| Paradigm 1 | Acute Treatments | Normalized Data | Raw Data |
|---|---|---|---|
| ACC | Asenapine 0.05mg/kg | p=0.384 | p=0.384 |
| | Asenapine 0.1mg/kg | p=0.300 | p=0.300 |
| | Asenapine 0.3mg/kg | p=0.119 | p=0.119 |
| | Vehicle | | p=0.885 |
| MAC | Asenapine 0.05mg/kg | p=0.386 | p=0.386 |
| | Asenapine 0.1mg/kg | p=0.276 | p=0.276 |
| | Asenapine 0.3mg/kg | p=0.207 | p=0.207 |
| | Vehicle | | p=0.055 |
| MC | Asenapine 0.05mg/kg | p=0.931 | p=0.931 |
| | Asenapine 0.1mg/kg | p=0.181 | p=0.181 |
| | Asenapine 0.3mg/kg | p=0.174 | p=0.174 |
| | Vehicle | | p=0.636 |
| SS | Asenapine 0.05mg/kg | p=0.972 | p=0.972 |
| | Asenapine 0.1mg/kg | p=0.113 | p=0.113 |
| | Asenapine 0.3mg/kg | p=0.326 | p=0.326 |
| | Vehicle | | p=0.737 |
| IC | Asenapine 0.05mg/kg | p=0.350 | p=0.350 |
| | Asenapine 0.1mg/kg | p=0.397 | p=0.397 |
| | Asenapine 0.3mg/kg | p=0.305 | p=0.305 |
| | Vehicle | | p=0.389 |
| DM | Asenapine 0.05mg/kg | p=0.194 | p=0.194 |
| | Asenapine 0.1mg/kg | p=0.190 | p=0.190 |
| | Asenapine 0.3mg/kg | p=0.865 | p=0.865 |
| | Vehicle | | p=0.820 |
| DL | Asenapine 0.05mg/kg | p=0.944 | p=0.944 |
| | Asenapine 0.1mg/kg | p=0.400 | p=0.400 |
| | Asenapine 0.3mg/kg | p=0.712 | p=0.712 |
| | Vehicle | | p=0.016 |
| VM | Asenapine 0.05mg/kg | p=0.308 | p=0.308 |
| | Asenapine 0.1mg/kg | p=0.054 | p=0.054 |
| | Asenapine 0.3mg/kg | p=0.357 | p=0.357 |
| | Vehicle | | p=0.990 |
| VL | Asenapine 0.05mg/kg | p=0.549 | p=0.549 |
| | Asenapine 0.1mg/kg | p=0.218 | p=0.218 |
| | Asenapine 0.3mg/kg | p=0.754 | p=0.754 |
| | Vehicle | | p=0.002 |
| CAb | Asenapine 0.05mg/kg | p=0.846 | p=0.846 |
| | Asenapine 0.1mg/kg | p=0.356 | p=0.356 |
| | Asenapine 0.3mg/kg | p=0.880 | p=0.880 |
| | Vehicle | | p=0.741 |
| SAb | Asenapine 0.05mg/kg | p=0.515 | p=0.515 |
| | Asenapine 0.1mg/kg | p=0.638 | p=0.638 |
| | Asenapine 0.3mg/kg | p=0.188 | p=0.188 |
| | Vehicle | | p=0.290 |

Table S1. Outputs of Shapiro-Wilk test for normality in Paradigm 1 acute treatment groups.

