

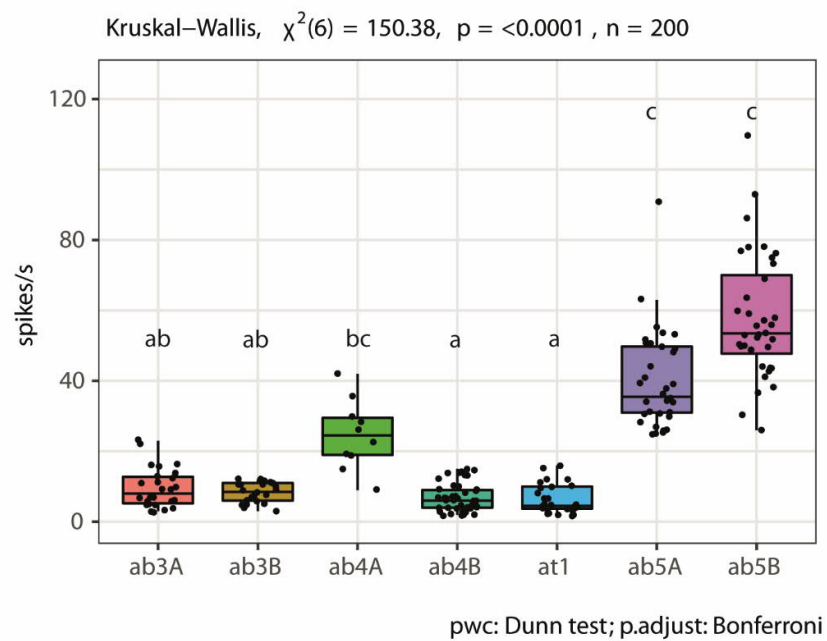
Response plasticity of *Drosophila* olfactory sensory neurons

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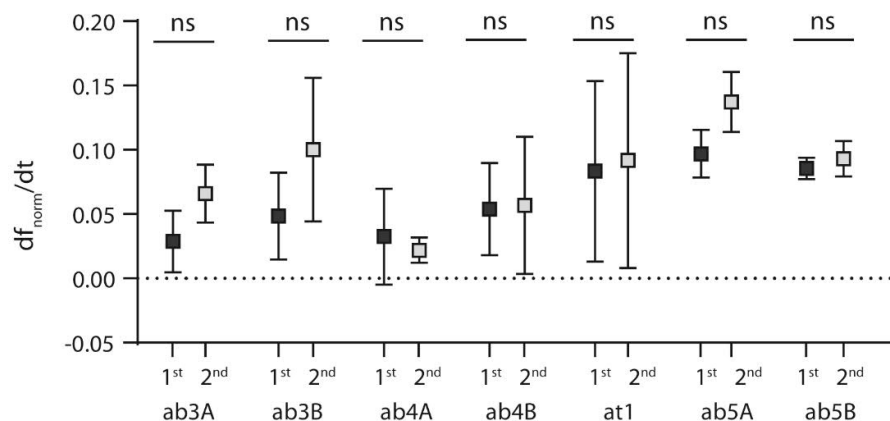
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Supplementary figure 1



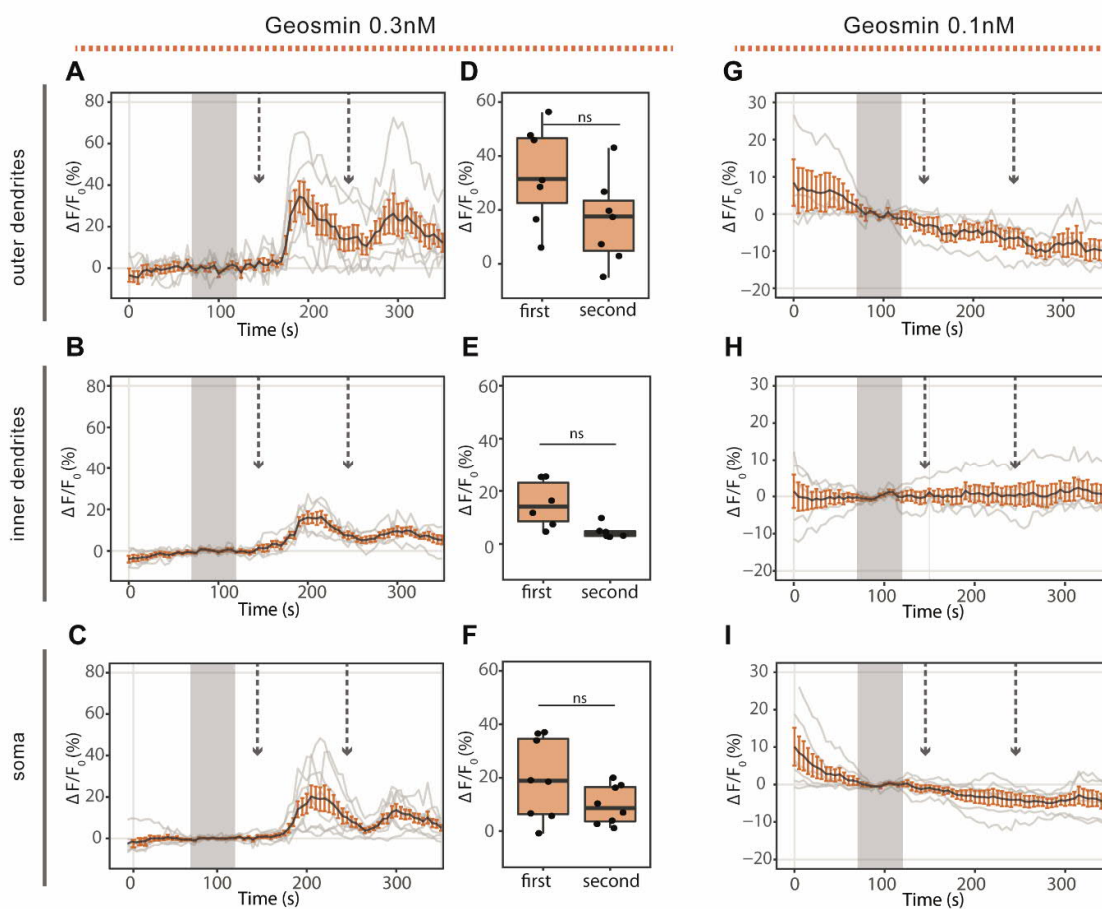
S1. Spontaneous activity. Box plots showing the spontaneous activity per second of the different neurons. Different small letters above the boxplots indicate significant differences (Kruskal-Wallis test followed by Dunn's pairwise (pwc) multiple comparison test. Data represent mean \pm SEM. For detailed statistics, see Table S1.

