

SUPPLEMENTARY DATA FOR:

**Contribution of the cyclic nucleotide gated channel subunit, CNG-3, to olfactory plasticity
in *Caenorhabditis elegans***

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Figure S1. Wildtype and mutant *cng-3(jh113)* animals exhibit normal chemotaxis responses to the AWC sensed odor butanone at various concentrations. At each concentration, *cng-3(jh113)* mutant animals performed the same as wildtype animals. For all behavioral experiments between 3 and 5 independent replicates were performed on separate days, with between 50 and 200 animals used per individual assay. Significance was compared between wildtype and mutant animals for each odor concentration (paired t-test). Error bars represent S.E.M.

Figure S2. GFP::EGL-4 nuclear translocation assays in *cng-3(jh113)* mutant animals, and behavioral analysis of *cng-3(jh113);tax-2(p691)* and *cng-3(jh113);tax-4(p678)* double mutants (A) *cng-3(jh113)* mutant animals exhibit normal nuclear translocation of GFP tagged EGL-4 after 60mins exposure to the AWC sensed odor benzaldehyde as compared with wildtype animals (ANOVA with Tukey's HSD, $**p < 0.01$). Error bars represent S.E.M. (B) *cng-3(jh113);tax-2(p691)* and *cng-3(jh113);tax-4(p678)* double mutant animals exhibit similar chemotaxis defects to *tax-2(p691)* and *tax-4(p678)* single mutants respectively (ANOVA with Tukey's HSD, $**p < 0.01$).

Figure S3. Transgenic animals used in BiFC experiments exhibit normal adaptation responses. (A) Chemotaxis assays were performed on wildtype animals and animals expressing TAX-2 tagged with the N-terminal of fluorescent Venus and CNG-3 tagged with the C-terminal of fluorescent Venus. In each case, animals exhibited significant changes in their chemotaxis index after 30mins odor exposure as compared with unexposed animals (paired t-test, $*:p < 0.05$). (B) Chemotaxis was examined for wildtype animals and animals expressing TAX-4 tagged with the N-terminal of Venus and TAX-2 tagged with the C-terminal of Venus. Each

group exhibited significant changes in their chemotaxis index after 30mins odor exposure as compared with unexposed animals (paired t-test, $^*p < 0.05$). **(C)** Chemotaxis assays were performed on wildtype animals and animals expressing TAX-4 tagged with the N-terminal Venus and TAX-4 tagged with the C-terminal Venus. In each case animals' exhibited significant changes in their chemotaxis index after 30mins odor exposure as compared with unexposed animals (paired t-test, $^*p < 0.05$). **(D)** Chemotaxis assays were performed on wildtype animals and animals expressing TAX-4 tagged with the N-terminal Venus and CNG-3 tagged with the C-terminal Venus. In each case animals' exhibited significant changes in their chemotaxis index after 30mins odor exposure as compared with unexposed animals (paired t-test, $^*p < 0.05$). Error bars represent S.E.M for all graphs.

Figure S4. Non-transfected HEK cells do not exhibit activity after cGMP stimulation. When cGMP is applied to a patch from non-transfected HEK cells there is no activity response detected.

