

Fig. S1. *Tc-eve* expression dynamics in the germband. Germband embryos in progressively older stages of development were stained to visualize *Tc-eve* transcripts (purple) and Tc-ENGRAILED (Tc-EN) protein (golden brown). Following the classification adopted for *Tc-odd* by Sarrazin et al. (Sarrazin et al., 2012), we divided each cycle of *Tc-eve* into three phases: n.I, n.II and n.III, where n is the primary *Tc-eve* stripe that is being generated in the growth zone. In phase I, *Tc-eve* is expressed as a dot at the tip of each of the two ectodermal plates abutting the mesoderm. In phase II, *Tc-eve* expression expands to fill the growth zone. In phase III, *Tc-eve* clears from the posterior part of the growth zone forming a new stripe. Note that as each primary *Tc-eve* stripe matures, it splits into two transient secondary/segmental stripes that are eventually replaced by Tc-EN expression. The formation of the 8th primary stripe is delayed, as phase 8.I starts well after the 7th primary stripe has matured and split into secondary stripes. For the first four embryos, the classification used in Fig. 1 is also indicated (G1-G4). Anterior to left.

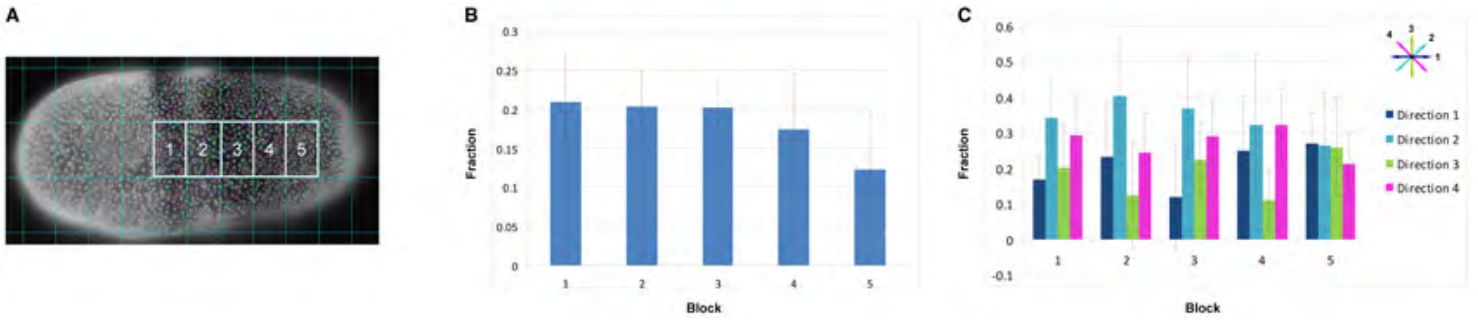


Fig. S2. No significant localized or oriented cell division in the segmented part of class B7 blastoderms. (A-C) Six B7 blastoderms undergoing mitoses in the region of the prospective germband were examined for localized or oriented cell division. The ventral side of each embryo was divided into 3×6 blocks of equal size, encompassing the domain of *Tc-eve* expression. We focused our analysis on the five blocks shown in A; anterior to the left. For each block, the number (B) and orientation (C) of mitotic figures was determined. (B) Similar numbers of mitoses (in all directions) were observed in each block, relative to the total number of mitoses in all five blocks, indicating that there is no significant localized cell division. The proportion of mitoses occurring in each orientation within each block is shown in C, which indicates no significant bias in the direction of cell divisions. Error bars represent s.d.

egg collection (hours AEL) \ cycle	cycle					
	3	4	5	6	7	8
22→25 (n = 82)	35.4%	54.9%	9.7%			
25→28 (n = 82)		20.5%	59%	20.5%		
28→31 (n = 35)			17.1%	51.4%	31.5%	
31→34 (n = 37)				16.2%	78.4%	5.4%
34→37 (n = 36)					38.9%	61.1%
37→40 (n = 23)					8.7%	91.3%
Average	5.9%	12.6%	14.3%	14.7%	26.2%	26.3%

Fig. S3. Primary *Tc-eve* stripes are generated approximately every 3 hours in the germband. The emergence of primary *Tc-eve* stripes from the growth zone was determined in consecutive 3-hour time windows, 22-40 hours after egg laying (AEL) at 23-24°C. The emergence of primary stripes 3-8 peaked in consecutive time windows, indicating that *Tc-eve* primary stripes emerge approximately with a 3-hour periodicity. The 7th cycle seems to last longer than previous cycles. However, most of the 7th cycle embryos found in 34-37 egg collection were in phase 7.III (86%, n=14), probably reflecting the delay in phase 8.I, which takes much longer to appear.