

Supplementary Figures

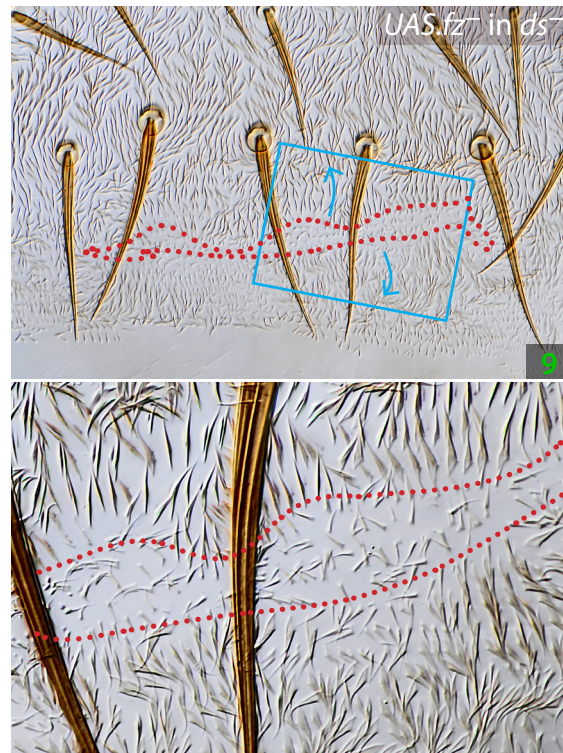


Figure S1. *fz*-overexpressing clone in the P compartment of a *ds*⁻ fly.

Hairs point outwards from the clone with range of 2-7 cells. Cells of the clone are marked with *pawn*, and outlined in red dots. Blue arrows indicate orientation of hairs. Blue box is enlarged below.

