# Supplemental Information: Behavioral Battery for Testing Candidate Analgesics in Mice. II. Effects of Endocannabinoid Catabolic Enzyme Inhibitors and ∆9-Tetrahydrocannibinol

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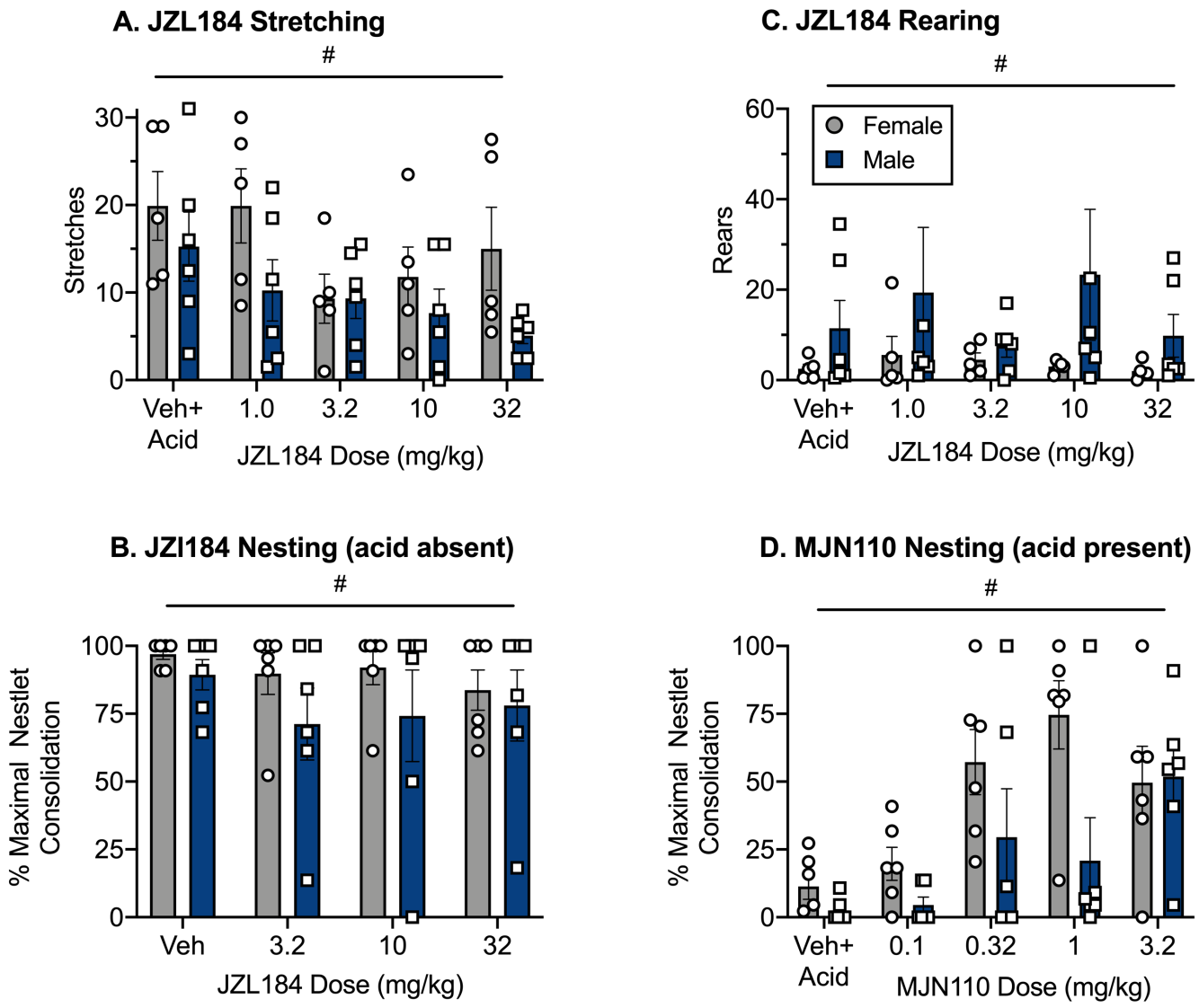
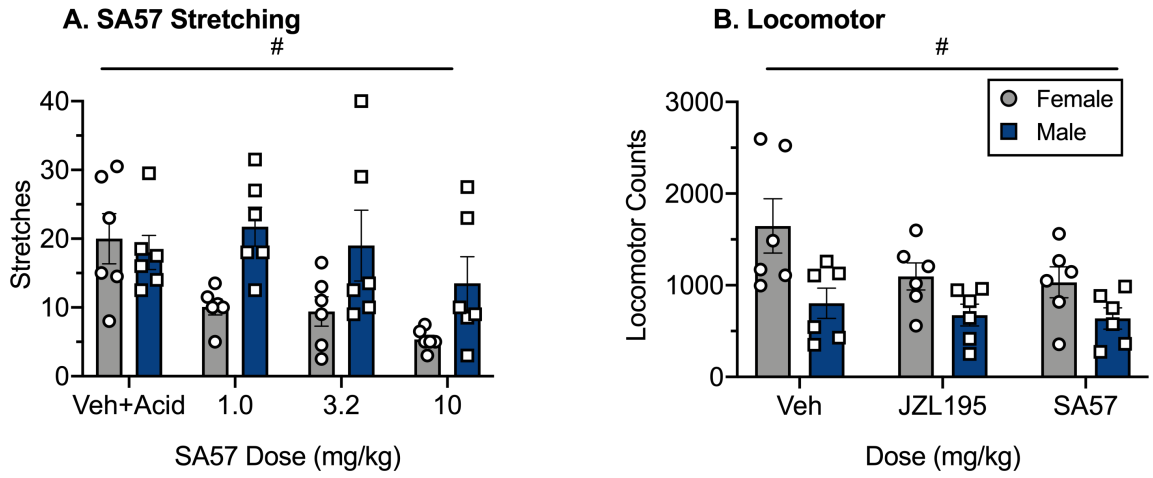



