

Supplementary Information

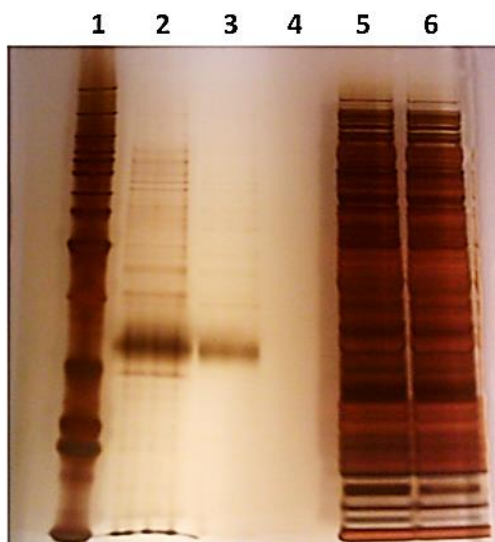
Cell-free expression, purification, and ligand-binding analysis of *Drosophila melanogaster* olfactory receptors DmOR67a, DmOR85b, and DmORCO

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Supplementary Figure 1: Complete silver stain of DmOR85b purification (from Figure 3b). Lane 1: Ladder. Lane 2: Purified DmOR85b after concentration, loaded on gel at $\sim 10X$ the concentration in lane 3 to visualize the impurities. Lane 3: purified DmOR85b; lane 4: wash 20; lane 5: flow through after capture on Rho ID4-beads; lane 6: cell-free reaction immediately after protein synthesis.

Supplementary Table 1: Goodness-of-Fit Statistics for Ligand Binding Experiments

Sample	$K_D(\mu\text{M})$	MSE	Pseudo R^2	AIC
DmOR67a+DmORCO+EB	0.5±0.2	2.4	0.79*	6.87*
DmOR67a+EB	1.2±2.1‡	5.9	0.29	7.77
DmORCO+EB	4.8±3.6	1.1	0.74*	6.11*
DmOR67a+DmORCO+2H	5.7±11.2‡	5.1	0.37	7.63
DmOR85b+DmORCO+2H	0.8±0.4	3.2	0.73*	7.18*
DmOR85b+2H	0.7±1.1‡	7.2	0.35	7.97
DmORCO+2H	1.5±2.3‡	6.2	0.32	7.83
DmOR85b+DmORCO+EB	+	+	N/A	N/A

+Data did not converge; curve could not be fit

*Goodness-of-fit statistics are sufficient to indicate binding

‡The 95% confidence interval is very wide and includes physiologically impossible values, suggesting a poor fit, and either weak or no binding.

MSE – mean squared error; EB – ethyl benzoate; 2H – 2-heptanone

K_D 's are expressed as ± 95% confidence interval in this table. In the text, they are expressed as ±S.E.