



Figure 1 – Figure Supplement 2. Tastant intensity does not affect the ability of *Drosophila* to discriminate between short-, medium-, and long-chain fatty acids. Aversive taste memory was measured as described in Figure 1A. **A** The pairing of medium-chain hexanoic acid (6C) and quinine (red) results in a significant reduction in PER compared to naïve flies. After training, PER response to 1% 6C was significantly lower in trained flies compared to naïve flies ($P=0.0090$), but there was no difference in PER to 0.1% short-chain valeric acid (5C; $P=0.9521$). REML: $F_{1,38} = 4.128$, $P=0.0492$, with Sidak's Test for multiple comparisons; $N=20$. **B** The pairing of medium-chain hexanoic acid (6C) and quinine (red) results in a significant reduction in PER compared to naïve flies. After training, PER response to 1% 6C was significantly lower in trained flies compared to naïve flies ($P=0.0003$), but there was no difference in PER to long-chain nonanoic acid (9C; $P=0.8671$). REML: $F_{1,38} = 6.090$, $P=0.0158$, with Sidak's Test for multiple comparisons; $N=20$. **C** The pairing of medium-chain hexanoic acid (6C) and quinine (red) results in a significant reduction in PER compared to naïve flies. After training, PER to both 1% 6C and 0.1% medium-chain octanoic acid (8C) was significantly lower in trained flies compared to naïve flies (6C: $P<0.0001$; 8C: $P<0.0001$). REML: $F_{1,38} = 35.94$, $P<0.0001$, with Sidak's Test for multiple comparisons; $N=20$. Error bars indicate \pm SEM. ** $P<0.01$; *** $P<0.001$; **** $P<0.0001$.