**Supplemental Figure 1. Endpoints showing a main effect of sex in studies with JZL184 (A,B,C) and MJN110 (D).** Abscissae: doses of JZL184 or MJN110 in mg/kg (log scale). Ordinates: number of stretches (A), number of rears (B), and nesting expressed as percent maximum nestlet consolidation (C,D). All points represent the mean ± SEM for either 6 male (blue, squares) or 5-6 female (grey, circles). # Indicates a significant main effect of sex as determined by a 2-way ANOVA and Holm-Sidak post hoc test, with all statistical results shown in Supplemental Table 4 and 5.




**Supplemental Figure 2. Sex differences with the dual MAGL and FAAH eCB catabolic enzyme inhibitors JZL195 and SA57 on IP acid-stimulated stretching and locomotion in the absence of IP acid.** Abscissae: doses of JZL195 or SA57 in mg/kg (log scale). Ordinates: number of stretches (A) and locomotion in the absence of the noxious stimulus (B). All points represent the mean ± SEM for either 6 male (blue, squares) or 6 female (grey, circles). # Indicates a significant main effect of sex as determined by a 2-way ANOVA and Holm-Sidak post hoc test for parametric data segregated by sex, with statistical results shown in Supplemental Tables 6 and 7.

**Supplemental Table 1**. Summary of power analysis results from male one-way ANOVA data from Figures 2-6

| Male & Female | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 | Friedman statistic; p value |
|---|---|---|---|---|---|
| | **Δ9-Tetrahydrocannabinol** | | | | |
| Stretch + Acid | F(1.439, 7.194)=7.872; p=0.0198* | 1.260 | 0.755 | 7 | - |
| Rear + Acid | F(1.391, 6.957)=0.2079; p=0.7400 | 0.204 | 0.07 | >100 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.707, 8.536)=0.9699; p=0.4032 | 0.44 | 0.16 | 31 | - |
| Nesting | F(1.614, 8.071)=21.05; p=0.0009* | 2.05 | 0.996 | 4 | - |
| Locomotor | F(1.772, 8.861)=7.171; p=0.0157* | 1.197 | 0.791 | 7 | - |
| | **MJN-110** | | | | |
| Stretch + Acid | F(2.011, 10.06)=4.235; p=0.0462* | 0.921 | 0.604 | 9 | - |
| Rear + Acid | F(2.013, 10.07)=0.3134; p=0.7392 | 0.25 | 0.087 | >100 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.488, 7.442)=2.724; p=0.1355 | 0.739 | 0.346 | 40 | - |
| Nesting | F(1.640, 8.200)=0.6485; p=0.5184 | 0.36 | 0.121 | 46 | - |
