Supplemental Figure 1. Effect of patch pipette internal solution composition on the reversal potential of GABA-gated conductances in Drosophila antennal lobe neurons.

GABA was iontophoresed onto the somata of LNs recorded in whole-cell mode, and the reversal potential $E_{\text{GABA}}$ was determined, along with the spike threshold for that cell. With a KCH$_3$SO$_3$-based internal solution containing 0.5% neurobiotin (N-(2-aminoethyl) biotinamide hydrochloride, from Vector Labs), $E_{\text{Cl}}$ should be -52mV, but $E_{\text{GABA}}$ was closer to -40mV. Without neurobiotin, $E_{\text{GABA}}$ was similarly depolarized, although in this case nominal $[\text{Cl}]_i$ was zero. This suggests that methanesulfonic acid may affect $E_{\text{Cl}}$ in Drosophila neurons, at least at the soma. Using a potassium aspartate-based internal, $E_{\text{Cl}}$ was much more hyperpolarized. In many cells recorded with this internal, the cell could not be hyperpolarized to $E_{\text{GABA}}$, because antennal lobe neurons cannot be held stably below -75mV. In these cases, an open symbol (○) marks a $V_m$ still depolarized to $E_{\text{GABA}}$ that was the most hyperpolarized potential where a cell could be held. Adding 0.5% biocytin hydrazide (Molecular Probes) to this internal did not change $E_{\text{GABA}}$. PN odor tuning was not substantially different with the Kaspartate+biocytin hydrazide internal versus the KCH$_3$SO$_3$+neurobiotin internal (supplemental Fig. 2).

- $V_m$ (mV)
- spike threshold
- mean spike threshold
- $E_{\text{GABA}}$
- mean reversal potential of GABA-gated conductance

![Graph showing the effect of different internal solutions on $V_m$ and $E_{\text{GABA}}$.]