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| --- | --- | --- |
| **Statistical Comparisons** **for Figure 3 - figure supplement 1** | **Comparison** | **Result** |
| **Panel** | **Description**  | **Test** | **p value** | **n value** |
| **3-1A** | Normalized change in frequency of spine events for visual spinesControl vs Deprived | *Two-Way ANOVA with post-hoc test* | Frequency: Control vs Deprived | p < 0.001 | DeprivedVisual =112 spinesControlVisual =143 spinesDeprived Unclassified =41 spinesControlUnclassified =75 spinesDeprivedNetwork =273 spinesControlNetwork =428 spines |
| -24 hrs: Con vs Dep | p = 0.064 |
|  -1 hrs: Con vs Dep | p = 0.064 |
| +12 hrs: Con vs Dep | p < 0.001 |
| +24 hrs: Con vs Dep | p < 0.001 |
| +48 hrs: Con vs Dep | p < 0.001 |
| *One-Way**Repeated measures ANOVA* | Frequency: Dep -1 hrs vs Dep 12,24,48 hrs | p < 0.001 |
| Dep -1 hrs vs +12 hrs | p < 0.001 |
| Dep -1 hrs vs +24 hrs | p < 0.001 |
| Dep -1 hrs vs +48 hrs | p = 0.002 |
| Frequency: Con -1 hrs vs Con 12,24,48 hrs | p = 0.056 |
| **3-1B** | Normalized change in frequency of spine events for unclassified spinesControl vs Deprived | *Two-Way ANOVA with post-hoc test* | Frequency: Control vs Deprived | p = 0.014 |
| -24 hrs: Con vs Dep | p = 0.227 |
|  -1 hrs: Con vs Dep | p = 0.227 |
| +12 hrs: Con vs Dep | p = 0.002 |
| +24 hrs: Con vs Dep | p = 0.370 |
| +48 hrs: Con vs Dep | p = 0.141 |
| *One-Way**Repeated measures ANOVA* | Frequency: Dep -1 hrs vs Dep 12,24,48 hrs | p = 0.339 |
| Frequency: Con -1 hrs vs Con 12,24,48 hrs | p = 0.009 |
| Con -1 hrs vs +12 hrs | p = 0.055 |
| Con -1 hrs vs +24 hrs | p = 0.926 |
| Con -1 hrs vs +48 hrs | p = 0.035 |
| **3-1C** | Normalized change in frequency of spine events for network spinesControl vs Deprived | *Two-Way ANOVA with post-hoc test* | Frequency: Control vs Deprived | p < 0.001 |
| -24 hrs: Con vs Dep | p = 0.002 |
|  -1 hrs: Con vs Dep | p = 0.002 |
| +12 hrs: Con vs Dep | p < 0.001 |
| +24 hrs: Con vs Dep | p = 0.034 |
| +48 hrs: Con vs Dep | p < 0.001 |
| *One-Way**Repeated measures ANOVA* | Frequency: Dep -1 hrs vs Dep 12,24,48 hrs | p = 0.713 |
| Frequency: Con -1 hrs vs Con 12,24,48 hrs | p < 0.001 |
| Con -1 hrs vs +12 hrs | p = 0.011 |
| Con -1 hrs vs +24 hrs | p = 0.193 |
| Con -1 hrs vs +48 hrs | p = 0.063 |
| **3-1D** | Normalized change in integral of spine events for visual spinesControl vs Deprived | *Two-Way ANOVA with post-hoc test* | Integral: Control vs Deprived | p < 0.001 |
| -24 hrs: Con vs Dep | p = 0.095 |
|  -1 hrs: Con vs Dep | p = 0.095 |
| +12 hrs: Con vs Dep | p < 0.001 |
| +24 hrs: Con vs Dep | p = 0.001 |
| +48 hrs: Con vs Dep | p < 0.001 |
| *One-Way**Repeated measures ANOVA* | Integral: Dep -1 hrs vs Dep 12,24,48 hrs | p = 0.007 |
| Dep -1 hrs vs +12 hrs | p = 0.006 |
| Dep -1 hrs vs +24 hrs | p = 0.020 |
| Dep -1 hrs vs +48 hrs | p = 0.006 |
| Integral: Con -1 hrs vs Con 12,24,48 hrs | p = 0.052 |
| **3-1E** | Normalized change in integral of spine events for unclassified spinesControl vs Deprived | *Two-Way ANOVA with post-hoc test* | Integral: Control vs Deprived | p = 0.088 |
| -24 hrs: Con vs Dep | p = 0.243 |
|  -1 hrs: Con vs Dep | p = 0.243 |
| +12 hrs: Con vs Dep | p = 0.028 |
| +24 hrs: Con vs Dep | p = 0.289 |
| +48 hrs: Con vs Dep | p = 0.576 |
| *One-Way**Repeated measures ANOVA* | Integral: Dep -1 hrs vs Dep 12,24,48 hrs | p = 0.326 |
| Integral: Con -1 hrs vs Con 12,24,48 hrs | p = 0.113 |
| **3-1F** | Normalized change in integral of spine events for network spinesControl vs Deprived | *Two-Way ANOVA with post-hoc test* | Integral: Control vs Deprived | p < 0.001 |
| -24 hrs: Con vs Dep | p = 0.169 |
|  -1 hrs: Con vs Dep | p = 0.169 |
| +12 hrs: Con vs Dep | p = 0.174 |
| +24 hrs: Con vs Dep | p = 0.001 |
| +48 hrs: Con vs Dep | p < 0.001 |
| *One-Way**Repeated measures ANOVA* | Integral: Dep -1 hrs vs Dep 12,24,48 hrs | p = 0.015 |
| Dep -1 hrs vs +12 hrs | p = 0.081 |
| Dep -1 hrs vs +24 hrs | p = 0.075 |
| Dep -1 hrs vs +48 hrs | p = 0.004 |
| Integral: Con -1 hrs vs Con 12,24,48 hrs | p = 0.004 |
| Con -1 hrs vs +12 hrs | p = 0.614 |
| Con -1 hrs vs +24 hrs | p = 0.012 |
| Con -1 hrs vs +48 hrs | p = 0.620 |

**Figure 3-source data 2.** Statistical comparisons for Figure 3 - figure supplement 1.