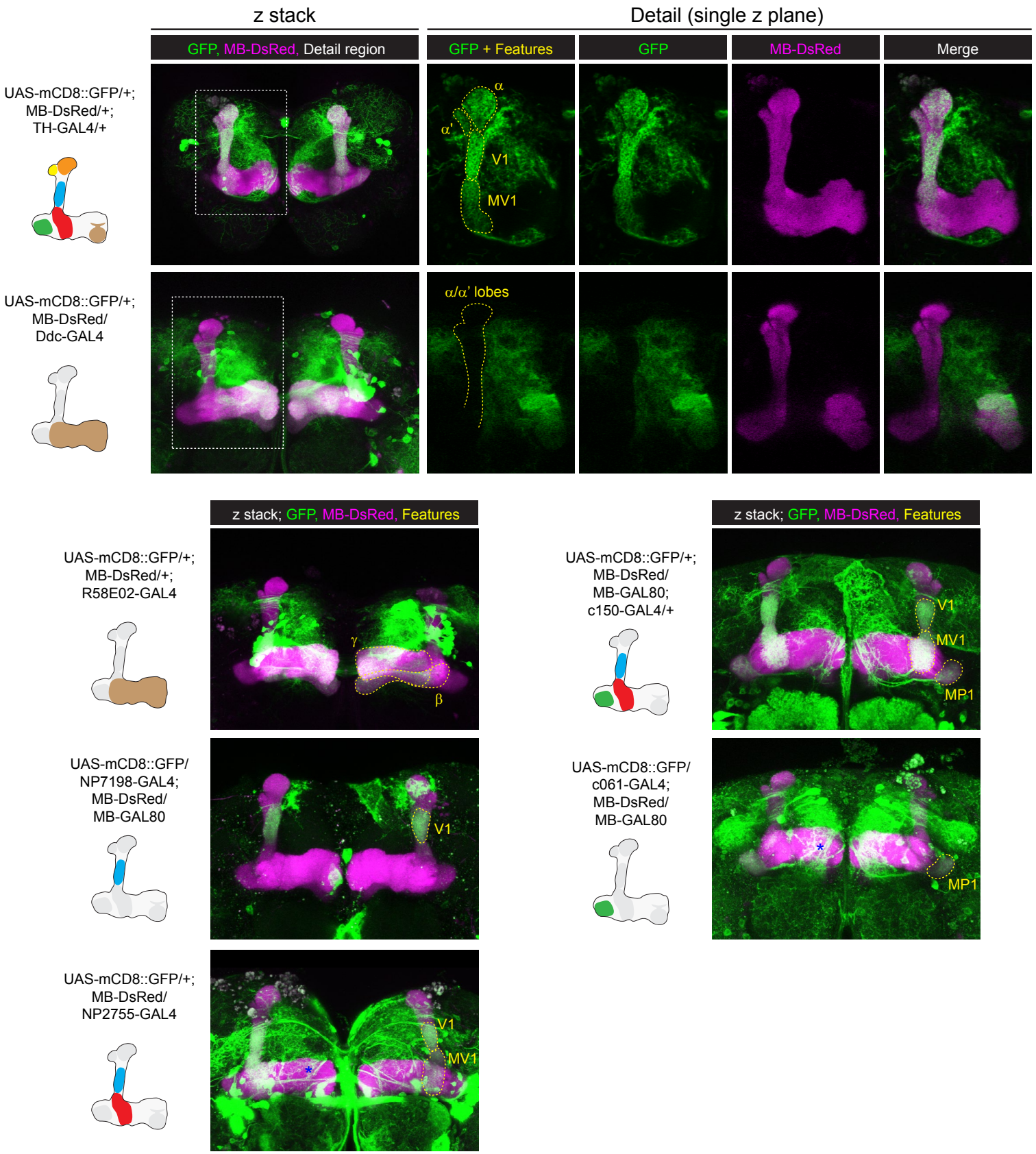

Figure S1, related to Figure 3. **Expression patterns of the GAL4 drivers used in this study.** In the top two rows, the left panel is a maximum intensity z projection, with the right panels showing a single z plane to highlight features of the MB innervation of the driver. The bottom three rows are z projections, with the MB innervation indicated by the dashed yellow outline. Blue asterisks indicate non-overlapping expression in different z planes.

