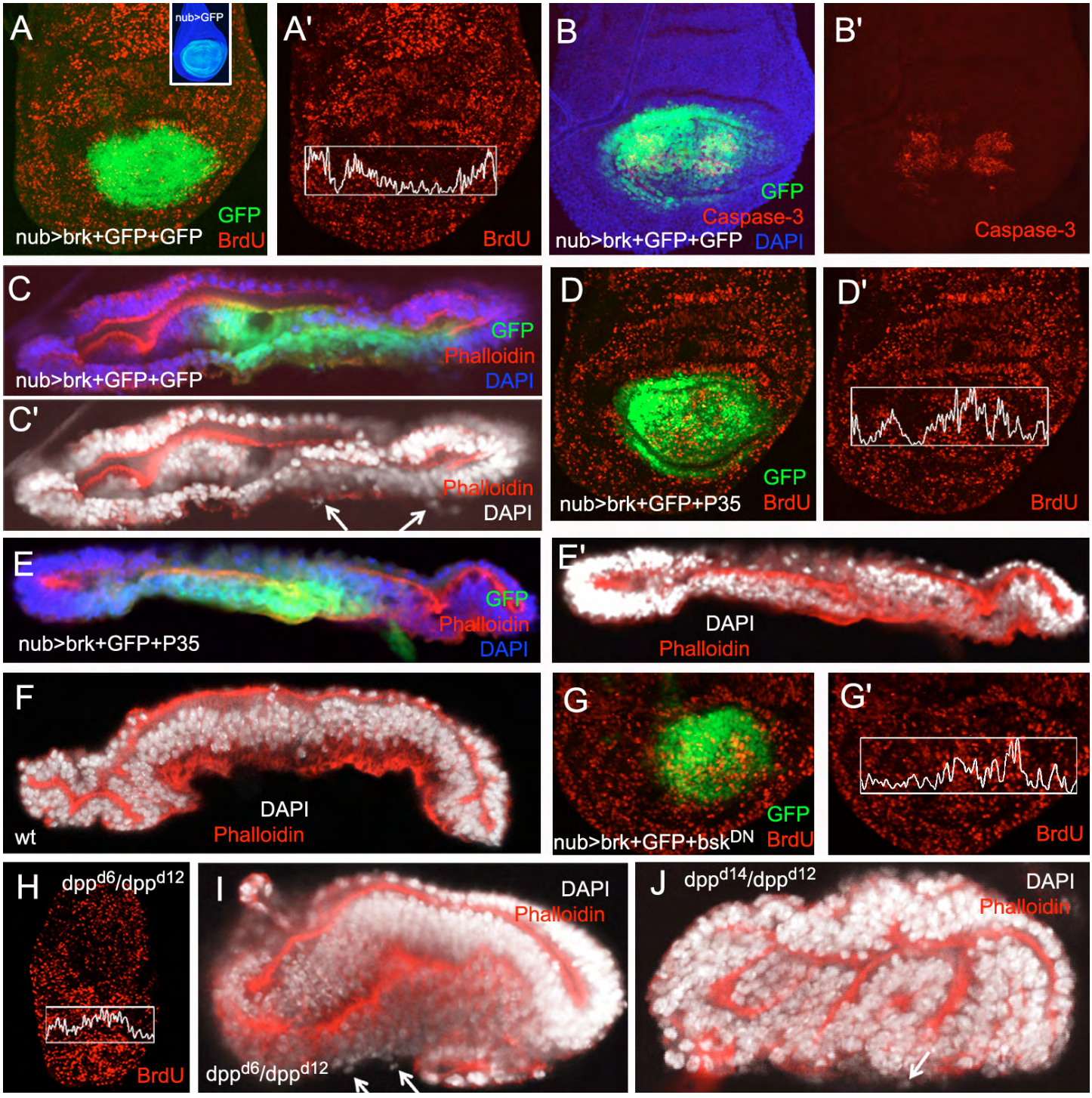

Fig. S1. nub>brk induces apoptosis and defective cell/tissue morphogenesis. (C,E-G,I,J) Transverse sections (*x-z* images). Arrows indicate extruded cells. (**A-C′**) Expressing *brk* by nub-Gal4 induced decreased proliferation (A), cell death (B) and changes in tissue morphogenesis as well as cell extrusion (C). Inset in A shows the nub-Gal4 expression pattern. (**D-G′**) Repressing cell death rescued the defect in proliferation (D,G) but not in tissue morphogenesis (E). Wild-type control (F). (**H-J**) *dpp* mutant wing discs showed medially enhanced proliferation (H) along with extrusion of cells and disruption of normal tissue morphology (I,J).

