | 0.0007 | \*\*\* |
| TG-Onset vs. WT-Onset | 0.03559 | 0.06913 | 3 | 3 | 0.7282 | 12 | 0.9945 | ns |
| TG-Progression vs. WT-Progression | -0.2790 | 0.06913 | 3 | 3 | 5.709 | 12 | 0.0159 | \* |

**Supplementary Table 2.** Thoracic spinal cord

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9877 | 0.9265 | 0.9772 | 0.7895 | 0.7522 | 0.9364 |
| P value | 0.7877 | 0.4755 | 0.7104 | 0.0896 | 0.0048 | 0.5131 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 89.20 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of Diff. | n1 | n2 | t | DF | Adjusted P Value | Summary |
| TG-preOnset vs. WT-preOnset | 0.3004 | 0.07241 | 3 | 3 | 5.867 | 12 | 0.0132 | \* |
| TG-Onset vs. WT-Onset | -0.2606 | 0.07241 | 3 | 3 | 5.090 | 12 | 0.0334 | \* |
| TG-Progression vs. WT-Progression | 0.4756 | 0.07241 | 3 | 3 | 9.288 | 12 | 0.0003 | \*\*\* |

**Supplementary Table 3.** Lumbar spinal cord

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.9564 | 0.9163 | 0.8578 | 0.9989 | 0.8969 | 0.9111 |
| P value | 0.5983 | 0.4393 | 0.2616 | 0.9365 | 0.3757 | 0.4217 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 24.75 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of Diff. | n1 | n2 | t | DF | Adjusted P Value | Summary |
| TG-preOnset vs. WT-preOnset | 0.6559 | 0.08609 | 3 | 3 | 10.77 | 12 | 0.1303 | ns |
| TG-Onset vs. WT-Onset | -0.2195 | 0.08609 | 3 | 3 | 3.606 | 12 | 0.1842 | ns |
| TG-Progression vs. WT-Progression | -0.6535 | 0.08609 | 3 | 3 | 10.73 | 12 | <0.0001 | \*\*\*\* |

*Diff* difference, *SE* standard error, *N* number, *q* q value, *DF* degrees of freedom, *ns* no significant

**Additional file 6.** The data of figure 6

**Supplementary Table 1.** The data of figure 6A. The qRT-PCR result of hnRNP G-siRNA silenced

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of Diff. | N1 | N2 | q | DF | Adjusted P Value | Summary |
| Blank control vs. Negative control | 0.03716 | 0.06354 | 3 | 3 | 0.8272 | 10 | 0.9744 | ns |
| Blank control vs. siRNA1 | 0.4836 | 0.06354 | 3 | 3 | 10.76 | 10 | 0.0001 | \*\*\* |
| Blank control vs. siRNA2 | 0.4952 | 0.06354 | 3 | 3 | 11.02 | 10 | 0.0001 | \*\*\* |
| Blank control vs. siRNA3 | 0.4282 | 0.06354 | 3 | 3 | 9.53 | 10 | 0.0004 | \*\*\* |
| Negative control vs. siRNA1 | 0.4464 | 0.06354 | 3 | 3 | 9.936 | 10 | 0.0003 | \*\*\* |
| Negative control vs. siRNA2 | 0.4581 | 0.06354 | 3 | 3 | 10.2 | 10 | 0.0002 | \*\*\* |
| Negative control vs. siRNA3 | 0.391 | 0.06354 | 3 | 3 | 8.702 | 10 | 0.0008 | \*\*\* |
| siRNA1 vs. siRNA2 | 0.01167 | 0.06354 | 3 | 3 | 0.2598 | 10 | 0.9997 | ns |
| siRNA1 vs. siRNA3 | -0.05542 | 0.06354 | 3 | 3 | 1.233 | 10 | 0.9008 | ns |
| siRNA2 vs. siRNA3 | -0.06709 | 0.06354 | 3 | 3 | 1.493 | 10 | 0.8242 | ns |

**Supplementary Table 2.** The data of figure B, C. hnRNP G protein after siRNA silenced

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Shapiro-Wilk test for normal distribution | WT-preonset | TG-preonset | WT-onset | TG-onset | WT-progressive | TG-progressive |
| W | 0.8046 | 0.9363 | 0.9994 | 0.9114 | 0.9197 | 0.8046 |
| P value | 0.1107 | 0.6318 | 0.9984 | 0.4899 | 0.5351 | 0.1107 |

|  |  |
| --- | --- |
| Ordinary one-way ANOVA summary |  |
| F | 14.33 |
| P value | <0.0001 |

Brown-Forsythe and Welch ANOVA with Games-Howell’s tests for multiple comparisons

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic test group | Mean Diff. | SE of Diff. | N1 | N2 | t | DF | Adjusted P Value | Summary |
| Blank control vs. Negative control | 0.07446 | 0.1521 | 4 | 4 | 0.6925 | 15 | 0.9872 | ns |
| Blank control vs. siRNA1 | 0.7274 | 0.1521 | 4 | 4 | 6.765 | 15 | 0.0019 | \*\* |
| Blank control vs. siRNA2 | 0.8153 | 0.1521 | 4 | 4 | 7.583 | 15 | 0.0006 | \*\*\* |
| Blank control vs. siRNA3 | 0.7868 | 0.1521 | 4 | 4 | 7.317 | 15 | 0.0009 | \*\*\* |
| Negative control vs. siRNA1 | 0.653 | 0.1521 | 4 | 4 | 6.073 | 15 | 0.0049 | \*\* |
| Negative control vs. siRNA2 | 0.7409 | 0.1521 | 4 | 4 | 6.89 | 15 | 0.0016 | \*\* |
| Negative control vs. siRNA3 | 0.7123 | 0.1521 | 4 | 4 | 6.625 | 15 | 0.0023 | \*\* |
| siRNA1 vs. siRNA2 | 0.08788 | 0.1521 | 4 | 4 | 0.8173 | 15 | 0.9764 | ns |
| siRNA1 vs. siRNA3 | 0.05935 | 0.1521 | 4 | 4 | 0.552 | 15 | 0.9945 | ns |
| siRNA2 vs. siRNA3 | -0.02853 | 0.1521 | 4 | 4 | 0.2654 | 15 | 0.9997 | ns |