| Locomotor | F(1.443, 7.215)=1.244; p=0.3249 | 0.498 | 0.178 | 28 | - |
| | **JZL-184** | | | | |
| Stretch + Acid | F(2.766, 13.83)=1.678; p=0.2192 | 0.579 | 0.333 | 14 | - |
| Rear + Acid | F(1.916, 9.578)=0.4136; p=0.6643 | 0.287 | 0.098 | >100 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(2.482, 12.41)=4.792; p=0.0235* | 0.978 | 0.737 | 7 | - |
| Nesting | F(1.865, 9.325)=0.3369; p=0.7081 | 0.259 | 0.088 | 78 | - |
| Locomotor | F(1.443, 7.215)=1.244; p=0.3249 | 0.498 | 0.178 | 28 | - |
| | **JZL-195** | | | | |
| Stretch + Acid | F(2.090, 10.45)=5.664; p=0.0207* | 1.06 | 0.75 | 7 | - |
| Rear + Acid | F(1.365, 6.825)=0.2338; p=0.7162 | 0.217 | 0.072 | >100 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.526, 7.632)=3.631; p=0.0852 | 0.853 | 0.448 | 11 | - |
| Nesting | F(1.256, 6.281)=0.4887; p=0.5516 | 0.323 | 0.095 | 72 | - |

| | | | | | |
|---|---|---|---|---|---|
| Locomotor | F(1.367, 6.833)=0.5788; p=0.5242 | 0.341 | 0.106 | 57 | - |
| | | | **SA-57** | | |
| Stretch + Acid | F(1.712, 8.561)=1.295; p=0.3156 | 0.509 | 0.201 | 24 | - |
| Rear + Acid | F(1.301, 6.507)=1.345; p=0.3028 | 0.519 | 0.18 | 27 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(7.77, 8.848)=2.076; p=0.1837 | 0.644 | 0.304 | 16 | - |
| Nesting | F(1.117, 5.583)=2.343; p=0.1816 | 0.684 | 0.255 | 19 | - |
| Locomotor | F(1.367, 6.833)=0.5788; p=0.5242 | 0.341 | 0.106 | 57 | - |
| | | | **URB-597** | | |
| Stretch + Acid | F(1.609, 8.043)=0.2694; p=0.7249 | 0.232 | 0.078 | >100 | - |
| Rear + Acid | F(1.088, 5.44)=1.249; p=0.317 | 0.157 | 0.06 | >100 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.475, 7.376)=4.29; p=0.0658 | 0.927 | 0.502 | 10 | - |
| Nesting | F(1.0, 5.0)=1.0; p=0.3632 | 0.448 | 0.13 | 43 | - |
| Locomotor | F(1.913, 9.563)=3.596; p=0.0699 | 0.847 | 0.513 | 10 | - |
| | | | **PF-3845** | | |
| Stretch + Acid | F(2.376, 11.88)=0.7164; p=0.5311 | 0.378 | 0.149 | 33 | - |
| Rear + Acid | F(1.625, 8.127)=0.3943; p=0.6458 | 0.378 | 0.128 | 42 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.626, 8.131)=1.302; p=0.3138 | 0.511 | 0.197 | 24 | - |
| Nesting | F(1.334, 6.668)=13.67; p=0.0064* | 0.511 | 0.197 | 24 | - |
| Locomotor | F(1.913, 9.563)=3.596; p=0.0699 | 0.847 | 0.513 | 10 | - |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons)