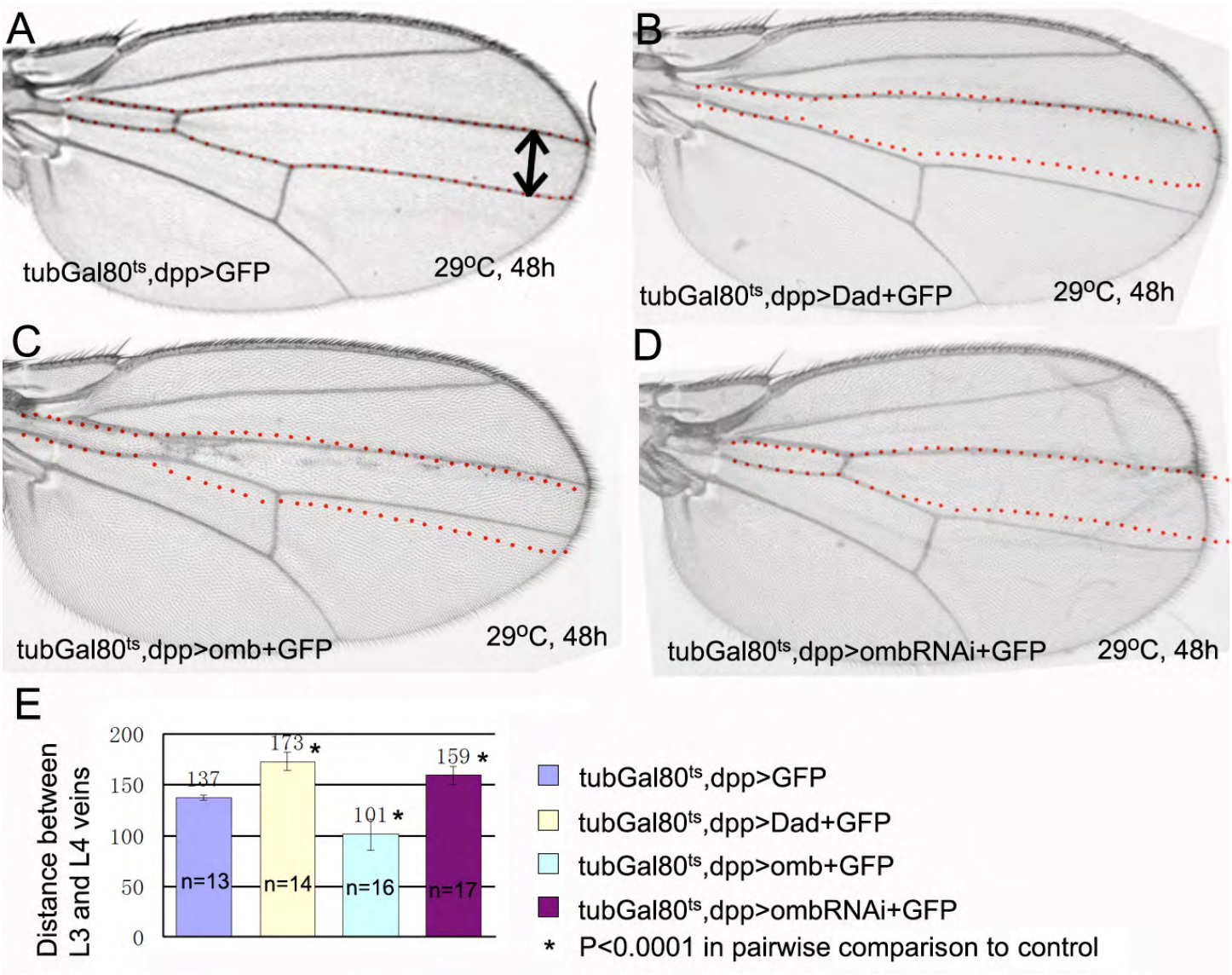

Fig. S2. Attenuated Dpp-Omb signaling increases the distance between L3 and L4 in the adult wing. Red dotted lines outline the normal position of L3 and L4 as observed in the control wing. (**A**) Control wing. (**B**) Repression of Dpp signaling by expressing Dad in the dpp-Gal4 domain increased the distance between L3 and L4. (**C**) Expressing *omb* in the dpp-Gal4 domain reduced the distance between L3 and L4. (**D**) Repression of *omb* in the dpp-Gal4 domain increased the distance between L3 and L4. (**E**) Statistics of the L3-L4 distance measurements (in arbitrary units). *t*-tests of pairwise comparisons showed significant differences between control and the three experimental genotypes ($P<0.0001$). Error bars indicate s.d.