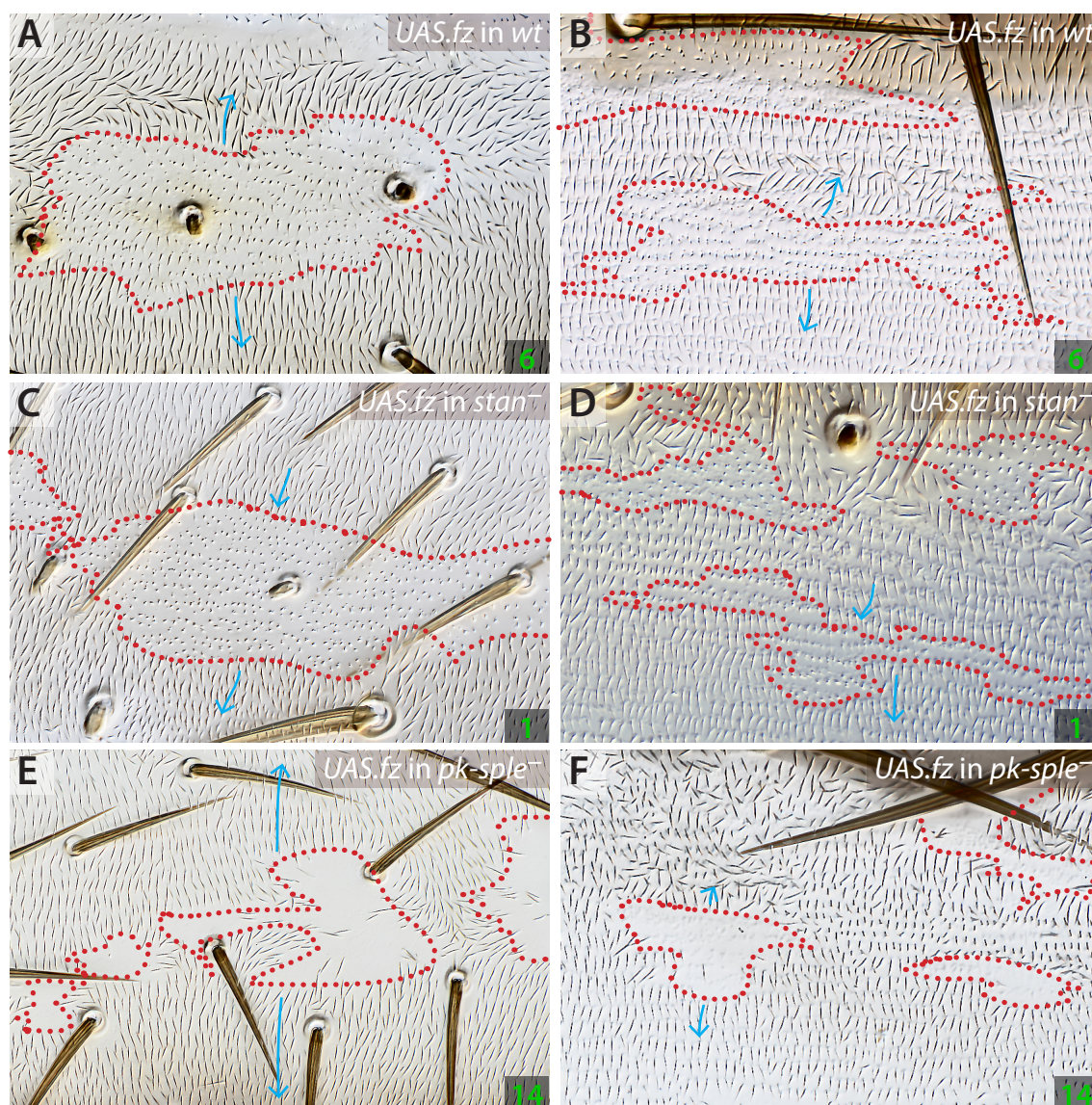


Figure S2. The effects of *fz*-overexpressing clones on various genetic backgrounds in the A and P compartments —compare with Figure 2.

A compartments (A, C and E), P compartments (B, D and F). The clones polarise responding wildtype cells outwards in both compartments (A and B). This effect is blocked when the Stan/Fz system is broken (*stan*⁻) (C and D). In a *pk-sple*⁻ background the sign is also outwards but the range of repolarisation is strongly reduced in the A compartment (E and F). Clones are variously marked, see Genotypes in **Materials and Methods**.