**Supplemental Table 2**. Summary of power analysis results from female one-way ANOVA data from Figures 2-6

| Male & Female | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 | Friedman statistic; p value |
|---|---|---|---|---|---|
| | **Δ9-Tetrahydrocannabinol** | | | | |
| Stretch + Acid | F(1.956, 9.780)=4.514; p=0.0415* | 0.150 | 0.063 | >100 | - |
| Rear + Acid | F(1.722, 8.608)=0.5581; p=0.5669 | 0.333 | 0.112 | 51 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.577, 7.883)=1.043; p=0.3775 | 0.457 | 0.164 | 30 | - |
| Nesting | F(1.298, 6.492)=31.63; p=0.0007* | 2.521 | 0.999 | 4 | - |
| Locomotor | F(2.353, 11.77)=4.574; p=0.0296* | 0.957 | 0.697 | 7 | - |
| | **MJN-110** | | | | |
| Stretch + Acid | F(2.378, 11.89)=4.829; p=0.025* | 0.982 | 0.725 | 7 | - |
| Rear + Acid | F(1.722, 8.608)=0.5581; p=0.5669 | 0.418 | 0.156 | 32 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(2.581, 12.91)=6.962; p=0.0062* | 1.33 | 0.957 | 5 | - |
| Nesting | F(1.647, 8.236)=2.867; p=0.1185 | 0.757 | 0.385 | 13 | - |
| Locomotor | F(1.230, 6.15)=0.962; p=0.3855 | 0.291 | 0.088 | 83 | - |
| | **JZL-184** | | | | |
| Stretch + Acid | F(2.509, 10.04)=1.801; p=0.2127 | 0.67 | 0.314 | 12 | - |
| Rear + Acid | F(1.390, 5.559)=0.5091; p=0.5635 | 0.67 | 0.218 | 17 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.760, 8.800)=1.370; p=0.2988 | 0.523 | 0.214 | 22 | - |
| Nesting | F(2.097, 10.49)=0.597; p=0.5755 | 0.346 | 0.126 | 42 | - |
| Locomotor | F(1.230, 6.15)=0.962; p=0.3855 | 0.291 | 0.088 | 83 | - |
| | **JZL-195** | | | | |
| Stretch + Acid | F(2.203, 11.01)=0.9629; p=0.4198 | 0.438 | 0.18 | 26 | - |
| Rear + Acid | F(1.770, 8.850)=0.5697; p=0.5652 | 0.337 | 0.114 | 49 | - |
| Grimace | - | - | - | - | |