| Paradigm 1 | Chronic Treatments | Normalized Data | Raw Data |
|---|---|---|---|
| ACC | Asenapine 0.05mg/kg | p=0.829 | p=0.829 |
| | Asenapine 0.1mg/kg | p=0.330 | p=0.330 |
| | Asenapine 0.3mg/kg | p=0.433 | p=0.433 |
| | Vehicle | | p=0.266 |
| MAC | Asenapine 0.05mg/kg | p=0.289 | p=0.289 |
| | Asenapine 0.1mg/kg | p=0.560 | p=0.560 |
| | Asenapine 0.3mg/kg | p=0.077 | p=0.077 |
| | Vehicle | | p=0.946 |
| MC | Asenapine 0.05mg/kg | p=0.610 | p=0.610 |
| | Asenapine 0.1mg/kg | p=0.224 | p=0.224 |
| | Asenapine 0.3mg/kg | p=0.224 | p=0.224 |
| | Vehicle | | p=0.322 |
| SS | Asenapine 0.05mg/kg | p=0.436 | p=0.436 |
| | Asenapine 0.1mg/kg | p=0.815 | p=0.815 |
| | Asenapine 0.3mg/kg | p=0.762 | p=0.762 |
| | Vehicle | | p=0.997 |
| IC | Asenapine 0.05mg/kg | p=0.314 | p=0.314 |
| | Asenapine 0.1mg/kg | p=0.347 | p=0.347 |
| | Asenapine 0.3mg/kg | p=0.500 | p=0.500 |
| | Vehicle | | p=0.318 |
| DM | Asenapine 0.05mg/kg | p=0.359 | p=0.359 |
| | Asenapine 0.1mg/kg | p=0.907 | p=0.907 |
| | Asenapine 0.3mg/kg | p=0.993 | p=0.993 |
| | Vehicle | | p=0.311 |
| DL | Asenapine 0.05mg/kg | p=0.327 | p=0.327 |
| | Asenapine 0.1mg/kg | p=0.869 | p=0.869 |
| | Asenapine 0.3mg/kg | p=0.245 | p=0.245 |
| | Vehicle | | p=0.292 |
| VM | Asenapine 0.05mg/kg | p=0.136 | p=0.136 |
| | Asenapine 0.1mg/kg | p=0.508 | p=0.508 |
| | Asenapine 0.3mg/kg | p=0.493 | p=0.493 |
| | Vehicle | | p=0.487 |
| VL | Asenapine 0.05mg/kg | p=0.058 | p=0.058 |
| | Asenapine 0.1mg/kg | p=0.410 | p=0.410 |
| | Asenapine 0.3mg/kg | p=0.311 | p=0.311 |
| | Vehicle | | p=0.416 |
| CAb | Asenapine 0.05mg/kg | p=0.424 | p=0.424 |
| | Asenapine 0.1mg/kg | p=0.438 | p=0.438 |
| | Asenapine 0.3mg/kg | p=0.263 | p=0.263 |
| | Vehicle | | p=0.253 |
| SAb | Asenapine 0.05mg/kg | p=0.873 | p=0.873 |
| | Asenapine 0.1mg/kg | p=0.294 | p=0.294 |
| | Asenapine 0.3mg/kg | p=0.434 | p=0.434 |
| | Vehicle | | p=0.734 |

Table S2. Outputs of Shapiro-Wilk test for normality in Paradigm 1 chronic treatment groups.

