Supplementary Figures

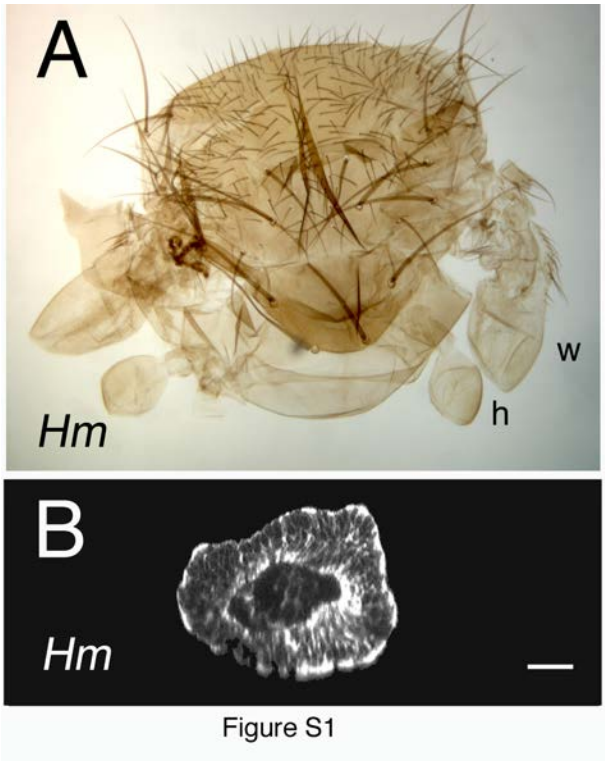


Figure S1

Figure S1. Haltere mimic mutant phenotype. (A) *Hm* mutant, in which *Ubx* is ectopically expressed in the wing pouch, showing transformation of wings (w) into halteres (h). B) In *Hm* mutants the wing disc at 6h APF is transformed into a haltere disc (compare with Fig. 1F and I; optical frontal section) (n=8).

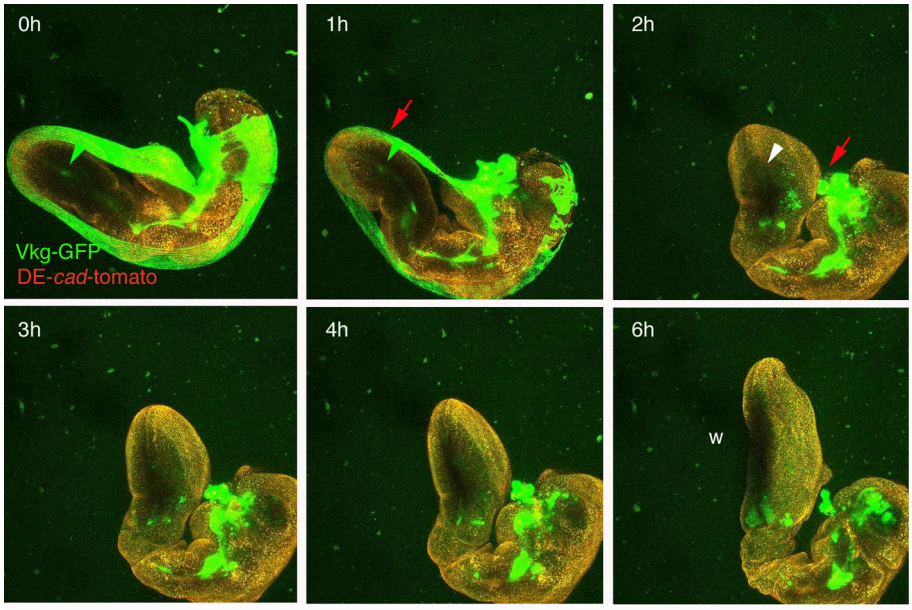


Figure S2

Figure S2. Vkg-GFP dynamics and wing disc development. Snapshots from Movie S1, showing that Vkg-GFP is present in the early wing pupal pouch (green arrowheads) but its expression is lost later on (white arrowhead), after retraction of the peripodial membrane (red arrows) and disc eversion. In this and subsequent Figure legends corresponding to movies, numbers indicate hours in the movie, which, however, do not exactly correspond to developmental hours in the pupa. The first snapshot (0h) corresponds, as in other movies, to approximately 3h APF. w, wing.

