|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Figure**  | **Panel** | **Test** | **Statistic** | **P value** | **Bonferroni’s Multiple comparisons** | **Multiple comparisons statistic**  | **Adjusted P value** |
| **3** | G | T-Confidence Interval | 95% CI-30 to 0s[-0.73511383 -0.724353688]1 to 30s[1.903893784 1.965866945]Difference[2.630811087 2.694498841]99% CI-30 to 0s[-0.737419984 -0.718129215]1 to 30s[1.894157095 1.975603635]Difference[2.620805016 2.704550491]99.9% CI-30 to 0s[-0.74009622 -0.715452978]1 to 30s[1.882857892 1.986902837]Difference[2.609193202 2.716116722] | Sig at 95%Sig at 99%Sig at 99.9% | N/A | N/A | N/A |
|  | I | T-Confidence Interval | 95% CI-3 to -1s[0.213736241 0.298523885]1 to 3s[5.190328104 6.484427377]Difference[4.932810735 6.22968462]99% CI-3 to -1s[0.200415137 0.311844989]1 to 3s[4.987010372 6.687745109]Difference[4.72905708 6.433438275]99.9% CI-3 to -1s[0.184956303 0.327303822]1 to 3s[4.751064858 6.923690623]Difference[4.492605688 6.669889668] | Sig at 95%Sig at 99%Sig at 99.9% | N/A | N/A | N/A |
|  | J | T-Confidence Interval  | 95% CI -3 to -1s[1.116192035 1.439691613]1 to 3s[0.049420441 0.369842849]Difference[-1.295973579 -0.840646778]99% CI-3 to -1s[1.065366568 1.49051708]1 to 3s[-0.000921568 0.420184858]Difference[-1.367510605 -0.769109753]99.9% CI-3 to -1s [1.006384792 1.549498856]1 to 3s[-0.059342302 0.478605592]Difference [-1.450527664 -0.686092694] | Sig at 95%Sig at 99%Sig at 99.9% | N/A | N/A | N/A |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | K | T-Confidence Interval | 95% CI-3 to -1s[-0.21380383 0.000116753]1 to 3s[-0.381118104 -0.039309855]Difference[-0.304985727 0.098244846]99% CI-3 to -1s[-0.24741319 0.033726113]1 to 3s[-0.434820072 0.014392113]Difference[-0.368337842 0.16159696]99.9% CI-3 to -1s[-0.286416073 0.072728995]1 to 3s[-0.497139961 0.076712002]Difference [-0.441856502 0.235115621] | nsnsns | N/A | N/A | N/A |
| **4** | C | Two-Way RM ANOVA | Stimulation Period x Genotype F (2, 58) = 12.82Stimulation PeriodF (1.012, 29.36) = 12.27GenotypeF (1, 29) = 11.78 | p<0.001\*\*\*\*p=0.0014\*\*p=0.0018\*\* | Pre-stimulationStimulationPost-stimulation | t=1t=3.429t=1 | p=0.9995p=0.0122\*p=0.9995 |
|  | D | Two-Way RM ANOVA | Stimulation Period x Genotype F (2, 58) = 21.04Stimulation PeriodF (1.794, 52.02) = 18.34GenotypeF (1, 29) = 0.6615 | p<0.001\*\*\*\*p<0.001\*\*\*\*p=0.4227 | Pre-stimulationStimulationPost-stimulation | t=1.02t=3.74t=3.281 | p=0.9495p=0.0039\*\*p=0.0139\* |
