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| --- | --- | --- | --- | --- | --- |
| **Statistical Comparisons**  **for Figure 1** | | | **Comparison** | **Result** | |
| **Panel** | **Description** | **Test** | **p value** | **n value** |
| **1D** | % of inactive spines  Control vs Deprived | *Chi-square*  *test* | +12 hrs: Con (0.01 %) vs Dep (19.7 %) | p < 0.001 | Deprived = 434 spines  Control = 648 spines  Deprived + TNF-α inhibitor = 272 spines |
| +24 hrs: Con (3.8 %) vs Dep (12.4 %) | p < 0.001 |
| +48 hrs: Con (2.3 %) vs Dep (10.1 %) | p < 0.001 |
| **1F** | Normalized change in amplitude of spine events for all spines  Deprived  vs  Control  vs  Deprived + TNF-α inhibitor | *Two-Way ANOVA with post-hoc test* | Control vs Deprived | p < 0.001 |
| -24 hrs: Con vs Dep | p = 0.917 |
| -1 hrs: Con vs Dep | p = 0.917 |
| +12 hrs: Con vs Dep | p = 0.571 |
| +24 hrs: Con vs Dep | p < 0.001 |
| +48 hrs: Con vs Dep | p < 0.001 |
| Deprived+TNF-α inhibitor vs Deprived | p < 0.001 |
| -24 hrs: Dep+TNF-α inhibitor vs Dep | p = 0.936 |
| -1 hrs: Dep+TNF-α inhibitor vs Dep | p = 0.936 |
| +12 hrs: Dep+TNF-α inhibitor vs Dep | p = 0.005 |
| +24 hrs: Dep+TNF-α inhibitor vs Dep | p = 0.018 |
| +48 hrs: Dep+TNF-α inhibitor vs Dep | p < 0.001 |
| Control vs Deprived+TNF-α inhibitor | p = 0.661 |
| -24 hrs: Con vs Dep+TNF-α inhibitor | p = 0.959 |
| -1 hrs: Con vs Dep+TNF-α inhibitor | p = 0.959 |
| +12 hrs: Con vs Dep+TNF-α inhibitor | p = 0.005 |
| +24 hrs: Con vs Dep+TNF-α inhibitor | p = 0.019 |
| +48 hrs: Con vs Dep+TNF-α inhibitor | p = 0.415 |

**Figure 1-source data 1.** Statistical comparisons for Figure 1.