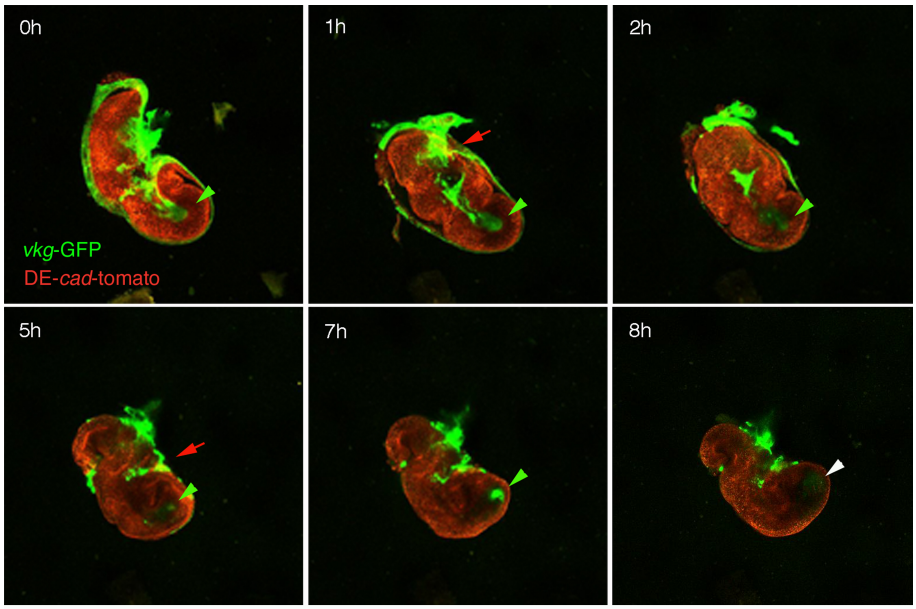


Figure S3

Figure S3. Vkg-GFP dynamics and haltere disc development. Snapshots from Movie S2, showing that Vkg-GFP is present in early and late haltere pupal pouches (green arrowheads), after retraction of the peripodial membrane (red arrows). See legend to Fig. S2 for explanation about the time of development.

