

Supplementary Table 1: Action potential durations of VTA neurons sort by projection target

| | All Cells ^a | TH(+) ^b | <i>I_h</i> (+), TH(-) | <i>I_h</i> (-) ^c |
|---|------------------------------|------------------------------|---------------------------------|---------------------------------------|
| AMYG- projecting^d | 1.67 ± .07 (n=31) | 1.74 ± .07 (n=11) | 1.61 ± .15 (n=5) | 1.35 ± .11 (n=4) |
| PFC- projecting | 2.03 ± .10 (n=49) | 2.03 ± .11 (n=18) | 2.23 ± .44 (n=6) | 2.13 ± .17 (n=10) |
| NAc- projecting^e | 2.39 ± .16 (n=50) | 2.71 ± .19 (n=20) | 1.71 ± .10 (n=5) | 1.48 ± .13 (n=3) |
| *older AMYG- projecting | 1.62 ± .09 (n=15) | 1.95 ± .09 (n=5) | 1.63 ± .13 (n=5) | 1.55 ± .18 (n=3) |

^aAMYG-projecting v NAc-projecting $P < 0.001$

^bAMYG-projecting v NAc-projecting $P < 0.001$; PFC v NAc $P < 0.01$

^cAMYG-projecting v PFC-projecting $P < 0.05$

^dAMYG-projecting TH(+) v *I_h*(-) $P < 0.05$

^eNAc-projecting TH(+) v *I_h*(+), TH(-) $P < 0.05$; TH(+) v *I_h*(-) $P < 0.05$

*older AMYG-projecting neurons were not included in statistical comparisons

Supplementary Table 2: Changes in membrane potential in response to quinpirole (1 μ M) vary by projection target

| | TH(+) ^a | TH(-) |
|------------------------|--|---|
| AMYG-projecting | 2.3 \pm 1.5 mV (n=7) | 0.02 \pm 1.4 mV (n=7) |
| PFC-projecting | -4.4 \pm 1.9 mV (n=9) | -0.5 \pm 3.2 mV (n=4) |
| NAc-projecting | -3.2 \pm 1.4 mV (n=13) | -1.1 \pm 2.1 mV (n=5) |

^aAMYG-projecting v PFC-projecting $P < 0.05$