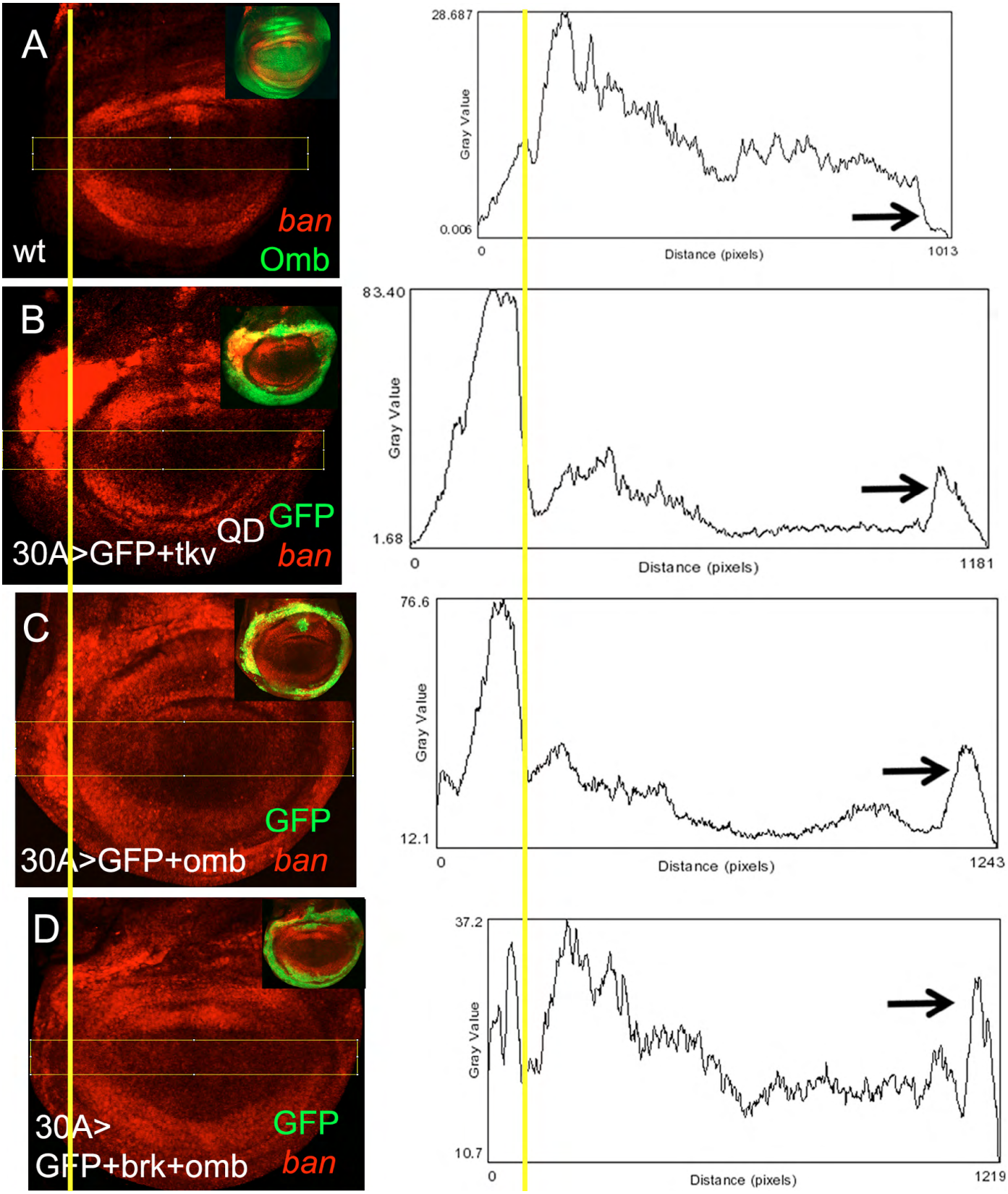

Fig. S3. Quantification of *ban* expression. Omb or Dpp signaling was manipulated in the 30A-Gal4 domain as indicated. A to D correspond to A, C, D and E of Fig. 3. Fluorescence intensities were measured (by ImageJ) in the boxed regions. Panels are oriented such that the anterior hinge-pouch fold is in vertical register (yellow line). (**A**) Low *ban* expression in lateral wing disc. (**B**) Lateral Tkv^{QD} induced *ban* expression in the lateral wing disc. Upregulated *ban* only occurred in the lateral regions where *omb* was elevated, but not in pleura and medial hinge where *omb* was not induced. (**C**) 30A>omb induced *ban* expression in the entire 30A-Gal4 domain. (**D**) When *brk* and *omb* were