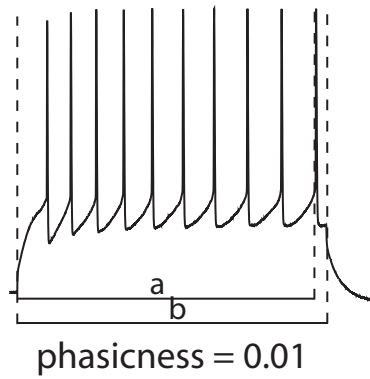
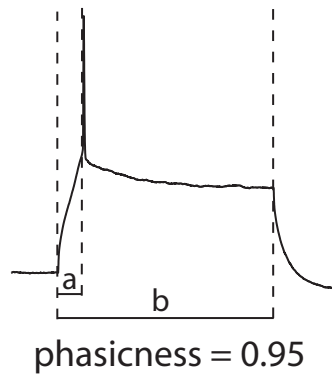
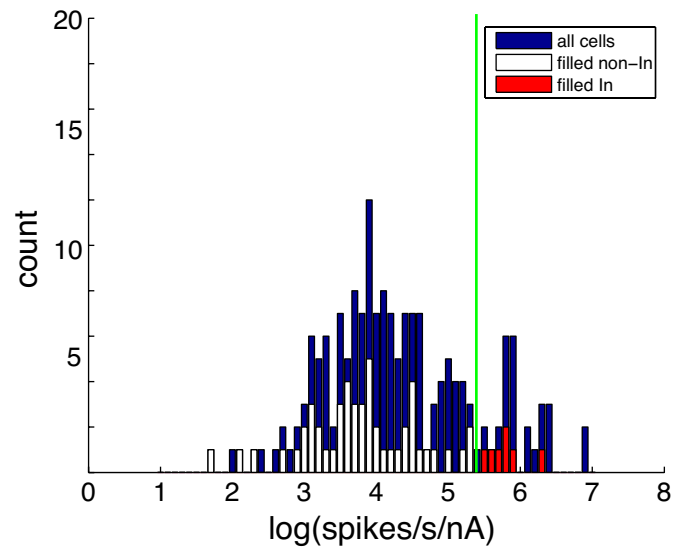


