**Supplemental Table 1: Statistical comparisons for female qPCR data**

Statistical comparisons (calculated using Repeat ANOVAs) for each primer for female *Ae. aegypti* tissues. Stars indicate significance level (\* p<0.05, \*\* p<0.01, \*\*\* p<0.001).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **5-HT1A** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 11 | 6 | 0.00003 | 0.00010\*\*\* |
| Body  | JO | 7 | 8.2 | 6 | 0.00018 | 0.00053\*\*\* |
| Head | JO | 7 | -1.19 | 6 | 0.278 | 0.834 |
| **5-HT1B** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 11.6 | 6 | 0.00002 | 0.00007\*\*\* |
| Body  | JO | 7 | 8.78 | 6 | 0.00012 | 0.00036\*\*\* |
| Head | JO | 7 | -2.02 | 6 | 0.089 | 0.268 |
| **5-HT2A** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 4.81 | 6 | 0.003 | 0.009\*\* |
| Body  | JO | 7 | 3.92 | 6 | 0.008 | 0.023\* |
| Head | JO | 7 | 0.302 | 6 | 0.773 | 0.773 |
| **5-HT2B** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 5.68 | 6 | 0.001 | 0.004\*\* |
| Body  | JO | 7 | 4.55 | 6 | 0.004 | 0.012\* |
| Head | JO | 7 | 1.02 | 6 | 0.348 | 1 |
| **5-HT7A** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 8.71 | 6 | 0.00013 | 0.00038\*\*\* |
| Body  | JO | 7 | 9.42 | 6 | 0.00008 | 0.00025\*\*\* |
| Head | JO | 7 | 7.57 | 6 | 0.00028 | 0.00083\*\*\* |
| **5-HT7B** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 5.95 | 6 | 0.001 | 0.003\*\* |
| Body  | JO | 7 | 6.62 | 6 | 0.00057 | 0.002\*\* |
| Head | JO | 7 | 7.21 | 6 | 0.00036 | 0.001\*\* |

**Supplemental Table 2: Statistical comparisons for male qPCR data**

Statistical comparisons (calculated using Repeat ANOVAs) for each primer for male *Ae. aegypti* tissues. Stars indicate significance level (\* p<0.05, \*\* p<0.01, \*\*\* p<0.001).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **5-HT1A** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 5.58 | 6 | 0.001 | 0.004\*\* |
| Body  | JO | 7 | 2.64 | 6 | 0.039 | 0.116 |
| Head | JO | 7 | -6.27 | 6 | 0.000766 | 0.002\*\* |
| **5-HT1B** |  |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 6.94 | 6 | 0.000445 | 0.001\*\* |
| Body  | JO | 7 | 9.93 | 6 | 0.0000601 | 0.00018\*\*\* |
| Head | JO | 7 | 1.99 | 6 | 0.094 | 0.283 |
| **5-HT2A** |  |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 3.38 | 6 | 0.015 | 0.045\* |
| Body  | JO | 7 | 2.21 | 6 | 0.07 | 0.209 |
| Head | JO | 7 | -0.29 | 6 | 0.782 | 1 |
| **5-HT2B** |  |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 3.03 | 6 | 0.023 | 0.069 |
| Body  | JO | 7 | 1.55 | 6 | 0.172 | 0.516 |
| Head | JO | 7 | -2.73 | 6 | 0.034 | 0.103 |
| **5-HT7A** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 2.51 | 6 | 0.046 | 0.138 |
| Body  | JO | 7 | 7.13 | 6 | 0.000383 | 0.001\*\* |
| Head | JO | 7 | 4.23 | 6 | 0.005 | 0.016\* |
| **5-HT7B** |  |  |  |  |  |
| **Tissue 1** | **Tissue 2** | **Sample size** | **Statistic** |  **df** | **p value** | **Adj p value** |
| Body  | Head | 7 | 1.57 | 6 | 0.169 | 0.507 |
| Body  | JO | 7 | 3.91 | 6 | 0.008 | 0.024\* |
| Head | JO | 7 | 3.88 | 6 | 0.008 | 0.024\* |

**Supplemental Table 3: Statistical comparisons for male single injection data and median change per group**

Statistical comparisons (calculated using ART ANOVA) for changes in frequency for each single injection type for male *Ae. aegypti*, as well as the estimated median shift in frequency following injection. Stars indicate significance level (\*\* p<0.01, \*\*\* p<0.001).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Group 1** | **Group 2** | **Estimate** | **SE** | **df** | **t ratio** | **Adj p value** |
| 25 mM 5-HTP  | 25 mM AMTP | 34.242 | 2.857 | 52 | 11.986 | 1.25E-15\*\*\* |
| 25 mM 5-HTP  | 25 mM Serotonin  | -3.991 | 3.1444 | 52 | -1.269 | 0.21002 |
| 25 mM 5-HTP  | Ringer | 23.009 | 3.1444 | 52 | 7.317 | 9.26E-09\*\*\* |
| 25 mM 5-HTP  | 5 mM Serotonin  | 8.091 | 3.069 | 52 | 2.637 | 0.02203\* |
| 25 mM AMTP  | 25 mM Serotonin  | -38.233 | 2.938 | 52 | -13.013 | 5.52E-17\*\*\* |
| 25 mM AMTP  | Ringer | -11.233 | 2.938 | 52 | -3.823 | 0.00133\*\* |
| 25 mM AMTP | 5 mM Serotonin | -26.152 | 2.857 | 52 | -9.154 | 1.61E-11\*\*\* |
| 25 mM Serotonin | Ringer | 27.000 | 3.218 | 52 | 8.389 | 2.17E-10\*\*\* |
| 25 mM Serotonin | 5 mM Serotonin | 12.082 | 3.144 | 52 | 3.842 | 0.00133\*\* |
| Ringer | 5 mM Serotonin | -14.918 | 3.144 | 52 | -4.744 | 8.37E-05\*\*\* |

|  |  |
| --- | --- |
| **Injection type** | **Median change (Hz)** |
| 25 mM 5HTP | 130.426 |
| 25 mM AMTP | -66.274 |
| Ringer | -4.376 |
| 5 mM Serotonin | 75.537 |
| 25 mM Serotonin | 155.373 |