co-expressed, *ban* was still upregulated laterally. Note that the 30A-Gal4 activity in D was weaker than in B and C. *brk* overexpression apparently attenuated 30A-Gal4 activity. In all three 30A-Gal4-driven experiments, lateral upregulation of *ban* by Tkv^{QD} or Omb was stronger anteriorly than posteriorly, which reflects lateral differences in Gal4 activity (see insets in B-D). This also implies that *ban* is sensitive to the level of Omb in the lateral wing.

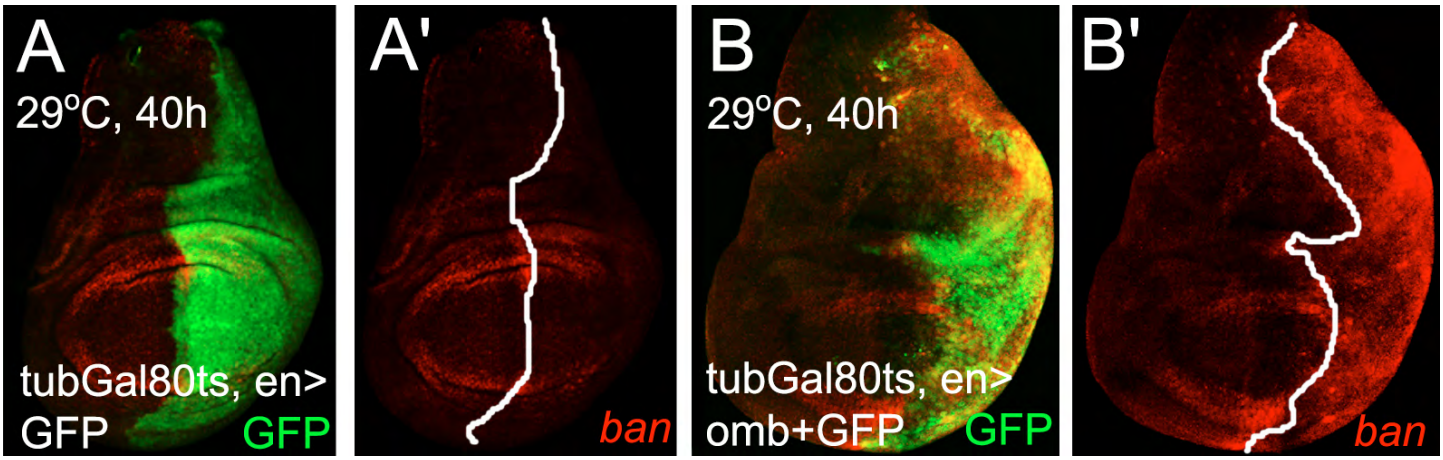

Fig. S4. Omb induces *ban* expression in the lateral wing. (**A**,**A′**) Control experiment. (**B**,**B′**) Expressing *omb* by en-Gal4 under temporal Gal80^{ts} control for 40 hours induced the elimination of posterior pouch and enhanced lateral *ban* expression.