| Paradigm 2 | Acute Treatments | Normalized Data | Raw Data |
|---|---|---|---|
| ACC | Haloperidol 0.25mg/kg | p=0.105 | p=0.105 |
| | Haloperidol 0.5mg/kg | p=0.136 | p=0.136 |
| | Haloperidol 0.8mg/kg | p=0.819 | p=0.819 |
| | Vehicle | | p=0.885 |
| MAC | Haloperidol 0.25mg/kg | p=0.996 | p=0.996 |
| | Haloperidol 0.5mg/kg | p=0.875 | p=0.875 |
| | Haloperidol 0.8mg/kg | p=0.408 | p=0.408 |
| | Vehicle | | p=0.055 |
| MC | Haloperidol 0.25mg/kg | p=0.825 | p=0.825 |
| | Haloperidol 0.5mg/kg | p=0.986 | p=0.986 |
| | Haloperidol 0.8mg/kg | p=0.914 | p=0.914 |
| | Vehicle | | p=0.636 |
| SS | Haloperidol 0.25mg/kg | p=0.694 | p=0.694 |
| | Haloperidol 0.5mg/kg | p=0.184 | p=0.184 |
| | Haloperidol 0.8mg/kg | p=0.373 | p=0.373 |
| | Vehicle | | p=0.737 |
| IC | Haloperidol 0.25mg/kg | p=0.164 | p=0.164 |
| | Haloperidol 0.5mg/kg | p=0.965 | p=0.965 |
| | Haloperidol 0.8mg/kg | p=0.792 | p=0.792 |
| | Vehicle | | p=0.389 |
| DM | Haloperidol 0.25mg/kg | p=0.463 | p=0.463 |
| | Haloperidol 0.5mg/kg | p=0.315 | p=0.315 |
| | Haloperidol 0.8mg/kg | p=0.890 | p=0.890 |
| | Vehicle | | p=0.820 |
| DL | Haloperidol 0.25mg/kg | p=0.01 | p=0.01 |
| | Haloperidol 0.5mg/kg | p=0.654 | p=0.654 |
| | Haloperidol 0.8mg/kg | p=0.01 | p=0.01 |
| | Vehicle | | p=0.01 |
| VM | Haloperidol 0.25mg/kg | p=0.232 | p=0.232 |
| | Haloperidol 0.5mg/kg | p=0.363 | p=0.363 |
| | Haloperidol 0.8mg/kg | p=0.124 | p=0.124 |
| | Vehicle | | p=0.990 |
| VL | Haloperidol 0.25mg/kg | p=0.679 | p=0.679 |
| | Haloperidol 0.5mg/kg | p=0.308 | p=0.308 |
| | Haloperidol 0.8mg/kg | p=0.083 | p=0.083 |
| | Vehicle | | p=0.002 |
| CAb | Haloperidol 0.25mg/kg | p=0.068 | p=0.068 |
| | Haloperidol 0.5mg/kg | p=0.376 | p=0.376 |
| | Haloperidol 0.8mg/kg | p=0.403 | p=0.403 |
| | Vehicle | | p=0.741 |
| SAb | Haloperidol 0.25mg/kg | p=0.142 | p=0.142 |
| | Haloperidol 0.5mg/kg | p=0.271 | p=0.271 |
| | Haloperidol 0.8mg/kg | p=0.049 | p=0.049 |
| | Vehicle | | p=0.290 |

Table S3. Outputs of Shapiro-Wilk test for normality in Paradigm 2 acute treatment groups.

| Paradigm 2 | Chronic Treatments | Normalized Data | Raw Data |
|---|---|---|---|
| ACC | Haloperidol 0.25mg/kg | p=0.639 | p=0.639 |
| | Haloperidol 0.5mg/kg | p=0.122 | p=0.122 |
| | Haloperidol 0.8mg/kg | p=0.802 | p=0.802 |
| | Vehicle | | p=0.266 |
| MAC | Haloperidol 0.25mg/kg | p=0.703 | p=0.703 |
| | Haloperidol 0.5mg/kg | p=0.963 | p=0.963 |
| | Haloperidol 0.8mg/kg | p=0.349 | p=0.349 |
| | Vehicle | | p=0.946 |
| MC | Haloperidol 0.25mg/kg | p=0.063 | p=0.063 |
| | Haloperidol 0.5mg/kg | p=0.296 | p=0.296 |
| | Haloperidol 0.8mg/kg | p=0.848 | p=0.848 |
| | Vehicle | | p=0.322 |
| SS | Haloperidol 0.25mg/kg | p=0.721 | p=0.721 |
| | Haloperidol 0.5mg/kg | p=0.109 | p=0.109 |
| | Haloperidol 0.8mg/kg | p=0.253 | p=0.253 |
| | Vehicle | | p=0.997 |
| IC | Haloperidol 0.25mg/kg | p=0.042 | p=0.042 |
| | Haloperidol 0.5mg/kg | p=0.710 | p=0.710 |
| | Haloperidol 0.8mg/kg | p=0.253 | p=0.253 |
| | Vehicle | | p=0.318 |
| DM | Haloperidol 0.25mg/kg | p=0.675 | p=0.675 |
| | Haloperidol 0.5mg/kg | p=0.898 | p=0.898 |
| | Haloperidol 0.8mg/kg | p=0.971 | p=0.971 |
| | Vehicle | | p=0.311 |
| DL | Haloperidol 0.25mg/kg | p=0.590 | p=0.590 |
| | Haloperidol 0.5mg/kg | p=0.489 | p=0.489 |
| | Haloperidol 0.8mg/kg | p=0.903 | p=0.903 |
| | Vehicle | | p=0.292 |
| VM | Haloperidol 0.25mg/kg | p=0.829 | p=0.829 |
| | Haloperidol 0.5mg/kg | p=0.724 | p=0.724 |
| | Haloperidol 0.8mg/kg | p=0.317 | p=0.317 |
| | Vehicle | | p=0.487 |
| VL | Haloperidol 0.25mg/kg | p=0.805 | p=0.805 |
| | Haloperidol 0.5mg/kg | p=0.923 | p=0.923 |
| | Haloperidol 0.8mg/kg | p=0.572 | p=0.572 |
| | Vehicle | | p=0.416 |
| CAb | Haloperidol 0.25mg/kg | p=0.142 | p=0.142 |
| | Haloperidol 0.5mg/kg | p=0.171 | p=0.171 |
| | Haloperidol 0.8mg/kg | p=0.002 | p=0.002 |
| | Vehicle | | p=0.252 |
| SAb | Haloperidol 0.25mg/kg | p=0.968 | p=0.968 |
| | Haloperidol 0.5mg/kg | p=0.023 | p=0.023 |
| | Haloperidol 0.8mg/kg | p=0.194 | p=0.194 |
| | Vehicle | | p=0.734 |