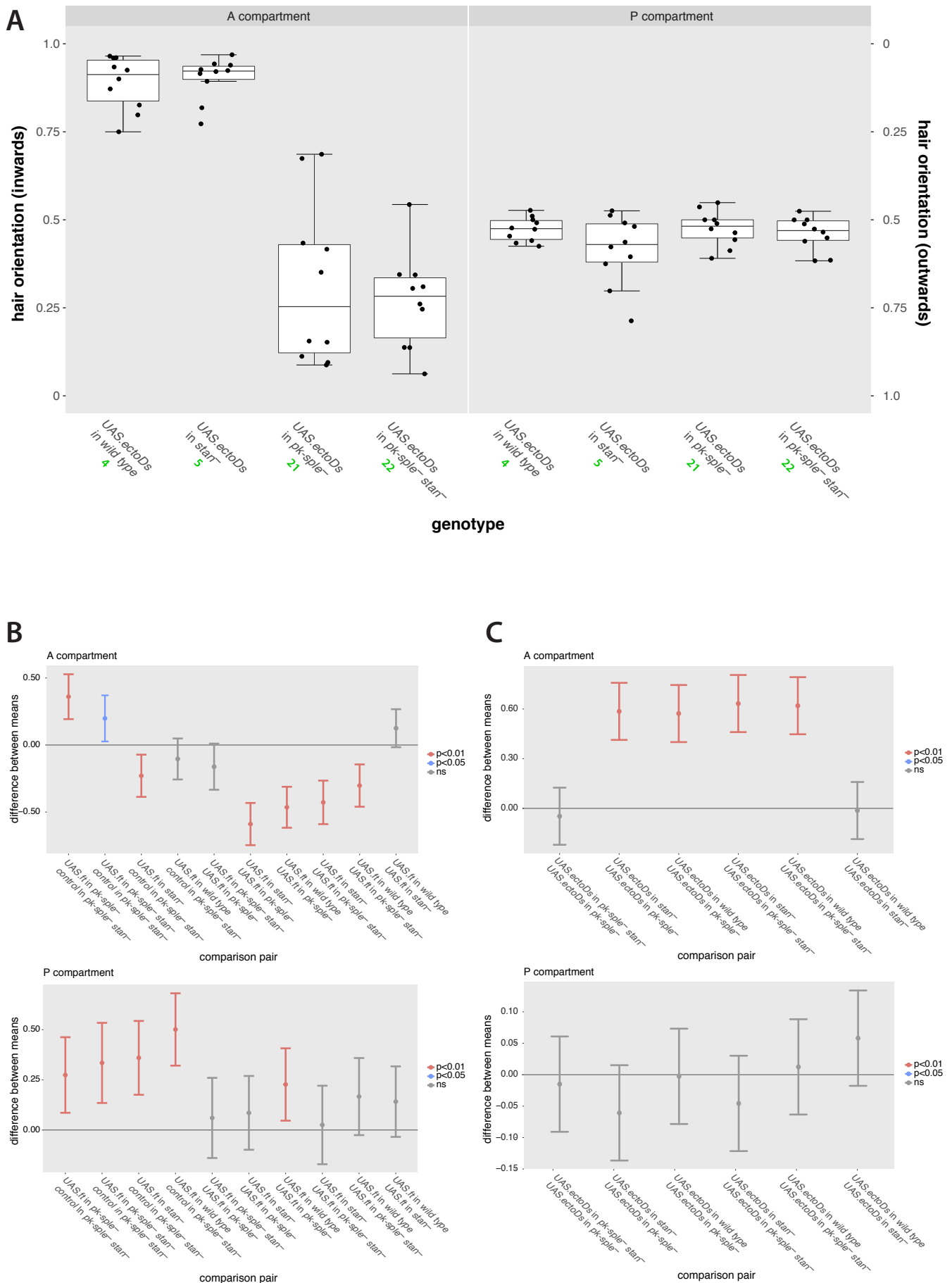


Figure S3. Results of similar experiments to those in Figure 3, but here the clones were overexpressing the ectodomain of Ds.

The results are comparable with those of Figure 3 in the A compartments (although of the opposite sign to *ft*-overexpressing clones, as expected (Casal et al., 2006). None of the clones had significant effects in the P compartment — this lack of response is most simply explained by high ambient level of Ds in P, which is suggested by *ds.LacZ* expression (Casal et al., 2002). A response was visible in flies that lack *four-jointed* (*fj*) (data not shown), which increases the range of signalling by the Ds/Ft system (Casal et al., 2006). One-way Anova with post-hoc Tukey HSD analysis showing levels of significance for Figure 3 and S3, below (vertical lines are the 95% confidence intervals).