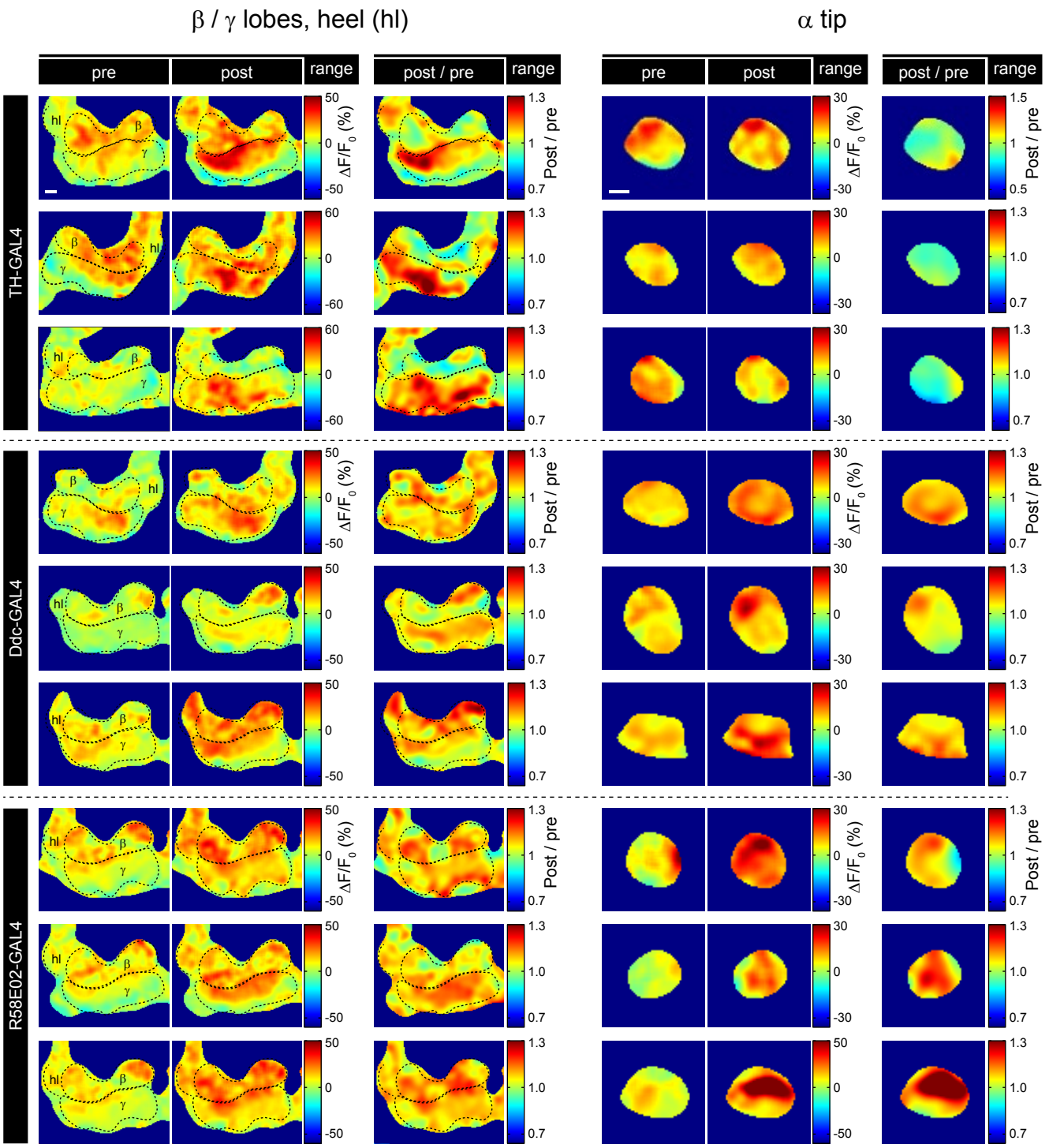

Figure S2, related to Figure 4. **Comparison of odor responses pre- and post-conditioning with different GAL4 drivers in representative flies.** Pseudocolored images showing the response magnitude (MB-GCaMP3 $\Delta F/F_0$) before and after conditioning, as well as the change in response following conditioning (post/pre response) using three GAL4 lines to drive TRPA1. Regions of the β/γ lobes and heel (hl) corresponding to the quantified regions of interest were outlined by following the edges of the GCaMP fluorescence in the raw images (Fig. 4). The γ lobe was differentiated from β by its higher basal fluorescence. Each set of images is from a different animal. Note the lack of calcium response plasticity in the α/β lobes in the TH-GAL4 flies. Scale bars = 20 μm.