| | | | | | |
|---|---|---|---|---|---|
| Nesting + Acid | F(2.316, 11.58)=1.035; p=0.3962 | 0.456 | 0.165 | 30 | - |
| Nesting | F(1.618, 8.091)=1.041; p=0.3792 | 0.456 | 0.165 | 30 | - |
| Locomotor | F(1.560, 7.801)=2.19; p=0.1784 | 0.662 | 0.296 | 16 | - |
| | | | **SA-57** | | |
| Stretch + Acid | F(1.631, 8.153)=9.812; p=0.0084* | 1.399 | 0.879 | 6 | - |
| Rear + Acid | F(1.768, 8.840)=0.9036; p=0.4273 | 0.425 | 0.155 | 32 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.532, 7.659)=2.968; p=0.1175 | 0.562 | 0.222 | 22 | - |
| Nesting | F(1.0, 5.0)=2.5; p=0.1747 | 0.707 | 0.252 | 19 | - |
| Locomotor | F(1.560, 7.801)=2.19; p=0.1784 | 0.662 | 0.296 | 16 | - |
| | | | **URB-597** | | |
| Stretch + Acid | F(1.728, 8.641)=1.530; p=0.2668 | 0.553 | 0.231 | 21 | - |
| Rear + Acid | F(1.301, 6.504)=0.2285; p=0.7097 | 0.215 | 0.071 | >100 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.257, 5.027)=0.6671; p=0.4858 | 0.408 | 0.106 | 43 | - |
| Nesting | F(1.0, 5.0)=1.0; p=0.3632 | 0.448 | 0.13 | 43 | - |
| Locomotor | F(1.93, 9.651)=0.6194; p=0.5529 | 0.352 | 0.124 | 43 | - |
| | | | **PF-3845** | | |
| Stretch + Acid | F(1.693, 8.464)=0.4552; p=0.6181 | 0.301 | 0.099 | 63 | - |
| Rear + Acid | F(1.559, 7.793)=0.2239; p=0.7519 | 0.212 | 0.073 | >100 | - |
| Grimace | - | - | - | - | |
| Nesting + Acid | F(1.492, 7.460)=0.9055; p=0.4147 | 0.425 | 0.144 | 36 | - |
| Nesting | F(2.113, 10.57)=5.743; p=0.0195* | 1.07 | 0.761 | 7 | - |
| Locomotor | F(1.93, 9.651)=0.6194; p=0.5529 | 0.352 | 0.124 | 43 | - |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons).

**Supplemental Table 3**. Summary of power analysis results from two-way ANOVA data from Figures 2-6

| | **Δ9-Tetrahydrocannabinol** | | | |
|---|---|---|---|---|
| Main Effect of Dose | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(2.276, 22.76) = 11.11; p=0.0003* | 1.050 | 1 | 4 |
| Rear + Acid | F(1.42, 14.20)=0.3329; p=0.6496 | 0.182 | 0.178 | 72 |
| Nesting + Acid | F(2.468, 24.68)=1.91; p=0.1622 | 1.294 | 1 | 4 |
| Nesting | F(2.362, 23.62)=48.89; p<0.0001* | 2.211 | 1 | <3 |
| Locomotor | F(2.353, 23.53)=10.89; p=0.0003* | 1.312 | 1 | 4 |
| Main Effect of Sex | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(1,10)=0.0089; p=0.9267 | 0.146 | 0.075 | >100 |
| Rear + Acid | F(1,10) = 1.310; p=0.2791 | 0.19 | 0.092 | >100 |
| Nesting + Acid | F(1, 10)=0.032; p=0.8615 | 0.0744 | 0.0563 | >100 |
| Nesting | F(1, 10)=1.109; p=0.3172 | 0.167 | 0.082 | >100 |
| Locomotor | F(1,10)=2.674; p=0.1331 | 0.293 | 0.15 | 89 |
| Dose x Sex Interaction | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(3,30)=0.3275; p=0.8054 | 0.182 | 0.257 | 43 |
| Rear + Acid | F(3,30)=0.1170; p=0.9495 | 0.11 | 0.118 | >100 |
| Nesting + Acid | F(4, 40)=0.08749; p=0.9858 | 0.094 | 0.102 | >100 |
| Nesting | F(4 40)=1.878; p=0.1331 | 0.433 | 0.964 | 8 |
| Locomotor | F(3, 30)=0.2928; p=0.8302 | 0.17 | 0.228 | 49 |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons).

