

Figure 2-figure supplement 2

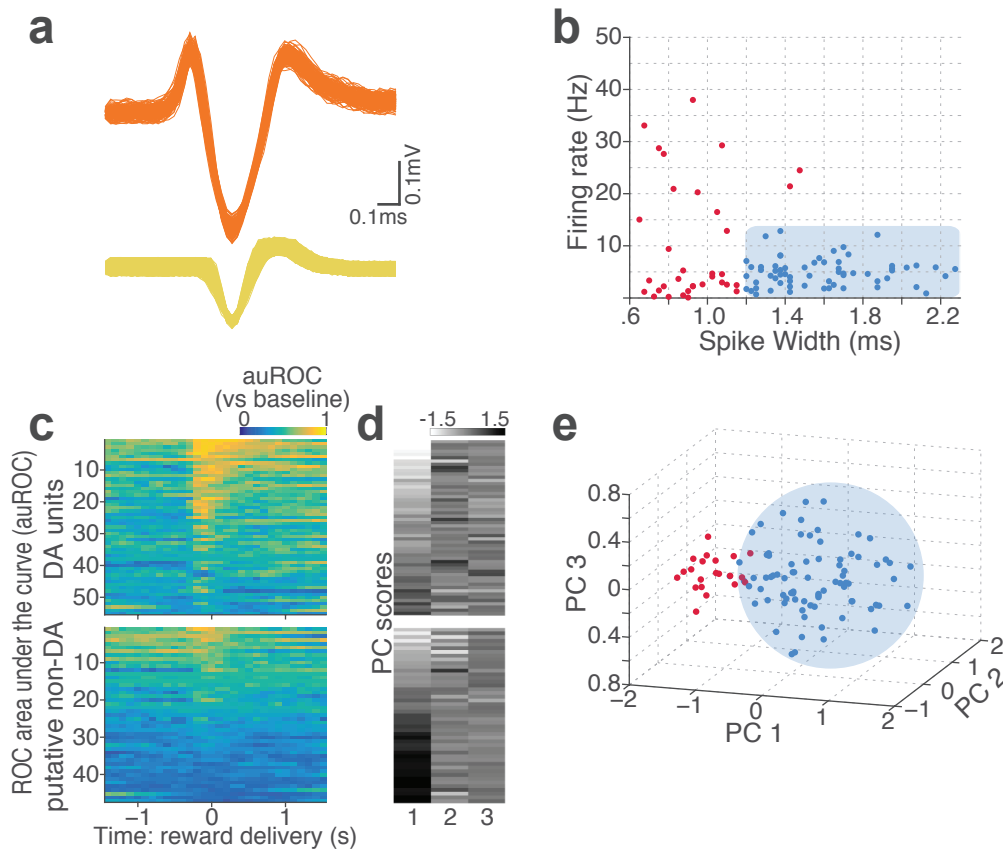


Figure 2-figure supplement 2. Classification of VTA single units to putative DA or putative non-DA units. (a) Representative spike waveforms of a putative DA (top) and a non-DA (bottom) units. (b) Units were first classified based on their mean baseline firing rate and width of the spike waveform. Units whose mean baseline firing rate slower than 12 Hz, waveform width greater than 1.2 ms were considered to be putative DA units (blue circles). (c) To characterize each unit's reward response, ROC curves were calculated by comparing the firing-rate distributions of reward delivery vs baseline epochs. (d) Principal component analysis (PCA) was conducted on auROC values. (e) Units were mapped onto a 3-d space comprising the top three principal components. Unsupervised clustering was conducted by fitting Gaussian mixture models which yielded two clusters of units: one with phasic excitation to reward (blue circles), the other with sustained excitation or suppression to reward (red circles). Units in the former cluster were classified as putative DA units. Only the units satisfying both criteria (b) and (e) were finally labelled as putative DA units, and the rest of units were putative non-DA units.