Table S4. Outputs of Shapiro-Wilk test for normality in Paradigm 2 chronic treatment groups.

| Paradigm 3 | Acute Treatments | Normalized Data | Raw Data |
|---|---|---|---|
| ACC | Olanzapine 2.5mg/kg | p=0.164 | p=0.164 |
| | Asenapine 0.1mg/kg | p=0.776 | p=0.776 |
| | Haloperidol 0.5mg/kg | p=0.436 | p=0.436 |
| | Vehicle | | p=0.078 |
| MAC | Olanzapine 2.5mg/kg | p=0.926 | p=0.926 |
| | Asenapine 0.1mg/kg | p=0.338 | p=0.338 |
| | Haloperidol 0.5mg/kg | p=0.723 | p=0.723 |
| | Vehicle | | p=0.623 |
| MC | Olanzapine 2.5mg/kg | p=0.203 | p=0.203 |
| | Asenapine 0.1mg/kg | p=0.661 | p=0.661 |
| | Haloperidol 0.5mg/kg | p=0.589 | p=0.589 |
| | Vehicle | | p=0.478 |
| SS | Olanzapine 2.5mg/kg | p=0.355 | p=0.355 |
| | Asenapine 0.1mg/kg | p=0.521 | p=0.521 |
| | Haloperidol 0.5mg/kg | p=0.127 | p=0.127 |
| | Vehicle | | p=0.982 |
| IC | Olanzapine 2.5mg/kg | p=0.704 | p=0.704 |
| | Asenapine 0.1mg/kg | p=0.773 | p=0.773 |
| | Haloperidol 0.5mg/kg | p=0.234 | p=0.234 |
| | Vehicle | | p=0.023 |
| DM | Olanzapine 2.5mg/kg | p=0.831 | p=0.831 |
| | Asenapine 0.1mg/kg | p=0.667 | p=0.667 |
| | Haloperidol 0.5mg/kg | p=0.521 | p=0.521 |
| | Vehicle | | p=0.148 |
| DL | Olanzapine 2.5mg/kg | p=0.061 | p=0.061 |
| | Asenapine 0.1mg/kg | p=0.803 | p=0.803 |
| | Haloperidol 0.5mg/kg | p=0.640 | p=0.640 |
| | Vehicle | | p=0.669 |
| VM | Olanzapine 2.5mg/kg | p=0.988 | p=0.988 |
| | Asenapine 0.1mg/kg | p=0.441 | p=0.441 |
| | Haloperidol 0.5mg/kg | p=0.169 | p=0.169 |
| | Vehicle | | p=0.639 |
| VL | Olanzapine 2.5mg/kg | p=0.787 | p=0.787 |
| | Asenapine 0.1mg/kg | p=0.883 | p=0.883 |
| | Haloperidol 0.5mg/kg | p=0.660 | p=0.660 |
| | Vehicle | | p=0.529 |
| CAb | Olanzapine 2.5mg/kg | p=0.227 | p=0.227 |
| | Asenapine 0.1mg/kg | p=0.621 | p=0.621 |
| | Haloperidol 0.5mg/kg | p=0.389 | p=0.389 |
| | Vehicle | | p=0.889 |
| SAb | Olanzapine 2.5mg/kg | p=0.370 | p=0.370 |
| | Asenapine 0.1mg/kg | p=0.590 | p=0.590 |
| | Haloperidol 0.5mg/kg | p=0.427 | p=0.427 |
| | Vehicle | | p=0.287 |

