



Supplemental Figure 4 The Or83c deactivation defect is specific to farnesol variants. (A) Time course of responses of Or83c neurons to 100% farnesal. Deactivation time constant $\tau = 182.6 \pm 25.7$ ms for wild type, and 1111.8 ± 2436 ms for *OS-E/F* mutant ($p=0.0012$, $n=10$). (B) Time course of responses of Or83c neurons to 100% farnesene. Deactivation time constant $\tau = 191.8 \pm 15.7$ ms for wild type, 583.6 ± 177.5 ms for *OS-E/F* mutant ($p=0.03$, $n=10$). (C) Time course of responses of Or83c neurons to 100% geraniol. Deactivation time constant $\tau = 322.4 \pm 99.7$ ms for wild type, 371.6 ± 36.7 ms for *OS-E/F* mutant ($p=0.71$, $n=10$). (D) Time constant τ of deactivation of Or83c neurons to farnesal or farnesene for the genotypes shown. Deactivation time constants of Or83c neurons to farnesal (left side of graph): wild type = 213.3 ± 31.9 ms, *OS-E/F* mutant = 1733.4 ± 392.8 ms, *OS-E* rescue = 172.0 ± 18.4 ms, *OS-F* rescue = 158.2 ± 17.8 ms. ANOVA p values: wild type to *OS-E/F* mutant = 0.001; *OS-E/F* mutant to *OS-E* rescue = 0.001; *OS-E/F* mutant to *OS-F* rescue = 3.9×10^{-4} ; wild type to *OS-E* rescue = 0.24; wild type to *OS-F* rescue = 0.11; *OS-E* rescue to *OS-F* rescue = 0.59. Deactivation time constants of Or83c neurons to farnesene (right side of graph): wild type = 164.2 ± 17.5 ms, *OS-E/F* mutant = 728.9 ± 152.4 ms; *OS-E* rescue = 192.5 ± 13.9 ms; *OS-F* rescue =

168.4 ± 12.8 ms. ANOVA p values: wild type to *OS-E/F* mutant = 0.015; *OS-E/F* mutant to *OS-E* rescue = 0.0011; *OS-E/F* mutant to *OS-F* rescue = 3.17x10⁻⁴; wild type to *OS-E* rescue = 0.23; wild type to *OS-F* rescue = 0.85; *OS-E* rescue to *OS-F* rescue = 0.21. n < 10 per genotype. Error bars indicate SEM. p values for S4A-C determined by Student's t-test. p values for S4D determined by one-way ANOVA with post hoc Tukey's test.