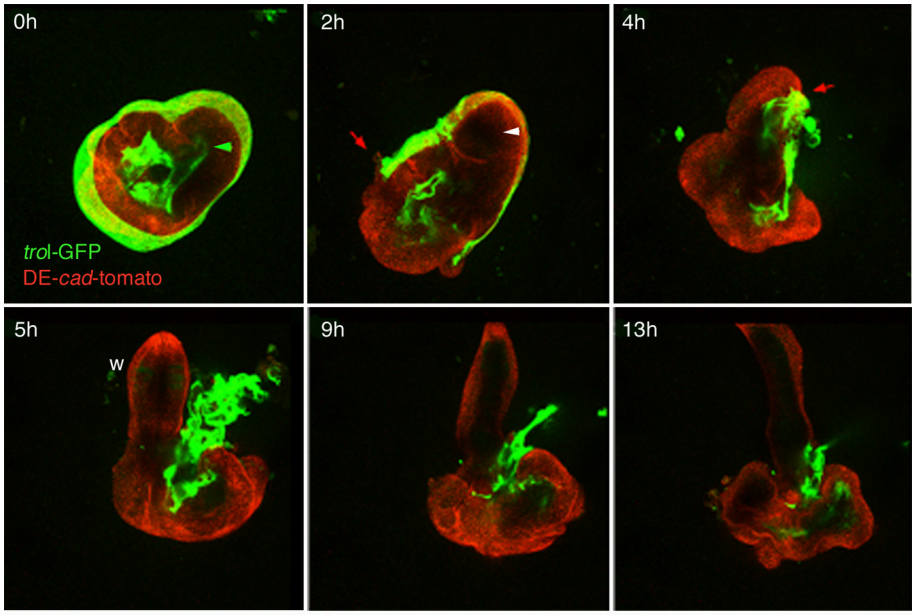


Figure S4

Figure S4. Trol-GFP dynamics in wing disc development. Snapshots from Movie S3, showing that *trol* is expressed in the early wing pupal pouch but is degraded at later stages. The red arrows, green and white arrowheads, as described in the previous Figures. w, wing. See legend to Fig. S2 for explanation about the time of development.

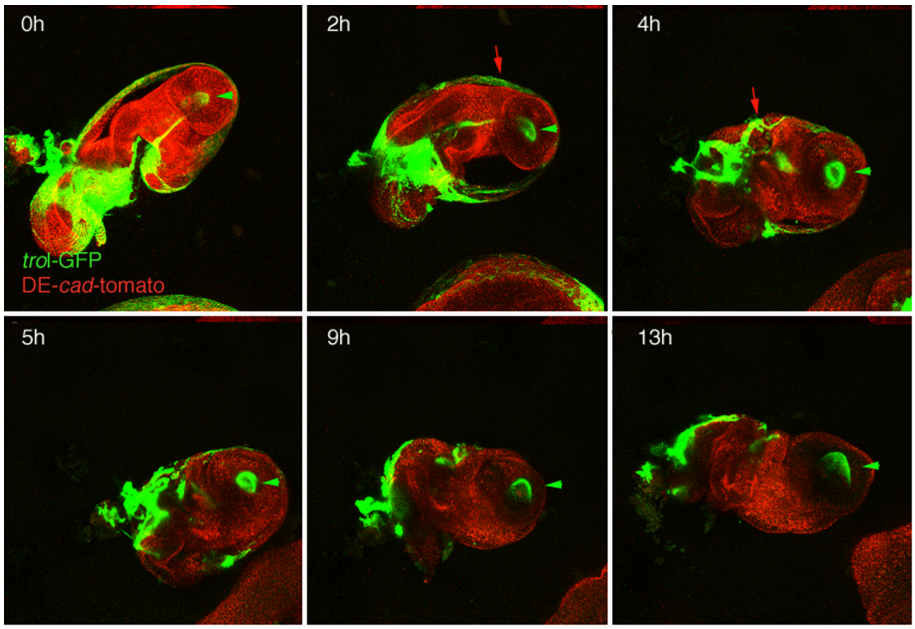


Figure S5

Figure S5. Trol-GFP dynamics in haltere disc development. Snapshots from Movie S4, showing there is Trol-GFP signal even after disc eversion. See legend to Fig. S2 for explanation about arrows, arrowheads and the time of development.

