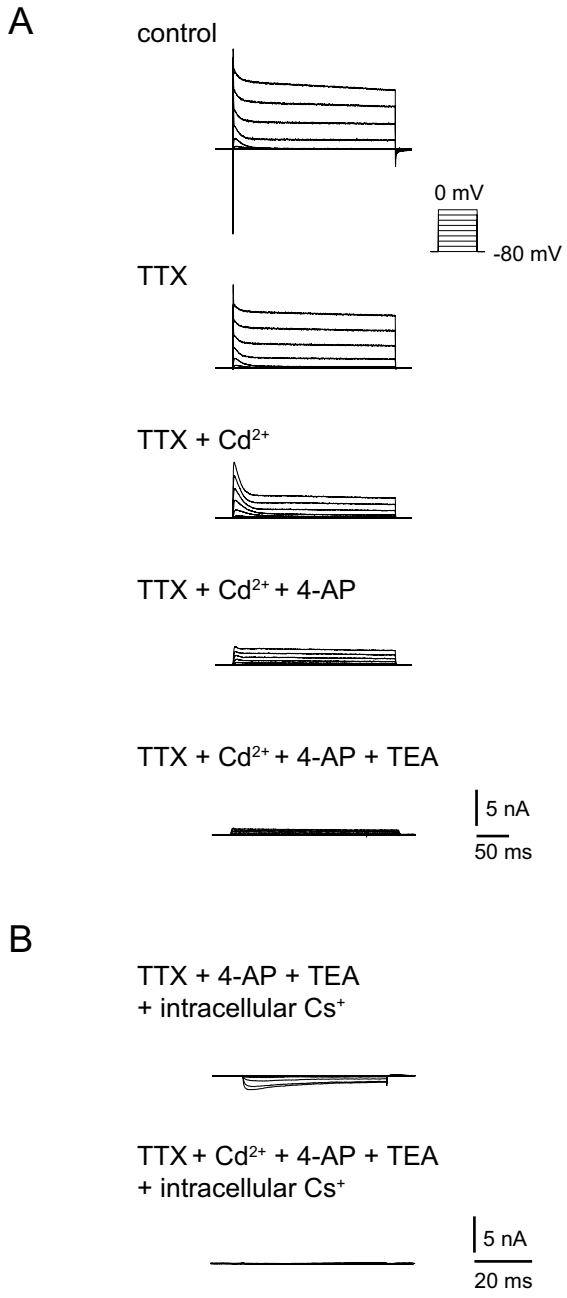
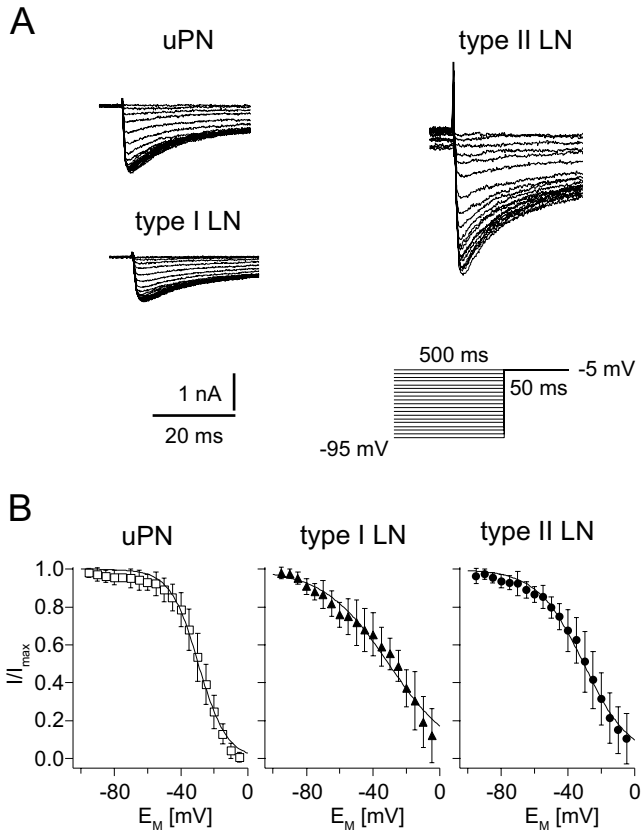
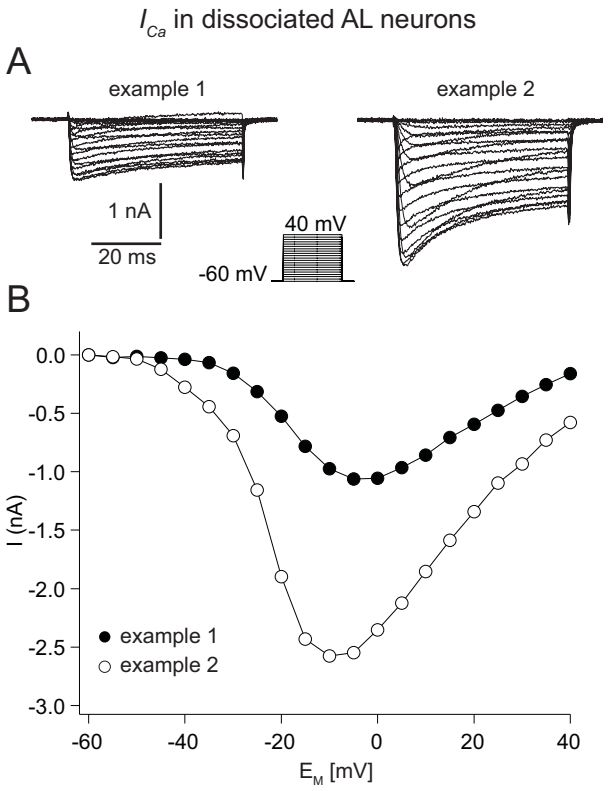