Supplementary figure 2



S2. Response velocity. Squares depict the maximum velocity of the first (black) and second (gray) response for each neuron. Data extracted as the first derivative (df_{norm}/dt) from curves in Figure 1B. Data represent maximum \pm SEM, two tail t-test, ns not significant.

Supplementary figure 3



S2. No sensitization in Or56a neurons. A,B,C: Kinetics show averaged time course of the change in fluorescence intensity ($\Delta F/F_0$) in *Drosophila* OSNs after application of 0.3 nM geosmin (arrows). At 0.3 nM there is no difference between applications in outer dendrites (A, n=7), inner dendrites (B, n=6) and soma (C, n=8). D,E,F: maximum increase in $\Delta F/F_0$ after geosmin application in the different compartments as in A-C. G,H,I: No responses are observed after 0.1 nM geosmin application (arrows). Gray bar indicates where data was normalized to obtain $\Delta F/F_0$. Data represent mean \pm SEM; two-tail paired t-test, ns not significant.

Supplementary table 1

Table S1 Results from Dunn's multiple comparison test with Bonferroni correction following a Kruskal-Wallis test. Spikes/s show mean + SEM

group1	group2	n ₁	Spikes/s	n ₂	Spikes/s	statistic	p.adj	p.adj.signif
ab3A	ab3B	26	9.58 ± 1	22	8.32 ± 0.6	-0.11052	1	ns
ab3A	ab4A	26	9.58 ± 1	10	24.70 ± 3.1	2.472702	0.281601	ns
ab3A	ab4B	26	9.58 ± 1	44	6.84 ± 0.6	-1.29403	1	ns
ab3A	ab5A	26	9.58 ± 1	34	40.06 ± 2.38	5.245598	3.27E-06	****
ab3A	ab5B	26	9.58 ± 1	36	57.95 ± 2.9	6.853514	1.51E-10	****
ab3A	at1	26	9.58 ± 1	28	6.32 ± 078	-1.52926	1	ns
ab3B	ab4A	22	8.32 ± 0.6	10	24.70 ± 3.1	2.496476	0.263412	ns
ab3B	ab4B	22	8.32 ± 0.6	44	6.84 ± 0.6	-1.10326	1	ns
ab3B	ab5A	22	8.32 ± 0.6	34	40.06 ± 2.38	5.111615	6.71E-06	****
ab3B	ab5B	22	8.32 ± 0.6	36	57.95 ± 2.9	6.636389	6.75E-10	****
ab3B	at1	22	8.32 ± 0.6	28	6.32 ± 078	-1.34952	1	ns
ab4A	ab4B	10	24.70 ± 3.1	44	6.84 ± 0.6	-3.54014	0.008398	**
ab4A	ab5A	10	24.70 ± 3.1	34	40.06 ± 2.38	1.241198	1	ns
ab4A	ab5B	10	24.70 ± 3.1	36	57.95 ± 2.9	2.360504	0.383253	ns
ab4A	at1	10	24.70 ± 3.1	28	6.32 ± 078	-3.62818	0.005994	**
ab4B	ab5A	44	6.84 ± 0.6	34	40.06 ± 2.38	7.386824	3.16E-12	****
ab4B	ab5B	44	6.84 ± 0.6	36	57.95 ± 2.9	9.273146	3.80E-19	****
ab4B	at1	44	6.84 ± 0.6	28	6.32 ± 078	-0.39877	1	ns
ab5A	ab5B	34	40.06 ± 2.38	36	57.95 ± 2.9	1.66126	1	ns
ab5A	at1	34	40.06 ± 2.38	28	6.32 ± 078	-6.98715	5.89E-11	****
ab5B	at1	36	57.95 ± 2.9	28	6.32 ± 078	-8.65314	1.05E-16	****