Figure S1

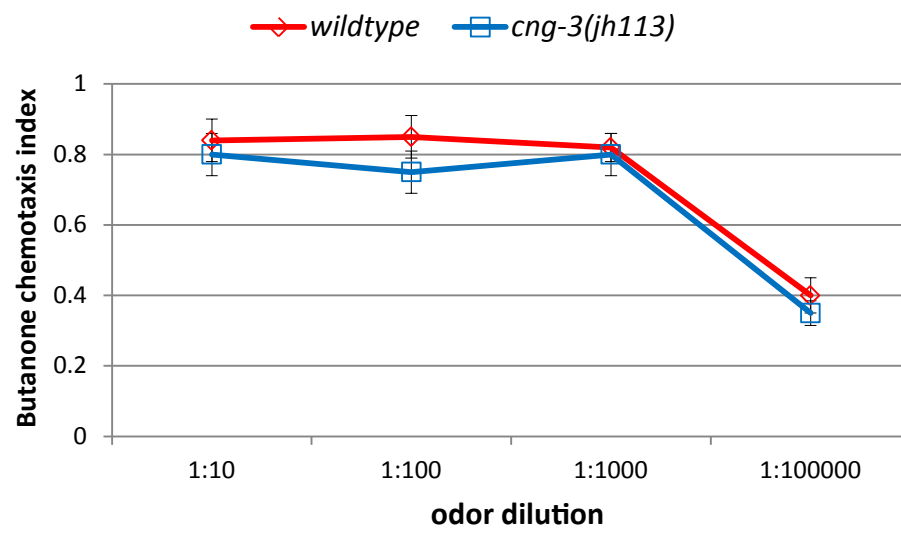


Figure S2

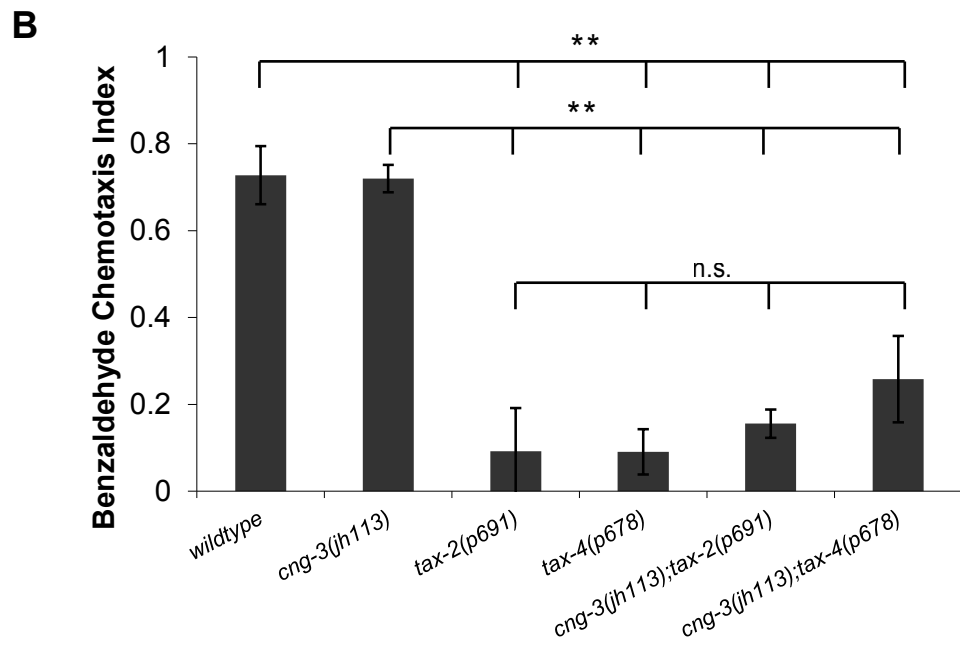
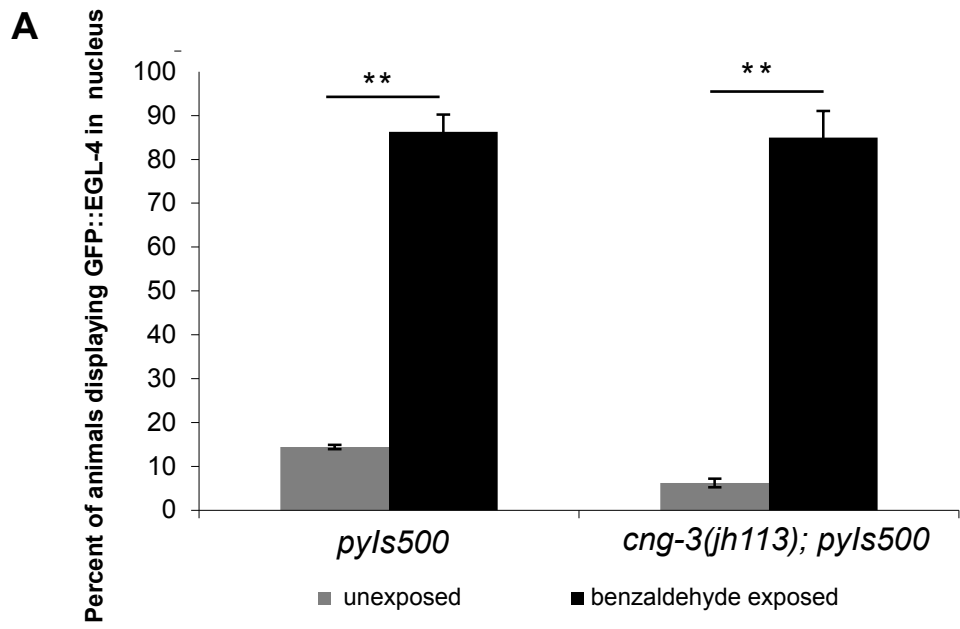