Supplemental Figure 1. Whole-cell recordings of voltage activated currents from uniglomerular projection neurons under different pharmacological conditions. Holding potential was -80 mV. Potential was stepped from -80 to 0 mV in 10 mV increments. ***A***, Tetrodotoxin (10^{-7} - 10^{-4} M, TTX) blocked transient, voltage gated Na^+ currents. Cd^{2+} (5×10^{-4} M) blocked Ca^{2+} currents and accordingly Ca^{2+} activated outward currents ($I_{O(Ca)}$). 4-aminopyridine (4×10^{-3} M, 4-AP) was used to block transient K^+ currents (I_A) and tetraethylammonium (2×10^{-2} M, TEA) blocked sustained K^+ currents ($I_{K(V)}$) and $I_{O(Ca)}$. ***B***, To eliminate residual K^+ currents K-aspartate was substituted with CsCl in the pipette solution.



Supplemental Figure 2. Steady state inactivation of voltage activated Ca^{2+} currents (I_{Ca}) in uPNs, type I LNs and type II LNs. ***A***, Example current traces. Test pulses to -5 mV were preceded by 500 ms pulses ranging from -95 mV to -5 mV in 5 mV increments. ***B***, *I/V* relations of steady state inactivation of peak I_{Ca} from uPNs, type I LNs and type II LNs. The curves are fits to first-order Boltzmann relations (equation 1) with the following parameters: uPN: $V_{0.5inact}$ = -29.6 ± 4.0 mV; s_{inact} = 8.4 ± 0.5; n = 12. Type I LN: $V_{0.5inact}$ = -30 ± 7.4 mV; s_{inact} = 18.3 ± 1.5; n = 10. Type II LN: $V_{0.5inact}$ = -30 ± 7.2 mV; s_{inact} = 13.8 ± 0.5; n = 12.



