Figure S2  CRMP mutant flies display normal olfactory acuity and shock reactivity. Because the Pavlovian olfactory learning and memory assay is based upon association of two stimuli (odor discernment and electric shock stimulus, Dubnau and Tully 1998), CRMP mutant animals were tested to ensure that they are unaffected in their abilities to sense and respond to olfactory stimulation and electrical shock. For each trial to test olfactory acuity, one hundred untrained flies of each genotype were exposed to a two-minute test trial in the T-maze (Boynton & Tully 1992), in which they were offered a choice between either octanol (Oct) versus untainted room air (Panel A), or methylcyclohexanol (MCH) versus untainted room air (Panel B). The performance index (PI) for each genotype (computed as described in Materials & Methods) is represented in the panels as mean PI ± standard error for eight trials. CRMPsupK1 and CRMPsupIa1 animals avoided the odors of octanol and methylcyclohexanol to the same degree as the wild-type control animals, indicating that perception of these odors and the activation of relevant motor circuits are normal in mutant flies. Shock reactivity was examined by exposing one hundred untrained flies of each genotype to a two-minute test trial in the T-maze, but this time each arm of the T-maze contained an electric shock grid (Dura et al. 1993). The flies were given a choice between shock (60V) versus no shock. Panel C shows mean PI ± standard error (four trials) for shock reactivity; again, the performance of mutant animals was indistinguishable from that of wild-type control animals. We conclude that mutant animals exhibit normal sensorimotor responses required for the aversive Pavlovian olfactory conditioning assay.