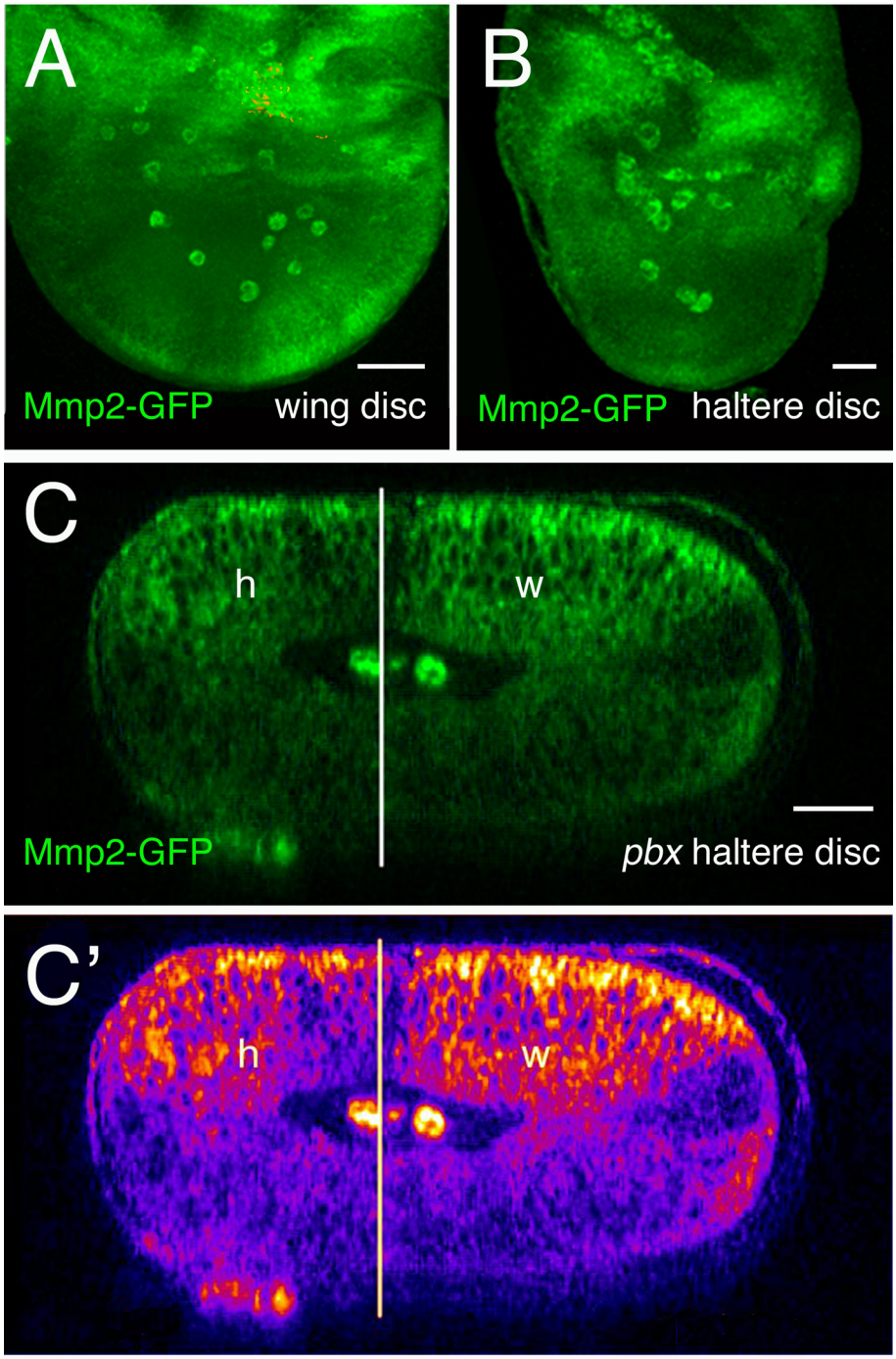
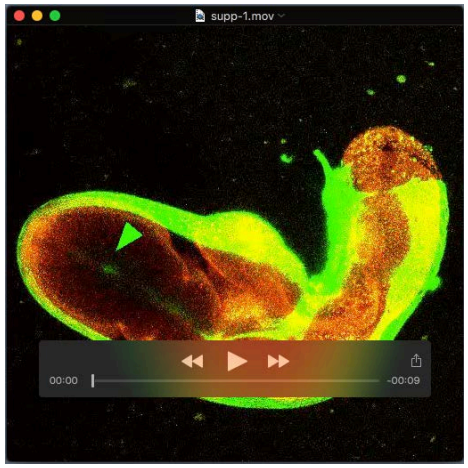