Supplemental Figure 3. Steady state activation of voltage activated Ca^{2+} currents in acutely dissociated antennal lobe neurons. ***A***, Current traces for steady state activation of I_{Ca} from two neurons. Example 1 resembles the I_{Ca} of type I LNs. Example 2 resembles the I_{Ca} of type II LNs. I_{Ca} was evoked by 50 ms voltage steps from -60 mV to 40 mV in 5 mV increments. ***B***, *I/V* relations of I_{Ca} recorded in example 1 and 2

	uPN	type I LN	type II LN
E_M (mV)	-61.4 ± 9.1 $^{\bullet}$ *n* = 14	-53.0 ± 7.4 $^{\bullet}$ *n* = 16	-56.9 ± 11.3 *n* = 24
R_M (MΩ)	89.6 ± 39.2 $^{\bullet\square}$ *n* = 11	50.6 ± 22.3 $^{\bullet+}$ *n* = 13	37.6 ± 14.9 $^{\square+}$ *n* = 22
C_M (pF)	22.9 ± 9.3 $^{\bullet\square}$ *n* = 15	36.8 ± 16.3 $^{\bullet+}$ *n* = 19	87.7 ± 38.7 $^{\square+}$ *n* = 29
I_{Ca} tail current			
$I_{Ca,tail_{max}}$ (nA)	2.1 ± 0.6 $^{\bullet\square}$ *n* = 12	1.4 ± 0.6 $^{\bullet+}$ *n* = 10	3.3 ± 1.2 $^{\square+}$ *n* = 12
$^{*}I_{Ca,tail_{max}} A_M^{-1}$ (pA µm^{-1})	0.9 ± 0.3 $^{\bullet}$ *n* = 12	0.5 ± 0.2 $^{\square}$ *n* = 10	0.4 ± 0.1 $^{\bullet\square}$ *n* = 12
G_{max} (*nS*)	16.1 ± 4.7 $^{\bullet\square}$ *n* = 12	10.4 ± 4.8 $^{\bullet+}$ *n* = 10	21.9 ± 7.7 $^{\square+}$ *n* = 12
$^{*}G_{max} A_M^{-1}$ (nS µm^{-1})	6.6 ± 2.5 $^{\bullet}$ *n* = 12	3.5 ± 1.7 $^{\square}$ *n* = 10	2.4 ± 0.7 $^{\bullet\square}$ *n* = 12
$V_{0.5_{act}}$ (mV)	-10.6 ± 3.4 $^{\bullet}$ *n* = 12	-11.1 ± 6.5 $^{\square}$ *n* = 10	-19.4 ± 4.7 $^{\bullet\square}$ *n* = 12
s_{act}	8.5 ± 1.8 $^{\bullet}$ *n* = 12	10.0 ± 2.3 $^{\square}$ *n* = 10	6.4 ± 2.3 $^{\bullet\square}$ *n* = 12
I_{Ca} peak current			
$I_{Ca_{max}}$ (nA)	1.4 ± 0.4 $^{\bullet\square}$ *n* = 12	1 ± 0.3 $^{\bullet+}$ *n* = 10	3 ± 1 $^{\square+}$ *n* = 12
E_M at $I_{Ca_{max}}$ (mV)	5.8 ± 4.9 $^{\bullet}$ *n* = 12	9.0 ± 6.1 $^{\square}$ *n* = 10	-7.5 ± 7.2 $^{\bullet\square}$ *n* = 12
$V_{0.5_{inact}}$ *(mV)*	-29.6 ± 4.0 n = 12	-30 ± 7.4 n = 10	-30 ± 7.2 n = 12
s_{inact}	8.4 ± 0.5 $^{\bullet\square}$ n = 12	18.3 ± 1.5 $^{\bullet}$ n = 10	13.8 ± 0.5 $^{\square}$ n = 12

Supplemental Table 1. Electrophysiological parameters of uniglomerular projection neurons (uPNs), type I and type II local interneurons (LNs). Values labeled by the same symbol are significantly different from each other ($P \leq 0.05$).

* To calculate these values we used the values for whole-cell capacitance and -surface from measurements that were made with 'calcium' extra-/intracellular saline (see results: characteristics of I_{Ca}).