SUPPLEMENTAL FIGURES AND LEGENDS

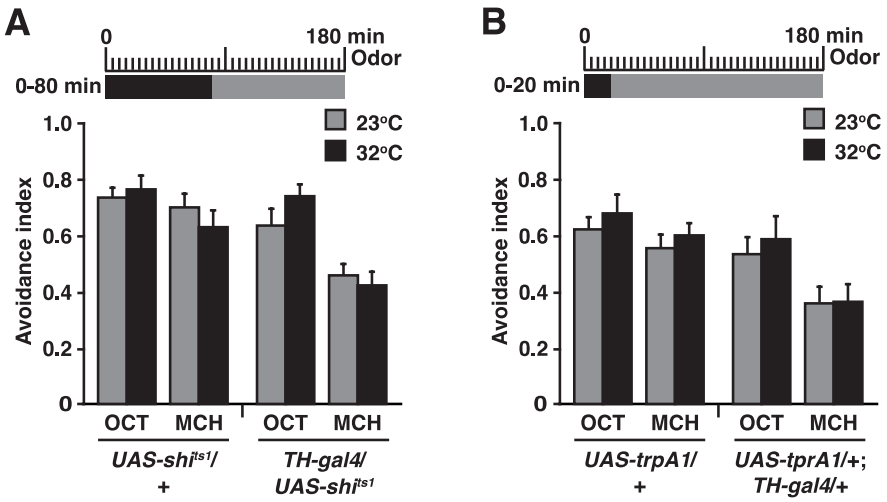

Figure S1. Olfactory avoidance controls, related to Figure 1

(A) Avoidance to odors used for conditioning was measured 3 hr after an 80 min treatment at 32^{o}C for all genotypes. There was no significant change in odor avoidance between temperatures within any genotype (OCT, P ≥ .488; MCH, *P* ≥ .819; n ≥ 8).

(B) There was no significant change in odor avoidance between temperatures within any genotype (OCT, P ≥ .983; MCH, *P* ≥ .988; n ≥ 8).

