Figure S5  Example of Hto line analysis: XTC expresses a full-length Klumpfuss transcription factor fused to FLAG-mCherry. (A) Insert map for XTC (see Fig. 3 for key). (B) XTC was expressed using Hsp70-GAL4 and RNA recovered for RT-PCR. Sequence of the RT-PCR amplicon is shown; the Hto exon splices precisely to exon 3 of klu as indicated in (A). (C) Closeup of the ms1096>XTC wing phenotype; note ectopic bristles. Bar, 200 μm. (D) Dorsal view of ey-GAL4>XTC head; the eyes are converted into small beds of bristles and most of the head is lost. Bar, 200 μm. (E) SEM (uncoated, low-vacuum mode; see Tardi et al. 2012) of retina from two sibs bearing GMR-GAL4, without (upper) or with XTC (lower). GMR>XTC eye lacks discernable ommatidia and is covered with tufts of bristles. Bar, 20 μm. (F-I) With pnr-GAL4, which expresses GAL4 in a stripe along the dorsal midline, XTC displays several unusual phenotypes. Dorsal views of pnr>XTC adults (G, I) and a wild type sib with XTC but no driver (F, H) raised at 18°C to allow viability. The head is fused to the thorax by a thick neck-like structure (H vs I); the thorax is also fused to the abdomen with loss of the scutellum (F vs G). Anterior portion of the thorax is wider; bristles are mispatterned and duplicated (G). Bar, 200 μm for (F-G); 100um for (H-I). (J-K) XTC induced in the salivary glands using Hsp70-GAL4 (expression levels vary from cell to cell). XTC fusion (grayscale in J, red in K) is primarily nuclear. Cells with low-level expression (e.g., arrowhead) polytenize and grow normally; cells with higher expression remain stunted, resulting in a misshapen gland. Green in (K) is SYBR Green DNA stain. Bar, 100 μm.