**Supplemental Table 4: Statistical comparisons for female single injection data and median change per group**

Statistical comparisons (calculated using ART ANOVA) for changes in frequency for each single injection type for female *Ae. aegypti*, as well as the estimated median shift in frequency following injection. Stars indicate significance level (\* p<0.05).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Group 1** | **Group 2** | **Estimate** | **SE** | **df** | **t ratio** | **p value** |
| Ringer | 5 mM Serotonin | -5.6 | 2.376 | 18 | -2.356 | 0.0299\* |

|  |  |
| --- | --- |
| **Injection type** | **Median change (Hz)** |
| Ringer | -2.281 |
| 5 mM Serotonin | 7.789 |

**Supplemental Table 5: Statistical comparisons for male two injection data and median change per group**

Statistical comparisons (calculated using ART ANOVA) for changes in frequency after 25 mM serotonin injection, and then a second injection, for male *Ae. aegypti*, as well as the estimated median shift in frequency following each injection. Stars indicate significance level (\* p<0.05).

**After 25 mM Serotonin injection**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Group 1** | **Group 2** | **Estimate** | **SE** | **df** | **t ratio** | **p value** |
|  |  |  |  |  |  |  |
| 25 mM Serotonin + Ringer | 25 mM Serotonin + 5 mM Methiothepin | -1.6 | 2.692 | 18 | -0.594 | 0.560 |

|  |  |
| --- | --- |
| **Injection type** | **Median change (Hz)** |
| 25 mM Serotonin + Ringer | 128.390 |
| 25 mM Serotonin + 5 mM Methiothepin | 164.248 |

**After second injection**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Group 1** | **Group 2** | **Estimate** | **SE** | **df** | **t ratio** | **p value** |
|  |  |  |  |  |  |  |
| 25 mM Serotonin + Ringer | 25 mM Serotonin + 5 mM Methiothepin | 5.6 | 2.376 | 18 | 2.356 | 0.0299\* |

|  |  |
| --- | --- |
| **Injection type** | **Median change (Hz)** |
| 25 mM Serotonin + Ringer | -43.034 |
| 25 mM Serotonin + 5 mM Methiothepin | -69.948 |

**Supplemental Table 6: Statistical comparisons for male phonotaxis AUC data**

Statistical comparisons (calculated using Wilcoxon signed rank tests) for changes in AUC for male *Ae. aegypti* phonotaxis experiments after exposure to Ringer- or 5 mM AMTP-doped food. Stars indicate significance level (\*\* p<0.01).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group 1** | **Group 2** | **Sample size 1** | **Sample size 2** | **Median change** | **p value** |
| **Glucose / Ringer** |  |  |  |  |  |
| Glucose | Ringer | 10 | 10 | -5.138 | 0.6953 |
|  |  |  |  |  |  |
| **Glucose / AMTP** |  |  |  |  |  |
| Glucose | AMTP | 11 | 11 | -61.130 | 0.00195\*\* |

**Supplemental Table 7: Statistical comparisons for male phonotaxis boundary frequency data and median frequency values**

Statistical comparisons (calculated using Wilcoxon signed rank tests) for changes in the range of frequencies to which male *Ae. aegypti* respond before/after exposure to Ringer or 5 mM AMTP-doped food, as well as estimated median values for upper and lower boundary frequencies. Stars indicate significance level (\* p<0.05).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group 1** | **Group 2** | **Sample size 1** | **Sample size 2** | **p value** |
| **Glucose / Ringer** |  |  |  |  |
| Glucose | Ringer | 10 | 10 | 0.1309 |
|  |  |  |  |  |
| **Glucose / AMTP** |  |  |  |  |
| Glucose | AMTP | 11 | 11 | 0.0407\* |

|  |  |  |
| --- | --- | --- |
| **Experiment type** | **Median lower boundary frequency (Hz)** | **Median upper boundary frequency (Hz)** |
| **Glucose / Ringer** |  |  |
| Glucose | 404.271 | 636.432 |
| Ringer | 413.317 | 604.271 |
|  |  |  |
| **Glucose / AMTP** |  |  |
| Glucose | 386.181 | 629.397 |
| AMTP | 400.251 | 587.186 |

**Supplemental Table 8: Median values for AUC and frequency bounds for male phonotaxis experiments including both AMTP and Ringer exposure**

Estimated median values for AUC and frequency boundaries for male *Ae. aegypti* phonotaxis experiments after exposure to glucose, 5 mM AMTP and then Ringer.

**AUC data**

|  |  |
| --- | --- |
| **Food type** | **Median values** |
|  |  |
| Glucose | 112.153 |
| AMTP | 57.343 |
| Ringer | 99.325 |

**Upper Frequency bound**

|  |  |  |
| --- | --- | --- |
| **Food type** | **Median lower boundary frequency (Hz)** | **Median upper boundary frequency (Hz)** |
|  |  |  |
| Glucose | 390.201 | 637.437 |
| AMTP | 402.261 | 587.186 |
| Ringer | 398.241 | 623.367 |