Table S5. Outputs of Shapiro-Wilk test for normality in Paradigm 3 acute treatment groups.

| Paradigm 3 | Chronic Treatments | Normalized Data | Raw Data |
|---|---|---|---|
| ACC | Olanzapine 2.5mg/kg | p=0.365 | p=0.365 |
| | Asenapine 0.1mg/kg | p=0.589 | p=0.589 |
| | Haloperidol 0.5mg/kg | p=0.250 | p=0.250 |
| | Vehicle | | p=0.072 |
| MAC | Olanzapine 2.5mg/kg | p=0.663 | p=0.663 |
| | Asenapine 0.1mg/kg | p=0.268 | p=0.268 |
| | Haloperidol 0.5mg/kg | p=0.170 | p=0.170 |
| | Vehicle | | p=0.485 |
| MC | Olanzapine 2.5mg/kg | p=0.311 | p=0.311 |
| | Asenapine 0.1mg/kg | p=0.328 | p=0.328 |
| | Haloperidol 0.5mg/kg | p=0.160 | p=0.160 |
| | Vehicle | | p=0.059 |
| SS | Olanzapine 2.5mg/kg | p=0.041 | p=0.041 |
| | Asenapine 0.1mg/kg | p=0.815 | p=0.815 |
| | Haloperidol 0.5mg/kg | p=0.590 | p=0.590 |
| | Vehicle | | p=0.639 |
| IC | Olanzapine 2.5mg/kg | p=0.623 | p=0.623 |
| | Asenapine 0.1mg/kg | p=0.469 | p=0.469 |
| | Haloperidol 0.5mg/kg | p=0.160 | p=0.160 |
| | Vehicle | | p=0.479 |
| DM | Olanzapine 2.5mg/kg | p=0.354 | p=0.354 |
| | Asenapine 0.1mg/kg | p=0.759 | p=0.759 |
| | Haloperidol 0.5mg/kg | p=0.823 | p=0.823 |
| | Vehicle | | p=0.278 |
| DL | Olanzapine 2.5mg/kg | p=0.559 | p=0.559 |
| | Asenapine 0.1mg/kg | p=0.289 | p=0.289 |
| | Haloperidol 0.5mg/kg | p=0.378 | p=0.378 |
| | Vehicle | | p=0.921 |
| VM | Olanzapine 2.5mg/kg | p=0.367 | p=0.367 |
| | Asenapine 0.1mg/kg | p=0.469 | p=0.469 |
| | Haloperidol 0.5mg/kg | p=0.278 | p=0.278 |
| | Vehicle | | p=0.097 |
| VL | Olanzapine 2.5mg/kg | p=0.517 | p=0.517 |
| | Asenapine 0.1mg/kg | p=0.589 | p=0.589 |
| | Haloperidol 0.5mg/kg | p=0.624 | p=0.624 |
| | Vehicle | | p=0.480 |
| CAb | Olanzapine 2.5mg/kg | p=0.061 | p=0.061 |
| | Asenapine 0.1mg/kg | p=0.378 | p=0.378 |
| | Haloperidol 0.5mg/kg | p=0.270 | p=0.270 |
| | Vehicle | | p=0.945 |
| SAb | Olanzapine 2.5mg/kg | p=0.554 | p=0.554 |
| | Asenapine 0.1mg/kg | p=0.628 | p=0.628 |
| | Haloperidol 0.5mg/kg | p=0.489 | p=0.489 |
| | Vehicle | | p=0.834 |

Table S6. Outputs of Shapiro-Wilk test for normality in Paradigm 3 chronic treatment groups.