**Supplemental Table 4**. Summary of power analysis results from two-way ANOVA data from Figures 2-6

| | MJN-110 | | | |
|---|---|---|---|---|
| Main Effect of Dose | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(2.651, 26.51)=6.940; p=0.0019* | 0.834 | 1 | 5 |
| Rear + Acid | F(2.063, 20.36)=0.9685; p=0.3979 | 0.311 | 0.507 | 22 |
| Nesting + Acid | F(2.32, 23.30)=6.99; p=0.003* | 0.837 | 1 | 5 |
| Nesting | F(1.913, 19.13)=2.748; p=0.0912 | 0.525 | 0.922 | 8 |
| Locomotor | F(1.440, 14.10)=1.986; p=0.1788 | 0.446 | 0.796 | 13 |
| Main Effect of Sex | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(1, 10)=4.719; p=0.0550 | 0.33 | 0.179 | 75 |
| Rear + Acid | F(1,10)=1.851; p=0.2035 | 0.234 | 0.114 | >100 |
| Nesting + Acid | F(1,10)=8.235; p=0.0167* | 0.461 | 0.306 | 40 |
| Nesting | F(1, 10)=1.359; p=0.2708 | 0.209 | 0.101 | >100 |
| Locomotor | F(1, 10)=0.6880; p=0.4262 | 0.301 | 0.156 | 89 |
| Dose x Sex Interaction | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(4, 40)=2.006; p=0.1121 | 1.415 | 1 | <3 |
| Rear + Acid | F(4,40)=0.5332; p=0.7121 | 0.232 | 0.451 | 24 |
| Nesting + Acid | F(4, 40)=1.842; p=0.1398 | 0.43 | 0.961 | 8 |
| Nesting | F(4, 40)=0.839; p=0.5088 | 0.289 | 0.658 | 16 |
| Locomotor | F(2, 20)=0.08436; p=0.9194 | 0.092 | 0.092 | >100 |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons).

**Supplemental Table 5**. Summary of power analysis results from two-way ANOVA data from Figures 2-6

| | JZL-184 | | | |
|---|---|---|---|---|
| Main Effect of Dose | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(3.392, 30.53)=2.732; p=0.0549 | 0.551 | 0.991 | 7 |
| Rear + Acid | F(1.942, 17.48)=0.3787; p=0.6843 | 0.204 | 0.217 | 49 |
| Nesting + Acid | F(2.623, 26.23)=5.031; p=0.0089* | 0.71 | 1 | 6 |
| Nesting | F(2.037, 20.39)=0.5950; p=0.5639 | 0.234 | 0.351 | 32 |
| Locomotor | F(1.440, 14.10)=1.986; p=0.1788 | 0.446 | 0.796 | 13 |
| Main Effect of Sex | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(1, 9)=5.388; p=0.0454* | 2.788 | 1 | 5 |
| Rear + Acid | F(1, 9)=9.663; p=0.0125* | 0.341 | 0.173 | 70 |
| Nesting + Acid | F(1, 10)=0.5152; p=0.4893 | 0.167 | 0.082 | >100 |
| Nesting | F(1, 10)=5.922; p=0.0352 | 0.293 | 0.151 | 94 |
| Locomotor | F(1, 10)=0.6880; p=0.4262 | 0.301 | 0.156 | 89 |
| Dose x Sex Interaction | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(4, 36)=0.8497; p=0.5033 | 0.3025 | 0.653 | 15 |
| Rear + Acid | F(4, 36)=0.3130; p=0.8674 | 0.188 | 0.275 | 36 |
| Nesting + Acid | F(4, 40)=0.4105; p=0.800 | 0.201 | 0.346 | 31 |
| Nesting | F(3, 30)=0.1895; p=0.9027 | 0.138 | 0.161 | 74 |
| Locomotor | F(2, 20)=0.08436; p=0.9194 | 0.092 | 0.092 | >100 |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons).