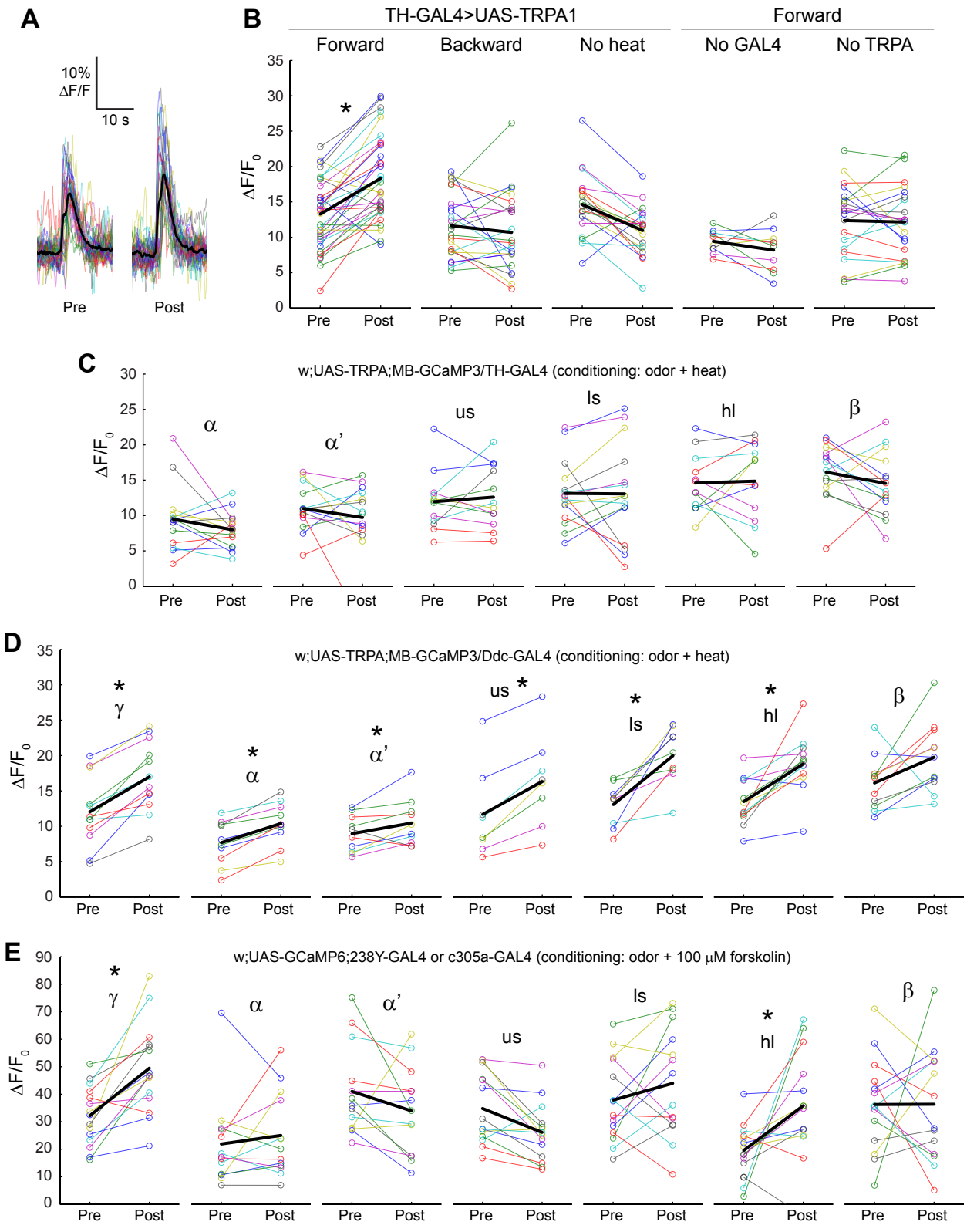

Figure S3, related to Figure 5. **Raw data from Ca^{2+} imaging experiments.** A. Raw odor responses before (Pre) and after (Post) conditioning (TH-GAL4, forward, γ). B. Peak odor response magnitudes for TH-GAL4 experiments involving forward and backward pairing, along with controls. C-D. Odor response magnitudes pre-and post-training across MB regions for TH- and Ddc-GAL4. E. Odor response magnitudes pre-and post-forskolin application (100 μM) across MB regions. All regions were imaged in 238Y-GAL4>UAS-GCaMP6 flies, except α', which was recorded in c305a-GAL4>UAS-GCaMP6 flies. us: upper stalk, ls: lower stalk, hl: heel. *p < 0.05 (Wilcoxon signed-rank tests).

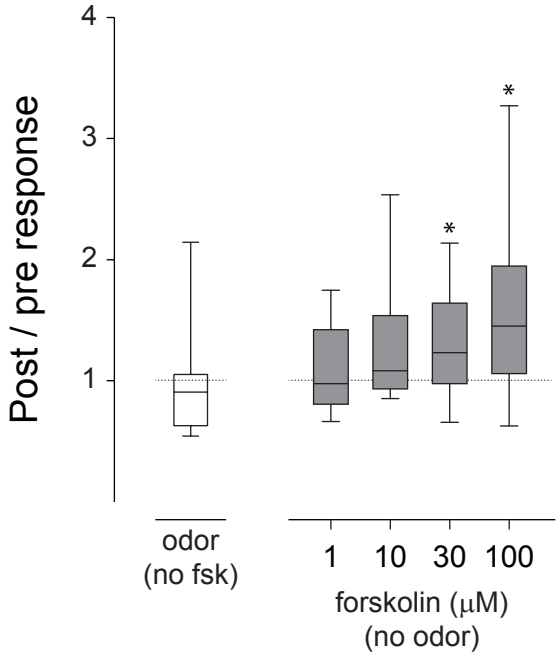

Figure S4, related to Figure 6. **Calcium response changes in the γ lobe following unpaired presentation of odor or forskolin.** There was no significant change in odor response magnitudes following a 30-s odor presentation with no forskolin (white bar, left). Adding forskolin in the bath for 30-s with no odor presentation produced a significant increase in the post-washout odor response at 30 μM and 100 μM (Wilcoxon signed-rank tests; *$p < 0.05$).