| | 3way effect | 2way within-subject (ROI*Dose/Treatment) | 2way within-subject (ROI*Time) | 2way between-subject (Time*Dose/Treatment) | Univari Topogr |
|---|---|---|---|---|---|
| **ASE Cortex** | $F_{12,92}=1.28$ p>0.05 | $F_{12,92}=0.45$ p>0.05 | $F_{4,92}=1.26$ p>0.05 | $F_{3,23}=1.46$ p>0.05 | **$F_{4,92}=71$** **p<0.00** |
| **ASE Striatum** | **$F_{15,115}=2.03$** **p=0.018** | **$F_{15,115}=3.77$** **p<0.0005** | **$F_{5,115}=4.35$** **p=0.001** | *$F_{3,23}=2.52$* *p=0.08* | **$F_{5,115}=1$** **p<0.00** |
| **HAL Cortex** | $F_{12,88}=1.29$ p>0.05 | $F_{12,88}=0.85$ p>0.05 | $F_{4,88}=1.77$ p>0.05 | $F_{3,22}=1.45$ p>0.05 | **$F_{4,88}=40$** **p<0.00** |
| **HAL Striatum** | $F_{15,110}=1.39$ p>0.05 | **$F_{15,110}=3.46$** **p<0.0005** | **$F_{5,110}=4.71$** **p=0.001** | **$F_{3,22}=6.84$** **p=0.002** | **$F_{5,110}=1$** **p<0.00** |
| **DRPA Cortex** | $F_{12,84}=1.15$ p>0.05 | $F_{12,84}=0.65$ p>0.05 | *$F_{4,84}=2.16$* *p=0.08* | $F_{3,21}=1.503$ p>0.05 | **$F_{4,84}=50$** **p<0.00** |
| **DRPA Striatum** | $F_{15,100}=0.75$ p>0.05 | *$F_{15,100}=1.63$* *p=0.08* | $F_{5,100}=1.1$ p>0.05 | **$F_{3,20}=3.74$** **p=0.03** | **$F_{5,100}=4$** **p=0.00** |

Table S7. Overall statistical analyses of raw data, i.e. including the vehicle group.

| | 3way effect | 2way within-subject (ROI*Dose/Treatment) | 2way within-subject (ROI*Time) | 2way between-subject (Time*Dose/Treatment) | Univari Topogr |

|       | 2way (Time*Dose)            | Pairwise Time                  | Pairwise Dose                                      |
|-------|-----------------------------|--------------------------------|----------------------------------------------------|
| ACC   | $F_{3,23}$=0.36, p>0.05     | ns                             | ns                                                 |
| MAC   | $F_{3,23}$=1.05, p>0.05     | ns                             | ns                                                 |
| MC    | $F_{3,23}$=1.98, p>0.05     | ns                             | ns                                                 |
| SS    | $F_{3,23}$=1.75, p>0.05     | ns                             | ns                                                 |
| IC    | $F_{3,23}$=2.27, p>0.05     | VEH: Acute < Chronic*          | ns                                                 |
|       |                             |                                |                                                    |
| DM    | $F_{3,23}$=2.28, p>0.05     | ASE0.1: Acute > Chronic*       | ns                                                 |
| DL    | **$F_{3,23}$=4.61, p=0.012**| ASE0.1: Acute > Chronic*<br>*ASE0.3: Acute > Chronic*<br>VEH: Acute < Chronic* | <u>Acute:</u> ASE0.05, ASE0.1, ASE0.3 > VEH** |
| VM    | **$F_{3,23}$=3.19, p=0.04** | VEH: Acute < Chronic*          | ns                                                 |
| VL    | $F_{3,23}$=2.31, p>0.05     | ASE0.1: Acute > Chronic*       | ns                                                 |
| CAb   | $F_{3,23}$=2.32, p>0.05     | VEH: Acute < Chronic*          | <u>Acute:</u> ASE0.1 > VEH*                        |
| SAb   | $F_{3,23}$=0.61, p>0.05     | ns                             | ns                                                 |

Table S8. Dose and Time combined and independent effects on asenapine-mediated Homer1a expression. Data were given as raw data, i.e. including the vehicle group for multiple comparisons. *: p<0.05; **: p<0.01