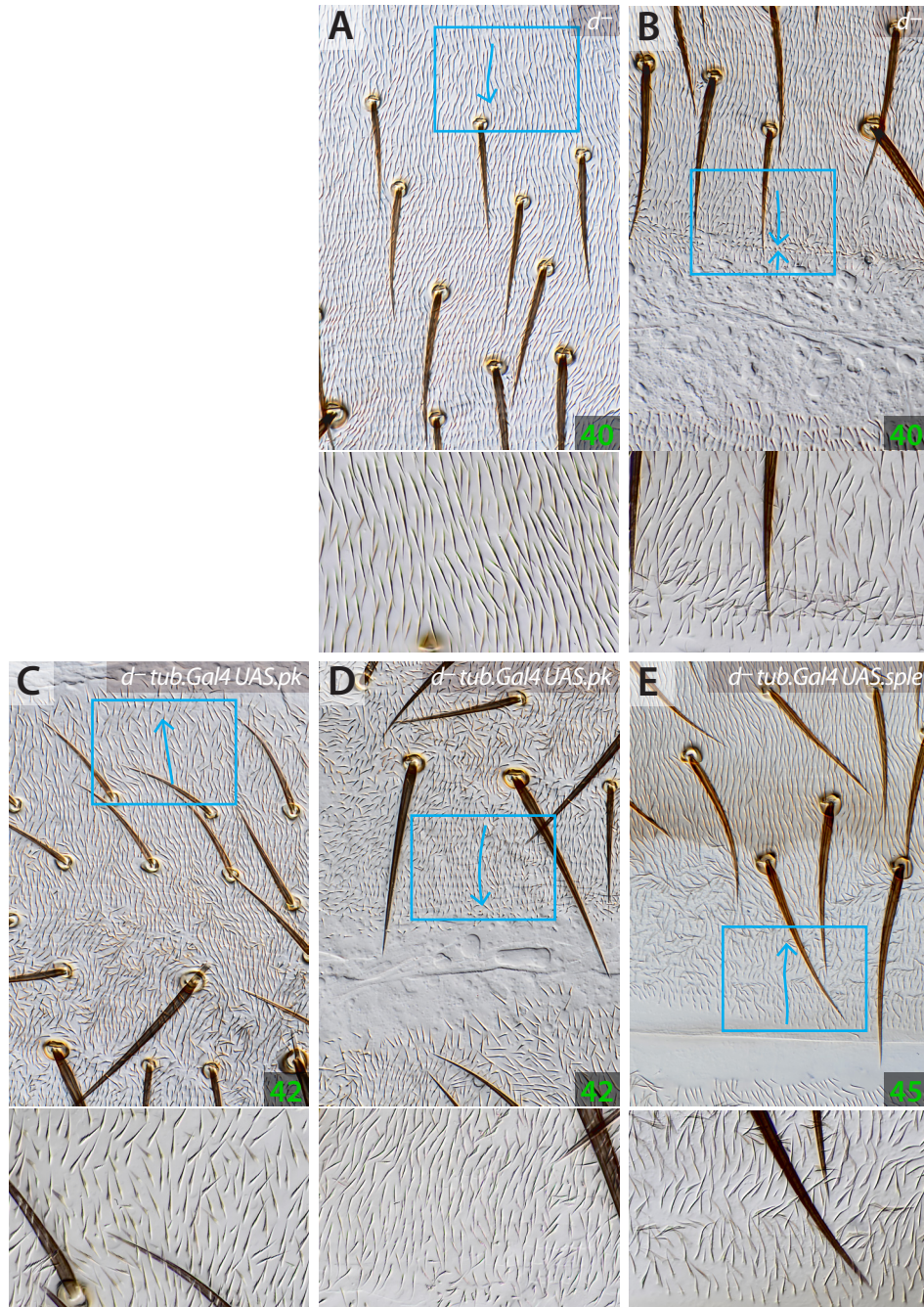