**Supplemental Table 6**. Summary of power analysis results from two-way ANOVA data from Figures 2-6

| | JZL-195 | | | |
|---|---|---|---|---|
| Main Effect of Dose | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(2.472, 24.72)=5.210; p=0.009* | 0.721 | 1 | 5 |
| Rear + Acid | F(2.420, 24.20)=0.259; p=0.8133 | 0.16 | 0.186 | 64 |
| Nesting + Acid | F(2.191, 21.91)=3.973; p=0.0306* | 0.6298 | 0.994 | 7 |
| Nesting | F(1.599, 15.99)=1.109; p=0.3407 | 0.333 | 0.522 | 21 |
| Locomotor | F(1.55, 15.50)=2.732; p=0.1039 | 0.446 | 0.819 | 12 |
| Main Effect of Sex | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(1,10)=2.681; p=0.1326 | 0.522 | 0.373 | 31 |
| Rear + Acid | F(1,10)=0.02897; p=0.8683 | 0.041 | 0.052 | >100 |
| Nesting + Acid | F(1,10)=1.408; p=0.2628 | 0.309 | 0.163 | 85 |
| Nesting | F(1,10)=1.085; p=0.3221 | 0.132 | 0.07 | >100 |
| Locomotor | F(1, 10)=14.62; p=0.0034* | 0.841 | 0.747 | 14 |
| Dose x Sex Interaction | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(3,30)=1.447; p=0.2486 | 0.38 | 0.845 | 11 |
| Rear + Acid | F(3, 30)=0.6602; p=0.5830 | 0.257 | 0.486 | 23 |
| Nesting + Acid | F(3,30)=1.555; p=0.2207 | 0.395 | 0.874 | 11 |
| Nesting | F(3,30)=0.5434; p=0.6564 | 0.234 | 0.411 | 27 |
| Locomotor | F(2, 20)=0.9772; p=0.3936 | 0.313 | 0.587 | 19 |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons).

**Supplemental Table 7**. Summary of power analysis results from two-way ANOVA data from Figures 2-6

| | SA-57 | | | |
|---|---|---|---|---|
| Main Effect of Dose | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(2.226, 22.26)=4.922; p=0.0145* | 0.702 | 0.999 | 4 |
| Rear + Acid | F(2.421, 24.21)=0.3686; p=0.7344 | 0.193 | 0.256 | 44 |
| Nesting + Acid | F(1.913, 19.13)=4.249; p=0.0311* | 0.562 | 0.992 | 7 |
| Nesting | F(1.101, 11.01)=4.643; p=0.0515 | 0.681 | 0.95 | 9 |
| Locomotor | F(1.55, 15.50)=2.732; p=0.1039 | 0.446 | 0.819 | 12 |
| Main Effect of Sex | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(1, 10)=5.188; p=0.046* | 0.694 | 0.583 | 19 |
| Rear + Acid | F(1,10)=0.0222; p=0.8845 | 0.03 | 0.051 | >100 |
| Nesting + Acid | F(1,10)=0.007; p=0.9347 | 0.014 | 0.05 | >100 |
| Nesting | F(1,10)=0.3414; p=0.572 | 0.135 | 0.071 | >100 |
| Locomotor | F(1, 10)=14.62; p=0.0034* | 0.841 | 0.747 | 14 |
| Dose x Sex Interaction | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(3, 30)=2.832; p=0.0550 | 0.533 | 0.991 | 7 |
| Rear + Acid | F(3, 30)=1.708; p=0.1864 | 0.413 | 0.905 | 10 |
| Nesting + Acid | F(3,30)=0.6439; p=0.5929 | 0.253 | 0.471 | 23 |
| Nesting | F(3,30)=0.1504; p=0.9286 | 0.123 | 0.137 | 91 |
| Locomotor | F(2, 20)=0.9772; p=0.3936 | 0.313 | 0.587 | 19 |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons).

