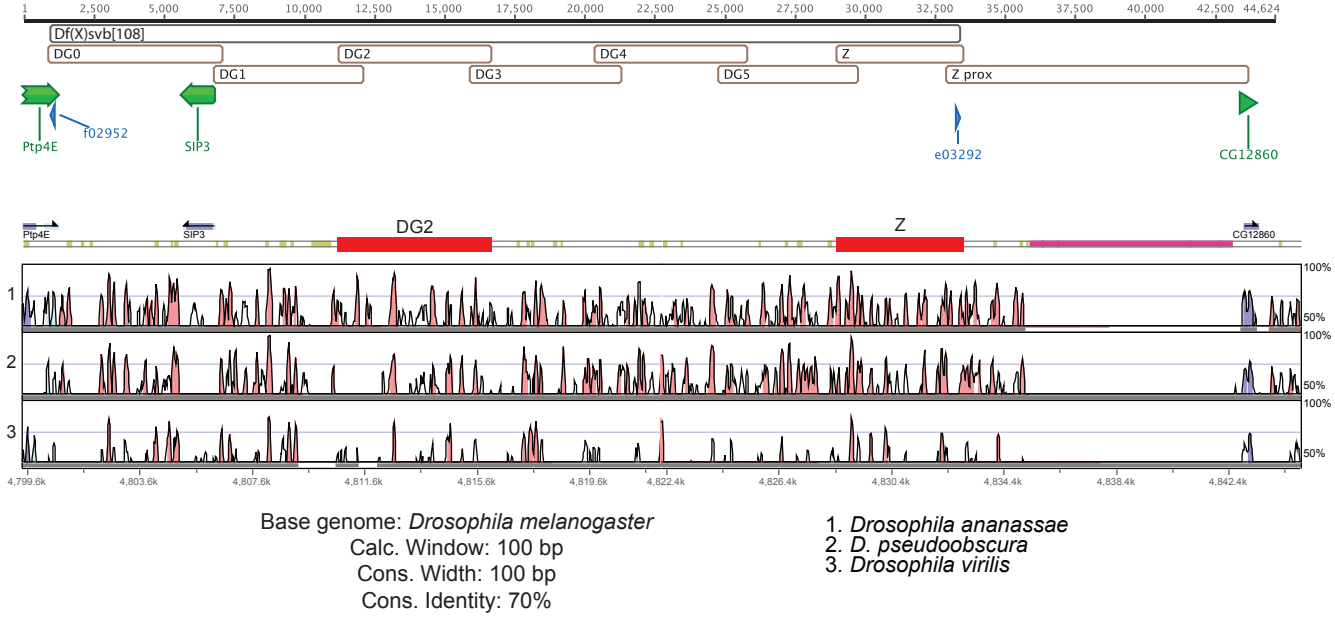
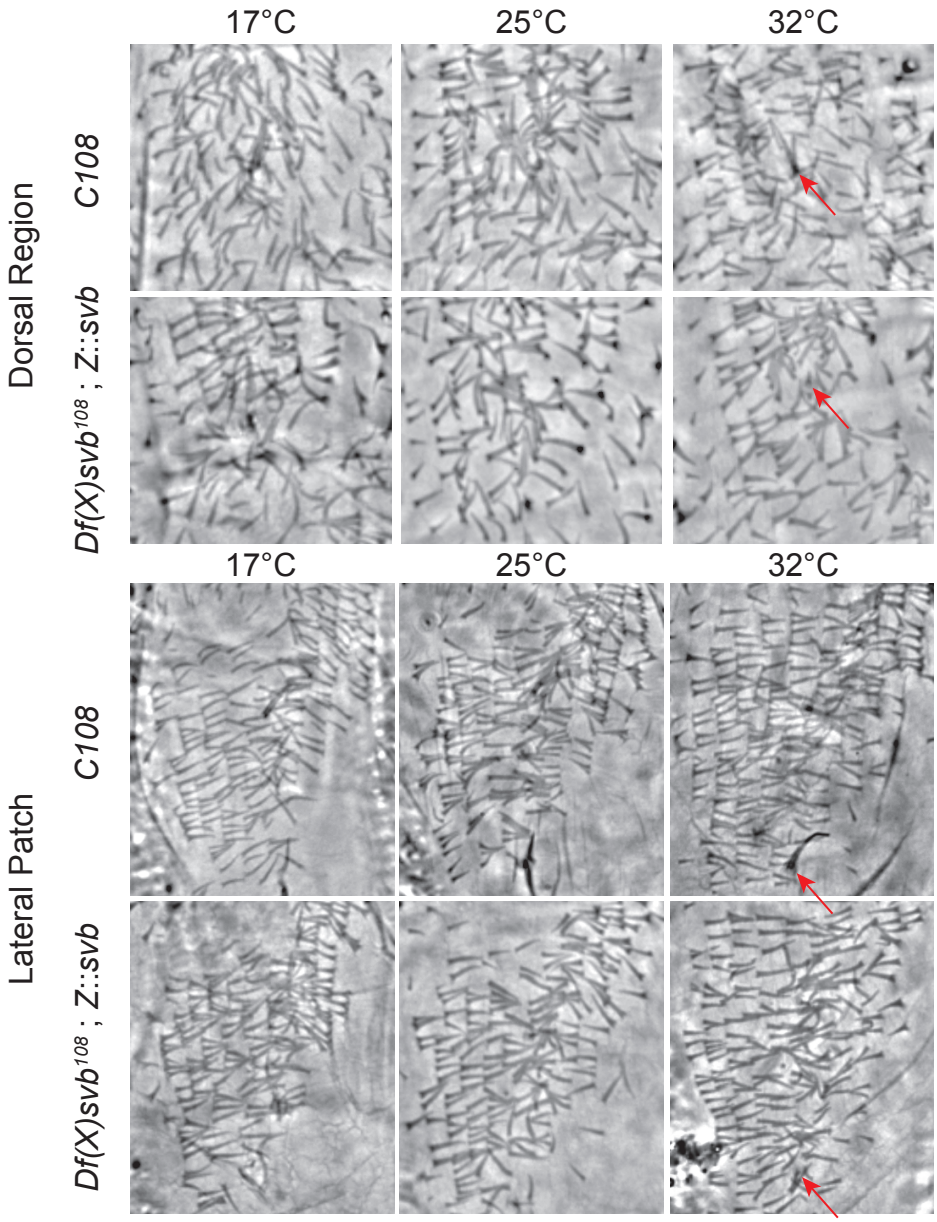