|  | E | Two-Way RM ANOVA | Stimulation Period x Genotype F (2, 58) = 14.84Stimulation PeriodF (1.667, 48.34) = 6.658GenotypeF (1, 29) = 4.707 | p<0.0001\*\*\*\*p=0.0045\*\*p=0.0384\* | Pre-stimulationStimulationPost-stimulation | t=0.7131t=3.267t=3.81 | p>0.9999p=0.0156\*p=0.0052\*\* |
| **5** | C | Two-Way ANOVA | Frequency x GenotypeF (4, 188) = 36.76FrequencyF (4, 188) = 34.61GenotypeF (1, 188) = 352.1 | p<0.0001\*\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\* | Cre+ vs Cre-1 Hz5 Hz10 Hz20 Hz | t=4.477t=10.09t=12.36t=15.09 | p<0.0001\*\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\* |
|  | D | Two-Way Mixed Model ANOVA | Time x GenotypeF (9.116, 218.1) = 1.418TimeF (1, 24) = 0.02824GenotypeF (29, 694) = 1.038 | p=0.1807p=0.868p=0.4125 | N/A | N/A | N/A |
|  | E | Two-Way Mixed Model ANOVA | Time x GenotypeF (29, 694) = 1.035TimeF (7.228, 173.0) = 1.030GenotypeF (1, 25) = 90.74 | p=0.4159p=0.4124p<0.0001\*\*\*\* | N/A | N/A | N/A |
|  | F | Two-Way ANOVA | Frequency x GenotypeF (4, 115) = 12.37FrequencyF (4, 115) = 12.38GenotypeF (1, 115) = 187.5 | p<0.0001\*\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\* | Cre+ vs Cre-1 Hz5 Hz10 Hz20 Hz | t=4.117t=7.622t=8.789t=9.156 | p=0.0004\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\* |
|  | H | Two-Tailed T-TestTwo-Tailed T-Test | Center Cre+ vs Cre-t=1.407, df=36Perimeter t=1.356, df=36 | p=0.1681p=0.1837 | N/A | N/A | N/A |
|  | I | Two-Tailed T-Test | Total Distance t=4.857, df=33 | p<0.0001\*\*\*\* | N/A | N/A | N/A |

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | K | Two-Tailed T-Test | Time in dark eYFP vs ChR2t=0.4208, df=15 | p=0.6799 | N/A | N/A | N/A |
|  | L | Two-Tailed T-Test | Distance eYFP vs ChR2 t=3.516, df=15 | p=0.0031\*\* | N/A | N/A | N/A |
| **6** | C | Two-Way RM ANOVA | Day x GenotypeF (3, 60) = 18.15DayF (1.945, 38.89) = 8.547GenotypeF (1, 20) = 255.7 | p<0.0001\*\*\*\*p=0.0009\*\*\*p<0.0001\*\*\*\* | Cre+ vs Cre-Day1Day 2Day 3Day 4 | t=6.368t=14.31t=20.64t=10.93 | p=0.0003\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\* |
|  | D | Two-Way RM ANOVA | Day x GenotypeF (3, 60) = 0.9819DayF (2.047, 40.94) = 1.251GenotypeF (1, 20) = 41.10 | p=0.4074p=0.2975p<0.0001\*\*\*\* | Cre+ vs Cre-Day1Day 2Day 3Day 4 | t=4.756t=5.669t=4.839t=3.798 | P<0.0001\*\*\*\*p<0.0001\*\*\*\*p<0.0001\*\*\*\*p<0.0011\*\* |
|  | E | Mixed-Model RM ANOVA | Day x GenotypeF (3, 72) = 3.449DayF (1.871, 44.91) = 0.6416GenotypeF (1, 72) = 51.92 | p=0.021\*p=0.5212p<0.0001\*\*\*\* | Cre+ vs Cre-Day1Day 2Day 3Day 4Cre+ Day ComparisonsDay1 vs. Day 2Day1 vs. Day 3Day1 vs. Day 4 | t=2.133t=3.246t=4.432t=2.903t=3.099t=3.387t=3.241 | p=0.0455\*p=0.0087\*\*p=0.003\*\*p=0.0336\*p=0.0338\*p=0.0208\*p=0.0265\* |