**Supplemental Table 8**. Summary of power analysis results from two-way ANOVA data from Figures 2-6

| | URB-597 | | | |
|---|---|---|---|---|
| Main Effect of Dose | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(2.656, 26.56)=1.202; p=0.3251 | 0.346 | 0.724 | 14 |
| Rear + Acid | F(1.351, 13.51)=1.138; p=0.3258 | 0.337 | 0.483 | 23 |
| Nesting + Acid | F(1.908, 19.08)=3.360; p=0.0581 | 0.579 | 0.972 | 8 |
| Nesting | F(1.721, 17.21)=0.5996; p=0.5362 | 0.246 | 0.324 | 35 |
| Locomotor | F(1.949, 19.49)=3.229; p=0.0626 | 0.568 | 0.983 | 7 |
| Main Effect of Sex | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(1,10)=1.181; p=0.3027 | 0.227 | 0.11 | >100 |
| Rear + Acid | F(1, 10)=0.5780; p=0.4646 | 0.173 | 0.084 | >100 |
| Nesting + Acid | F(1,10)=0.2623; p=0.6196 | 0.11 | 0.064 | >100 |
| Nesting | F(1,10)=0.01015; p=0.9217 | 0.02 | 0.05 | >100 |
| Locomotor | F(1, 10)=2.872; p=0.121 | 0.41 | 0.251 | 49 |
| Dose x Sex Interaction | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(3, 30)=0.5332; p=0.6630 | 0.232 | 0.403 | 27 |
| Rear + Acid | F(3, 30)=1.088; p=0.3690 | 0.33 | 0.719 | 14 |
| Nesting + Acid | F(3,30)=2.094; p=0.1219 | 0.11 | 0.118 | >100 |
| Nesting | F(3,30)=1.4; p=0.2619 | 0.375 | 0.834 | 12 |
| Locomotor | F(2, 20)=0.3896; p=0.6824 | 0.196 | 0.262 | 44 |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons).

**Supplemental Table 9**. Summary of power analysis results from two-way ANOVA data from Figures 2-6

| | PF-3845 | | | |
|---|---|---|---|---|
| Main Effect of Dose | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(2.561, 25.61)=0.5551; p=0.6227 | 0.237 | 0.381 | 29 |
| Rear + Acid | F(1.998, 19.98)=0.24; p=0.7887 | 0.048 | 0.06 | >100 |
| Nesting + Acid | F(1.706, 17.06)=1.910; p=0.1817 | 0.436 | 0.755 | 14 |
| Nesting | F(2.154, 21.54)=17.29; p<0.0001* | 1.312 | 1 | 4 |
| Locomotor | F(1.949, 19.49)=3.229; p=0.0626 | 0.568 | 0.983 | 7 |
| Main Effect of Sex | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(1, 10)=0.1126; p=0.7442 | 0.072 | 0.056 | >100 |
| Rear + Acid | F(1, 10)=1.031; p=0.3339 | 0.185 | 0.089 | >100 |
| Nesting + Acid | F(1,10)=0.6999; p=0.4223 | 0.119 | 0.066 | >100 |
| Nesting | F(1,10)=0.2573; p=0.6230 | 0.097 | 0.061 | >100 |
| Locomotor | F(1, 10)=2.872; p=0.121 | 0.41 | 0.251 | 49 |
| Dose x Sex Interaction | F Statistic, p value | Current Effect Size (Cohen's f) | Current Power | Sample Size: Power≥ 0.8 |
| Stretch + Acid | F(3, 30)=0.3898; p=0.5654 | 0.264 | 0.508 | 21 |
| Rear + Acid | F(3,30)=0.4743; p=0.7025 | 0.217 | 0.357 | 31 |
| Nesting + Acid | F(4, 40)=0.2741; p=0.8930 | 0.167 | 0.22 | 51 |
| Nesting | F(4, 40)=0.9107; p=0.4670 | 0.301 | 0.631 | 17 |
| Locomotor | F(2, 20)=0.3896; p=0.6824 | 0.196 | 0.262 | 44 |

Note: Grimace data is not included in two-way analyses as it is an ordinal dataset and was analyzed by non-parametric measures (multiple t-tests with corrections for multiple comparisons).