Supplementary Figure 1. A map showing the locations of the fragments used for the reporter assays is shown at the top. Below, a VISTA plot (http://genome.lbl.gov/vista) of the same genomic region upstream of *svb* enhancer *A*, between genes *Ptp4E* and *CG12860*. A VISTA plot of the region from the *svb* gene to the gene CG12680 was published previously (McGregor et al.2007.*Nature*.448: 587-591).The alignment compares *D. melanogaster* to *D. pseudoobscura*, to *D. ananassae*, and to *D. virilis*, revealing high conservation peaks throughout almost the entire region. The exception is a *roo* transposable element present only in the *D. melanogaster* genome (in magenta). The red rectangles indicate the positions of the newly-discovered enhancers.

Supplementary Figure 2. Lateral views of reporter gene expression driven by *D. melanogaster Z* and *DG2* at embryonic stages 14 and 15. The ß-galactosidase reporter driven by *Z* is targeted to the cytoplasm, whereas the ß-galactosidase driven by DG2 has a nuclear localization signal. Both reporters were detected with the same anti-ß-galactosidase antibody.



Supplementary Figure 3. A *Z*::*svb* transgene rescues the temperature-dependent loss of trichomes in *Df(X)svb*^{108} larvae. The dorsal region (above) and lateral patch (below) of first-instar larvae with genotypes *C108* and *Df(X)svb*^{108}; *Z*::*svb* reared at three different temperatures. In *Df(X)svb*^{108}; *Z*::*svb* larvae, the dorsal region shows little or no rescue at extreme temperatures, while the lateral patch shows complete rescue (see also Fig. 3). The red arrows highlight bristles on *C108* larvae that are lost in both *Df(X)svb*^{108} and, as shown here, *Df(X)svb*^{108}; *Z*::*svb* larvae.