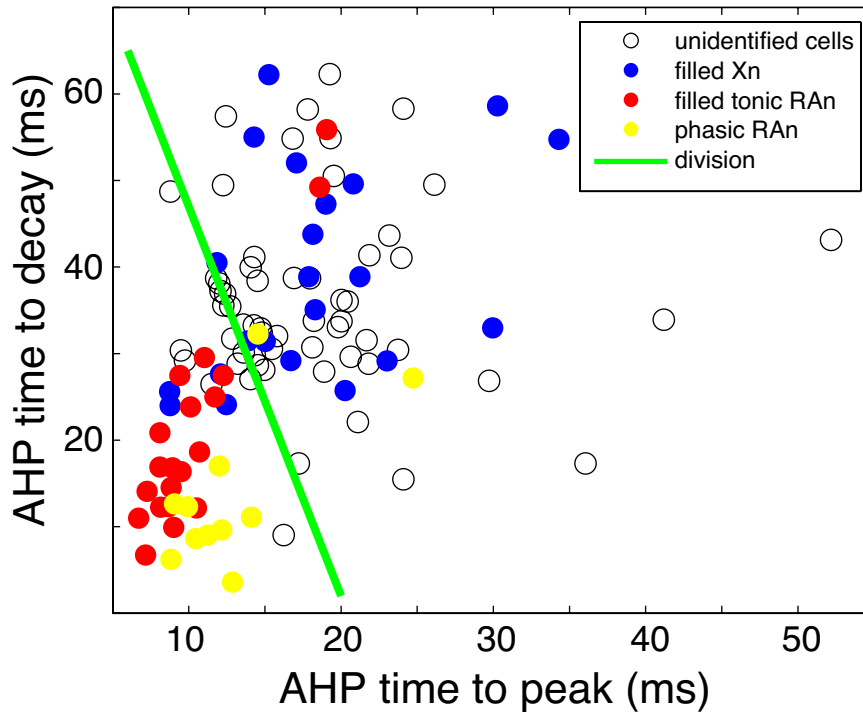
$$\text{phasicness} = 1 - \frac{a}{b}$$



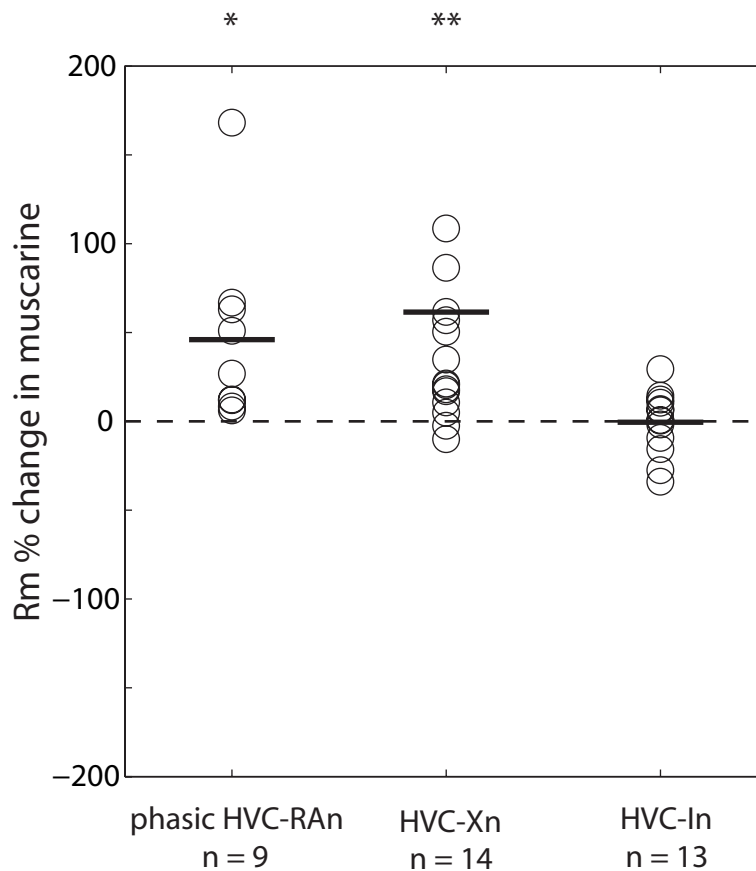
Supplementary Figure 1. Algebraic and graphical depiction of the phasicness measure.



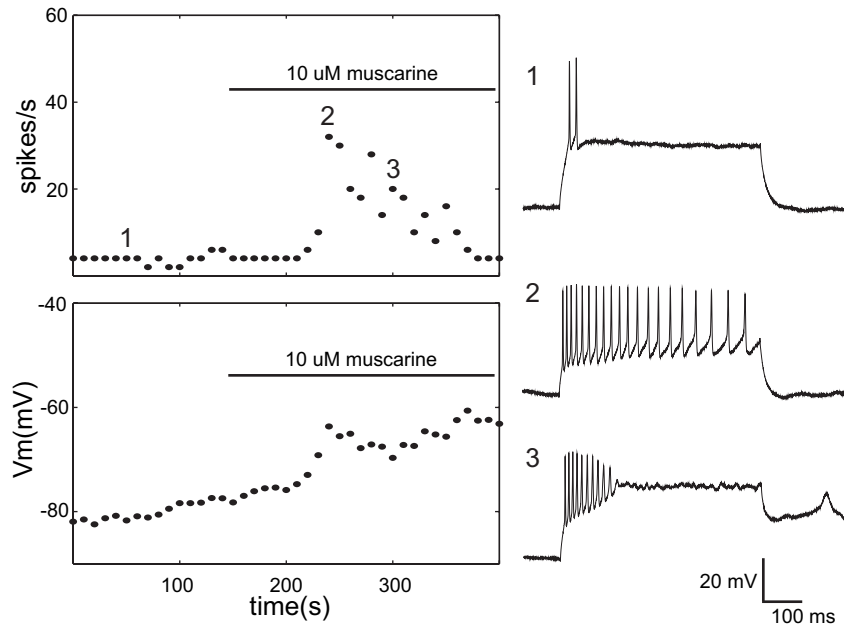
Supplementary Figure 2. Semilog plot of the data depicted in Figure 3B.



Supplementary Figure 3. These are the same data as in Figure 2C, with the addition of phasic HVC-RAn plotted in yellow. Measures of the AHP were only taken from the first through the penultimate spikes of the phasic burst. The final spike was typically followed by different, much slower voltage dynamics than the earlier spikes, possibly reflecting distinct cellular mechanisms that affect their dramatic accommodation and not the spike AHP. Since three cells only produced a single spike, these were not measured and there are 11 points.



Supplementary Figure 4. Distribution of changes in input resistance (R_m) in response to muscarine according to cell type. Changes in R_m for each point are calculated as the percent difference between the pre drug and post drug value for each experiment where R_m was measured and not contaminated by cell spiking (see Methods). Significant population effects were assessed with a paired t test comparing the pre drug and post drug values ($*p < 0.05$, $**p < 0.01$). These data should be interpreted with caution since V_m was not held constant and thus measurements may be affected by voltage-gated conductances. The failure to observe consistent changes in HVC-In may reflect this fact, or may be related to variability among interneurons (see text).



Supplementary Figure 5. Muscarine modulation of a phasic HVC-RAN showing an example of spike failure after excitation by the drug.