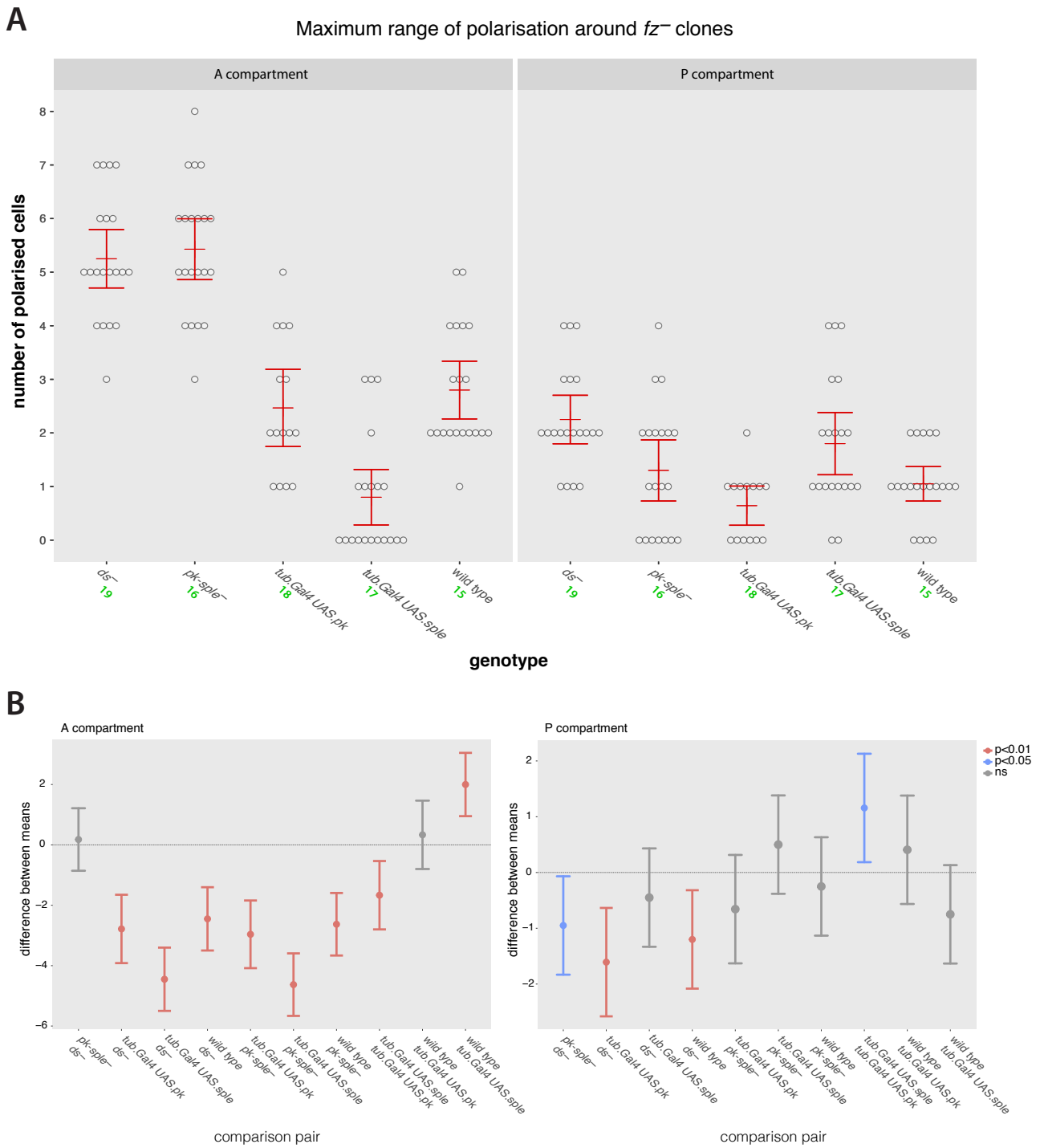