Figure S3

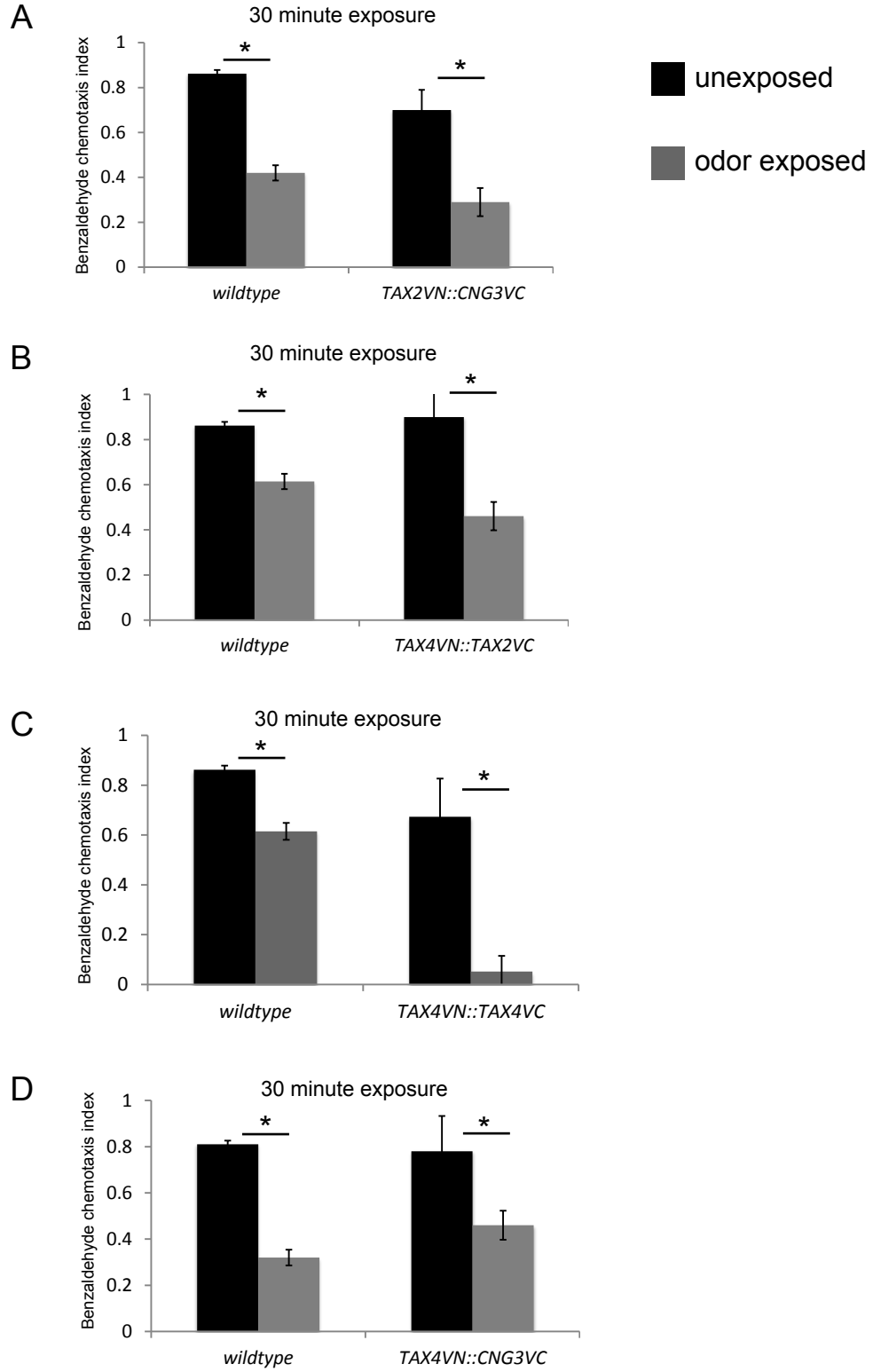


Figure S4