|  | F | Two-Tailed T-TestTwo-Tailed T-TestTwo-Tailed T-Test | Active nose poket=12.54, df=20Inactive nose poket=3.709, df=20Rewardst=18.78, df=20 | p<0.001\*\*\*\*p=0.0014\*\*p<0.001\*\*\*\* | N/A | N/A | N/A |
| **7** | B | T-Confidence Interval | 95% CI-60 to 0s [0.959541188 1.952620738]0 to 60s [-0.355286068 0.726943754]Difference[-2.004661471 -0.535842769]99% CI-60 to 0s[0.803517083 2.108644843]0 to 60s [-0.525316696 -0.896974382]Difference[-2.235429614 -0.305074626]99.9% CI-60 to 0s[0.622454726 2.2897072]0 to 60s[-0.722633299 1.094290984]Difference[-2.503230695 -0.037273545] | Sig at 95%nsns | N/A | N/A | N/A |
|  | D | T-Confidence Interval | 95% CI-10 to 0s[-0.506739492 -0.126437473]0 to 10s[0.197230326 0.726601455]Difference [0.452596634 1.104412112]99% CI-10 to 0s [-0.566489269 -0.066687695]0 to 10s[0.114060094 0.809771688]Difference [0.350189 1.206819746]99.9% CI-10 to 0s[-0.635827501 0.002650537]0 to 10s[0.017542967 0.906288814]Difference [0.231347315 1.325661431] | Sig at 95%Sig at 99%Sig at 99.9% | N/A | N/A | N/A |
|  | E | T-Confidence Interval | 95% CI-10 to 0s[-0.265038212 0.2702523]0 to 10s [-0.237081362 0.254877431]Difference[-0.357219458 0.36980144]99% CI-10 to 0s[-0.349138447 0.354352535]0 to 10s[-0.31437369 0.332169759Difference[-0.47144272 0.484024702]99.9% CI-10 to 0s[-0.44673482 0.451948908]0 to 10s[-0.404069645 0.421865715]Difference [-0.603996167 0.616578149] | nsnsns | N/A | N/A | N/A |
|  | H | Two-Way RM ANOVA | Stimulation Period x GenotypeF (2, 36) = 8.208Stimulation PeriodF (1.701, 30.62) = 12.93GenotypeF (1, 18) = 10.11 | 0.0012\*\*0.0002\*\*\*0.0052\*\* | Pre-stimulationStimulationPost-stimulation | t=0.7599t=5.2t=2.677 | p>0.9999p=0.0002\*\*\*\*p=0.0465\* |
|  | I | Two-Way RM ANOVA | Stimulation Period x GenotypeF (2, 40) = 14.09Stimulation PeriodF (1.995, 39.90) = 10.01GenotypeF (1, 20) = 1.898 | p<0.0001\*\*\*\*p=0.0003\*\*\*p=0.1835 | Pre-stimulationStimulationPost-stimulation | t=1.923t=0.7005t=4.238 | p=0.2183p>0.9999p=0.0012\*\* |
| **8** | C | Two-Tailed T-Test | Fed vs Food Deprivedt=9.666, df=15 | p<0.0001\*\*\*\* | N/A | N/A | N/A |
|  | D | Two-Tailed T-Test | Fed vs Food Deprivedt=6.807, df=15 | p<0.0001\*\*\*\* | N/A | N/A | N/A |
|  | E | T-Confidence Interval | Isosbestic 95% CI-150 to -10s[-0.127314348 0.690501429]10 to 150s[0.709907655 1.43150582]Difference[0.243786104 1.334440291]99% CI-150 to -10s[-0.255802519 0.818989599]10 to 150s[0.596536367 1.544877109]Difference[0.072431912 1.505794483]99.9% CI-150 to -10s [-0.404910063 0.968097143]10 to 150s [0.464971614 1.676441861]Difference [-0.126420656 1.704647051]Ca2+ -Dependent95% CI-150 to -10s[0.024359471 0.477339678]10 to 150s[0.564052895 1.293569678]Difference[0.248605856 1.107317568]99% CI-150 to -10s [-0.046808878 0.548508026]10 to 150s [0.449437502 1.408185071]Difference [0.113692468 1.242230956]99.9% CI -150 to -10s [-0.129398096 0.631097245]10 to 150s[0.316428994 1.541193579]Difference[-0.042871391 1.398794816] | Sig at 95%nsnsSig at 95%nsns | N/A | N/A | N/A |