*Diff* difference, *SE* standard error, *N* number, *q* q value, *DF* degrees of freedom, *ns* no significant

**Additional file 7.** The data of figure 7

The data of figure 7 B

**Supplementary Table 1.** The survival rate of PC12 cell after hnRNP G-siRNA silenced for 24 h

Two-way ANOVA with Geisser-Greenhouse correction

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Test details | Mean Diff. | SE of Diff. | N1 | N2 | q | DF | Adjusted P Value | Summary |
| Blank control vs. Negative control | -2.63 | 7.904 | 3 | 3 | 0.4706 | 18 | 0.941 | ns |
| Blank control vs. siRNA3 | 1.357 | 7.904 | 3 | 3 | 0.2428 | 18 | 0.9839 | ns |
| Negative control vs. siRNA3 | 3.987 | 7.904 | 3 | 3 | 0.7133 | 18 | 0.8701 | ns |

The data of figure 7 B

**Supplementary Table 2.** The survival rate of PC12 cell after hnRNP G-siRNA silenced for 48 h

Two-way ANOVA with Geisser-Greenhouse correction

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Test details | Mean Diff. | SE of Diff. | N1 | N2 | q | DF | Adjusted P Value | Summary |
| Blank control vs. Negative control | 12.26 | 7.904 | 3 | 3 | 2.194 | 18 | 0.2915 | ns |
| Blank control vs. siRNA3 | 27.68 | 7.904 | 3 | 3 | 4.953 | 18 | 0.0068 | \*\* |
| Negative control vs. siRNA3 | 15.42 | 7.904 | 3 | 3 | 2.759 | 18 | 0.1535 | ns |

The data of figure 7 B

**Supplementary Table 3.** The survival rate of PC12 cell after hnRNP G-siRNA silenced for 72 h

Two-way ANOVA with Geisser-Greenhouse correction

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Test details | Mean Diff. | SE of Diff. | N1 | N2 | q | DF | Adjusted P Value | Summary |
| Blank control vs. Negative control | -5.243 | 7.904 | 3 | 3 | 0.9382 | 18 | 0.7873 | ns |
| Blank control vs. siRNA3 | -6.413 | 7.904 | 3 | 3 | 1.148 | 18 | 0.7009 | ns |
| Negative control vs. siRNA3 | -1.17 | 7.904 | 3 | 3 | 0.2094 | 18 | 0.988 | ns |

The data of figure 7 D

**Supplementary Table 4.** F test of TDP43 protein after siRNA silenced

|  |  |
| --- | --- |
| F test to compare variances | result |
| F, DFn, DFd | 3.581, 7, 7 |
| P value | 0.1141 |
| P value summary | ns |
| Significantly different (P < 0.05)? | No |

The data of figure 7 D

**Supplementary Table 5.** T test of TDP43 protein after siRNA silenced

|  |  |
| --- | --- |
| Unpaired t test | result |
| P value | 0.0015 |
| P value summary | \*\* |
| Significantly different (P < 0.05)? | Yes |
| One- or two-tailed P value? | Two-tailed |
| t, df | t=3.945, df=14 |

The data of figure 7 E

|  |  |
| --- | --- |
| F test to compare variances | result |
| F, DFn, DFd | 3.923, 5, 5 |
| P value | 0.1598 |
| P value summary | ns |
| Significantly different (P < 0.05)? | No |

**Supplementary Table 6.** F test of Bax protein after siRNA silenced

The data of figure 7 E

**Supplementary Table 7.** T test of Bax protein after siRNA silenced

|  |  |
| --- | --- |
| Unpaired t test | result |
| P value | 0.0403 |
| P value summary | \* |
| Significantly different (P < 0.05)? | Yes |
| One- or two-tailed P value? | Two-tailed |
| t, df | t=2.355, df=10 |

The data of figure 7 F

**Supplementary Table 8.** F test of SOD1 protein after siRNA silenced

|  |  |
| --- | --- |
| F test to compare variances | result |
| F, DFn, DFd | 3.664, 5, 5 |
| P value | 0.1805 |
| P value summary | ns |
| Significantly different (P < 0.05)? | No |

The data of figure 7 F

**Supplementary Table 9.** T test of SOD1 protein after siRNA silenced

|  |  |
| --- | --- |
| Unpaired t test | result |
| P value | 0.0722 |
| P value summary | ns |
| Significantly different (P < 0.05)? | No |
| One- or two-tailed P value? | Two-tailed |
| t, df | t=2.010, df=10 |

*Diff* difference, *SE* standard error, *N* number, *q* q value, *DF* degrees of freedom, *ns* no significant

*DFn* degrees of freedom numerator, *DFd* degrees of freedom denominator