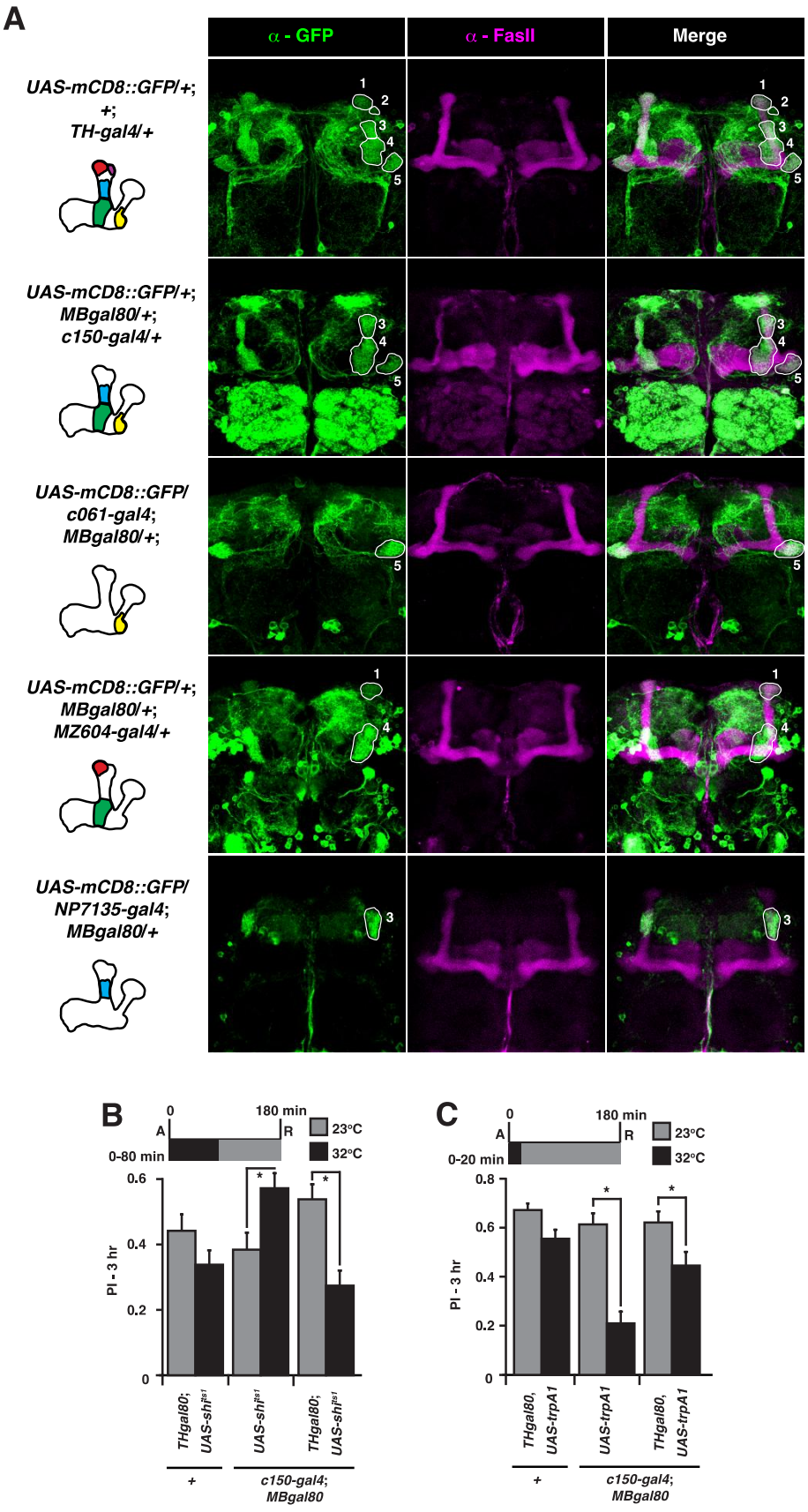
A
α - GFP
α - FasII
Merge
UAS-mCD8::GFP/+;
+;
TH-gal4/+
UAS-mCD8::GFP/+;
MBgal80/+;
c150-gal4/+
UAS-mCD8::GFP/
c061-gal4;
MBgal80/+;
UAS-mCD8::GFP/+;
MBgal80/+;
MZ604-gal4/+
UAS-mCD8::GFP/
NP7135-gal4;
MBgal80/+
1
2
3
4
5
B
0
180 min
A
R
23°C
32°C
0-80 min
PI - 3 hr
0.6
0.4
0.2
0
*
THgal80;
UAS-shits1
UAS-shits1
THgal80;
UAS-shits1
+
c150-gal4;
MBgal80
C
0
180 min
A
R
23°C
32°C
0-20 min
PI - 3 hr
0.8
0.6
0.4
0.2
0
*
THgal80,
UAS-trpA1
UAS-trpA1
THgal80,
UAS-trpA1
+
c150-gal4;
MBgal80

Figure S2. PPL1 GAL4 driver expression patterns and DAN exclusion experiments, related to Figure 2.

(A) Brains from each genotype were fixed and stained with primary antibodies to both GFP (green) to visualize PPL1 DANs, and FasII (magenta) to visualize MB neurons. Images represent a maximum projection through the mushroom body lobes. White outlines encircle zones of innervation from the distinct PPL1 DAN classes represented by each *gal4* line. Each zone is numbered 1-5 (1 = α tip, 2 = α' tip, 3 = upper stalk, 4 = lower stalk/junction, 5 = heel/peduncle (Mao and Davis, 2009). The *c150-gal4* line also expresses in a few DANS that do not project to the MBs as revealed by anti-TH staining (data not shown).

(B) 3 hr PI after an 80 min heat exposure was compared between animals carrying *c150-gal4*, *MBgal80*, and *UAS-shi^{ts1}* with or without *THgal80*. There was a significant increase in PI associated with high temperature for *MBgal80*/+; *c150-gal4*/*UAS-shi^{ts1}*, but a significant decrease in PI for *MBgal80*/*THgal80*; *c150-gal4*/*UAS-shi^{ts1}* (*, $P \leq .05$, $n \geq 10$).

(C) 3 hr PI after a 20 min heat exposure compared for animals carrying *c150-gal4*, *MBgal80*, and *UAS-trpA1* with or without *THgal80*. Performance was significantly decreased in both *MBgal80*/*UAS-trpA1*; *c150-gal4*/+ flies and in *MBgal80*/*THgal80*,*UAS-trpA1*; *c150-gal4*/+ flies for within genotype comparisons. In comparisons across genotypes at 32^{o}C, *MBgal80*/*UAS-trpA1*; *c150-gal4*/+ flies exhibited significantly lower performance than *MBgal80*/*THgal80*,*UAS-trpA1*; *c150-gal4*/+ or *THgal80*,*UAS-trpA1*/+ flies (*, $P \leq .05$, $n \geq 8$).