|  | F | T-Confidence Interval | Isosbestic95% CI-150 to -10s [0.049394291 0.689096421]10 to 150s [0.670463682 1.423655887]Difference [0.183719975 1.171908881]99% CI-150 to -10s[-0.051110197 0.78960091]10 to 150s [0.55212861 1.541990959]Difference [0.028464246 1.32716461]99.9% CI-150 to -10s [-0.167743327 0.906234039]10 to 150s [0.414803502 1.679316067]Difference [-0.151706429 1.507335286]Ca2+ -Dependent95% CI-150 to -10s [-0.875926952 0.142125648]10 to 150s [1.203199181 1.724507405]Difference [1.258872541 2.402635349]99% CI-150 to -10s [-1.035874608 0.302073304]10 to 150s [1.121295723 1.806410863]Difference [1.07917438 2.582333509]99.9% CI-150 to -10s [-1.221490155 0.487688851]10 to 150s [1.026248658 1.901457927]Difference [0.87063883 2.79086906] | nsnsnsSig at 95%Sig at 99%Sig at 99.9% | N/A | N/A | N/A |
|  | H | Two-Way RM ANOVA | Stimulation Period x GenotypeF (2, 62) = 8.738Stimulation PeriodF (1.911, 59.23) = 13.36GenotypeF (1, 31) = 18.60 | p=0.0005\*\*\*p<0.0001\*\*\*\*p=0.0002\*\*\* | Cre+ vs Cre-Pre-stimulationStimulationPost-stimulationCre+Pre stim vs. StimPre stim vs. Post stimStim vs. Post stim | t=1.333t=4.733t=5.233t=3.516t=3.396t=3.463 | P=0.4729p=0.0006\*\*\*p=0.0002\*\*\*p=0.0186\*p=0.0074\*\*p=0.0207\* |
|  | I | Two-Tailed T-Test | Cre+ vs Cre- t=3.621, df=31 | p=0.001\*\* | N/A | N/A | N/A |
| **Supp Fig 4** | C | Mann-Whitney | Control vs FST | p=0.0286\* | N/A | N/A | N/A |
|  | G | Mann-Whitney | Control vs FST | p=0.0159\* | N/A | N/A | N/A |
| **Supp Fig 6** | D | Two-Way RM ANOVA | Stimulation Period x GenotypeF (1, 29) = 0.002860Stimulation PeriodF (1, 29) = 0.04236GenotypeF (1, 29) = 1.790 | p=0.9577p=0.8384p=0.1914 | Cre+Baseline vs 10HzCre+ vs Cre-Baseline10 Hz | t=0.1864t=0.8956t=0.9722 | p>0.9999p=0.7483p=0.67 |
|  | F | Two-Tailed T-TestTwo-Tailed T-Test | Center t=1.175, df=19Perimeter t=1.094, df=19 | p=0.254425p=0.287443 | N/A | N/A | N/A |
|  | G | Two-Tailed T-Test | Distance t=2.278, df=19 | p=0.0345\* | N/A | N/A | N/A |
| **Supp Fig 7** | A | Two-Way RM ANOVA | Day x Activity State F (3, 60) = 0.99Day F (2.0, 41) = 1.2Activity state F (1, 20) = 40 | p=0.41p=0.3p=0.001\*\* | N/A | N/A | N/A |
|  | B | One-Way RM ANOVA | Day F (2.537, 25.37) = 3.042 | p=0.0546 | N/A | N/A | N/A |