Figure S4. The effects of overexpression of *pk* and *sple* in *d-* flies.

In this background the effects of extra Pk are as in *ft-* *d-* flies: the anterior part of the A compartment points forward and the polarity of the P compartment is “rescued” (compare C and D with A and B; see Figure 5). However extra Sple increases the area of anteriorwards polarity in the P compartment (compare E with B; see Figure 6).



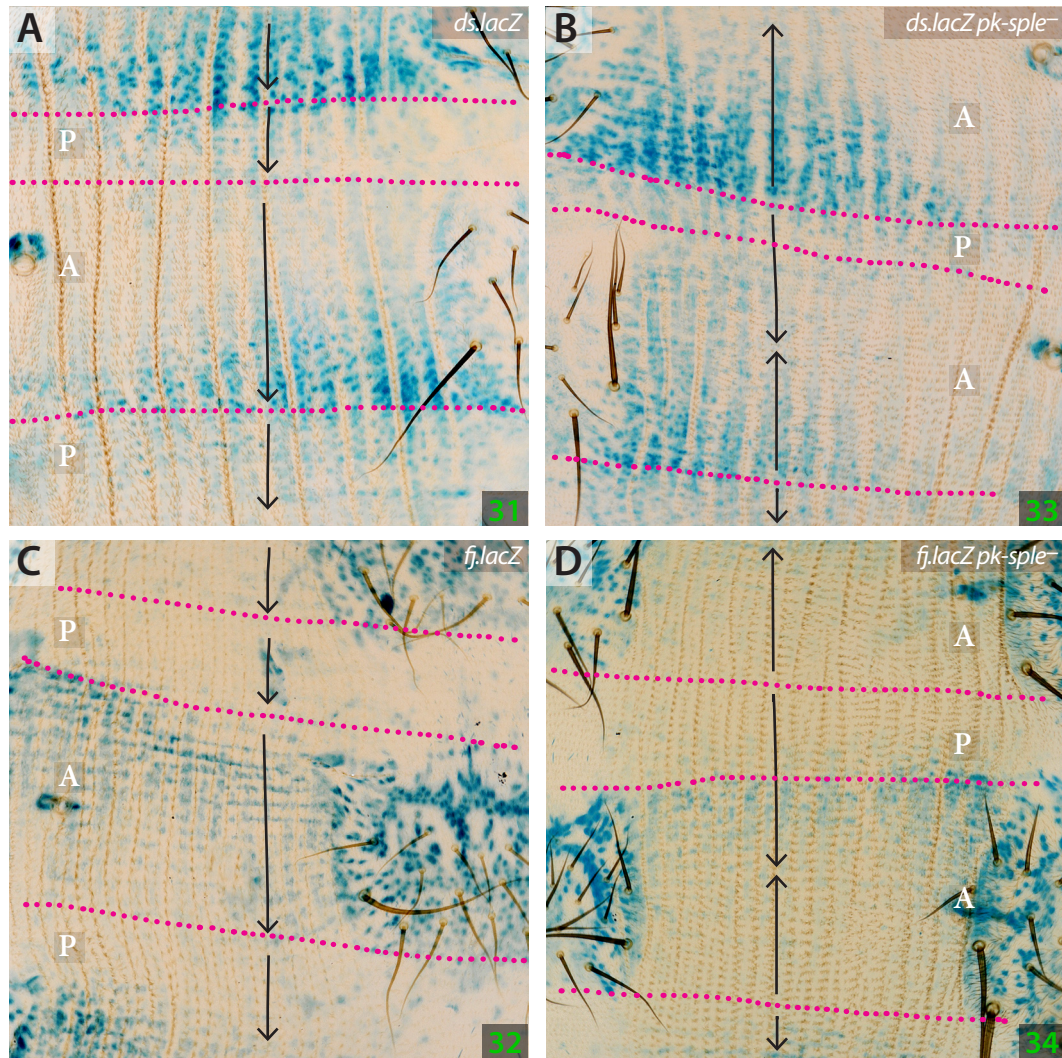


Figure S6. Ventral cuticle of the abdominal segments stained for lacZ.

A, *ds.lacZ* expression; **B**, *ds.lacZ* expression in *pk-sple*⁻; **C**, *fj.lacZ* expression; **D**, *fj.lacZ* expression in *pk-sple*⁻. Red dots delineate the approximate boundaries between the A and the P compartments. Arrows indicate the orientation of cell hairs in the pleura.

References

- Casal, J., Lawrence, P. A. and Struhl, G.** (2006). Two separate molecular systems, Dachsous/Fat and Starry night/Frizzled, act independently to confer planar cell polarity. *Development* **133**, 4561-4572.
- Casal, J., Struhl, G. and Lawrence, P. A.** (2002). Developmental compartments and planar polarity in *Drosophila*. *Curr. Biol.* **12**, 1189-1198.