| | 2way (Time*Dose) | Pairwise Time | Pairwise Dose |
|---|---|---|---|
| **ACC** | $F_{3,22}$=0.22, p>0.05 | ns | ns |
| **MAC** | $F_{3,22}$=0.59, p>0.05 | ns | ns |
| **MC** | $F_{3,22}$=2.39, p>0.05 | VEH: Acute < Chronic* | ns |
| **SS** | $F_{3,22}$=1.48, p>0.05 | VEH: Acute < Chronic* | ns |
| **IC** | $F_{3,22}$=2.26, p>0.05 | VEH: Acute < Chronic** | ns |
| | | | |
| **DM** | **$F_{3,22}$=4.74, p=0.01** | HAL0.5: Acute > Chronic** | Acute: HAL0.25 > VEH*<br>Acute: HAL0.5 > VEH** |
| **DL** | **$F_{3,22}$=6.006, p=0.004** | HAL0.25: Acute > Chronic*<br>HAL0.5: Acute > Chronic**<br>HAL0.8: Acute > Chronic*<br>*VEH: Acute < Chronic*[a] | Acute: HAL0.25, HAL0.5, HAL0.8 > VEH** |
| **VM** | **$F_{3,22}$=7.29, p=0.001** | HAL0.5: Acute > Chronic**<br>HAL0.8: Acute > Chronic*<br>VEH: Acute < Chronic* | Acute: HAL0.25, HAL0.5 > VEH**<br>Acute: HAL0.8 > VEH* |
| **VL** | **$F_{3,22}$=4.25, p=0.01** | HAL0.25: Acute > Chronic*<br>HAL0.5: Acute > Chronic**<br>HAL0.8: Acute > Chronic* | Acute: HAL0.25, HAL0.5, HAL0.8 > VEH** |
| **CAb** | **$F_{3,22}$=6.95, p=0.002** | HAL0.5: Acute > Chronic**<br>HAL0.8: Acute > Chronic*<br>VEH: Acute < Chronic* | Acute: HAL0.25, HAL0.5, HAL0.8 > VEH** |
| **SAb** | **$F_{3,22}$=4.34, p=0.01** | HAL0.5: Acute > Chronic* | Acute: HAL0.5 > VEH**<br>Acute: HAL0.8 > VEH*<br>Acute: HAL0.5 > HAL0.25* |

Table S9. Dose and Time combined and independent effects on haloperidol-mediated Homer1a expression. Data were given as raw data, i.e. including the vehicle group for multiple comparisons. *: p<0.05; **: p<0.01; a: trend toward significance.

| | 2way (Time*Dose) | Pairwise Time | Pairwise Dose |
|---|---|---|---|
| ACC | $F_{3,21}$=0.34, p>0.05 | ns | ns |
| MAC | $F_{3,21}$=1.004, p>0.05 | ns | ns |
| MC | $F_{3,21}$=2.09, p>0.05 | *VEH: Acute < Chronic[a]* | ns |
| SS | $F_{3,21}$=1.92, p>0.05 | ns | ns |
| IC | $F_{3,21}$=1.71, p>0.05 | VEH: Acute < Chronic* | ns |
| | | | |
| DM | **$F_{3,21}$=4.51, p=0.014** | HAL0.5: Acute > Chronic**<br>ASE0.1: Acute > Chronic* | Acute: HAL0.5 > VEH**<br>Acute: HAL0.5 > OLA* |
| DL | **$F_{3,21}$=4.92, p=0.01** | HAL0.5: Acute > Chronic**<br>ASE0.1: Acute > Chronic* | Acute: HAL0.5 > VEH***<br>Acute: ASE0.1 > VEH** |
| VM | **$F_{3,21}$=5.23, p=0.007** | HAL0.5: Acute > Chronic**<br>VEH: Acute < Chronic* | Acute: HAL0.5 > VEH**<br>Acute: HAL0.5 > OLA* |
| VL | **$F_{3,21}$=3.16, p=0.04** | HAL0.5: Acute > Chronic*<br>*ASE0.1: Acute > Chronic[b]* | Acute: HAL0.5 > VEH***<br>Acute: HAL0.5 > OLA* |
| CAb | **$F_{3,21}$=4.86, p=0.01** | HAL0.5: Acute > Chronic**<br>VEH: Acute < Chronic* | Acute: HAL0.5 > VEH***<br>Acute: ASE0.1 > VEH*<br>Acute: HAL0.5 > OLA* |
| SAb | $F_{3,21}$=0.88, p>0.05 | ns | ns |

Table S10. Dose and Time combined and independent effects on Homer1a expression by different receptor profile antipsychotics. Data were given as raw data, i.e. including the vehicle group for multiple comparisons. *: p<0.05; **: p<0.01; ***: p<0.0005; a: p=0.06; b: p=0.08