Figure S6

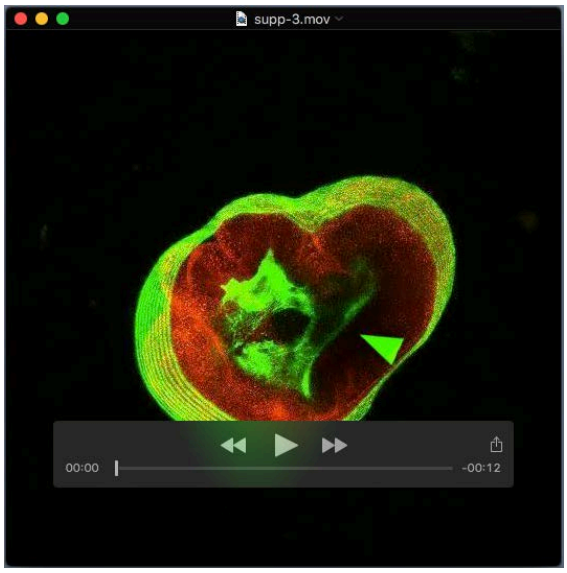
Figure S6. Mmp-2-GFP distribution in wing and haltere discs. A, B) There is Mmp2-GFP signal both in wing (A) and haltere (B) early pupa imaginal discs, with non-uniform distribution, but with more clear differences in some cells distant from the lumen (optical transversal sections; distal part of the appendage at the bottom) (n=4). C) Optical frontal section of the haltere pouch of a *Mmp2*-GFP/+; *pbx*/*DfUbx*^{109} pupa (n=3). C') The same figure than C with "fire" filter that shows with better resolution Mmp2-GFP levels. There are no major differences in Mmp2-GFP signal in the cells abutting the lumen, between wing (w) and haltere (h) tissue, except in some dorsal cells.

Supplementary movies

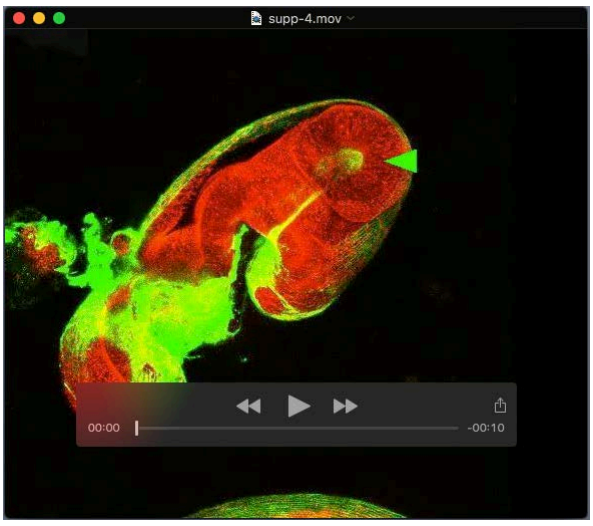


Movie S1. Vkg-GFP signal in a cultured pupal wing disc. The movie shows the eversion of the disc, retraction of the peripodial membrane and elongation of the wing primordium. See that Vkg-*GFP* is present in the wing pouch early (green arrowhead) but not after eversion of the disc (white arrowhead). In this and subsequent movies, numbers indicate hours in the movie, which, however, do not exactly correspond to developmental hours in the pupa. All the movies start approximately at 3h APF.

Movie S2. Vkg-GFP signal in a cultured pupal haltere disc. It shows the eversion of the disc and retraction of the peripodial membrane. See that, contrary to what happens in the wing disc, Vkg-GFP expression persists after these events.



Movie S3. Trol-GFP dynamics in a cultured pupal wing disc. The movie shows the eversion of the disc, retraction of the peripodial membrane and elongation of the wing primordium. Trol-GFP is not present at late stages (white arrowhead).



Movie S4. Trol-GFP dynamics in a cultured pupal haltere disc. The movie shows the eversion of the disc and retraction of the peripodial membrane. In the haltere disc, Trol-GFP expression persists for longer than in the wing disc.