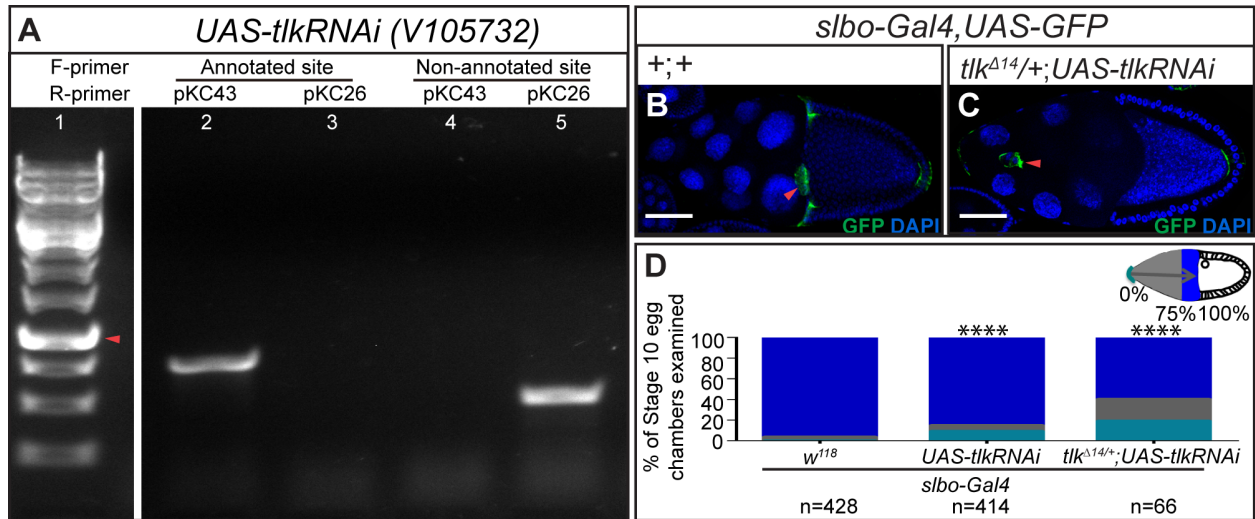


Supplemental Materials

Molecular Biology of the Cell

Xiang et al.

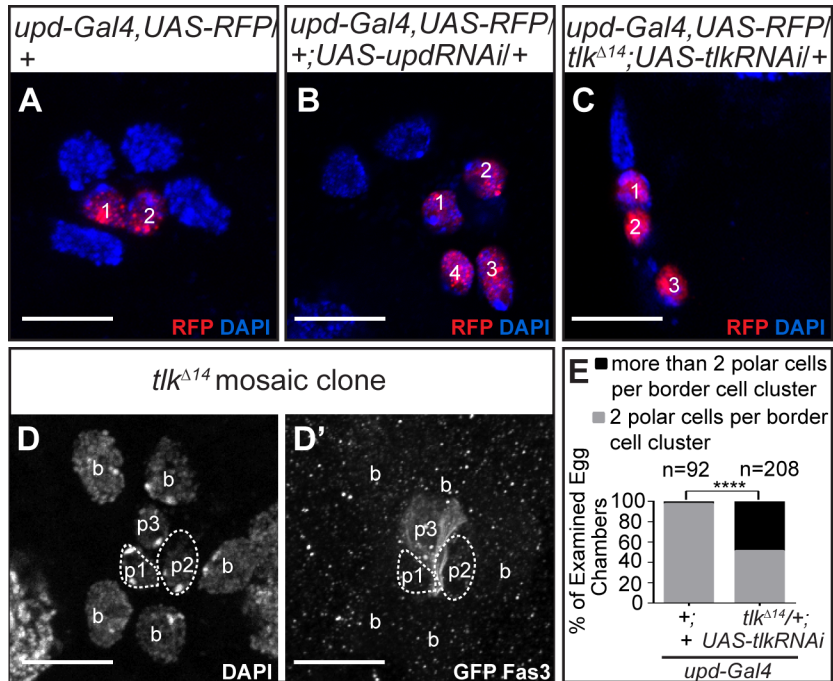
SUPPLEMENTAL MATERIAL



Supplemental Figure 1. PCR-based diagnosis of *UAS-tlkRNAi (V105732)* and phenotype test in border cells. (A) Lane 1 shows the 1kb ladder. Red arrowhead points to 1kb. The forward primer for lanes 2 and 3 is from the so-called annotated site. Reverse primers are for the pKC43 vector (lane 2) and the pKC26 vector (lane 3). In lanes 4 and 5, the forward primer is from the so-called non-annotated site and reverse primers are from pKC43 vector (lane 4) and pKC26 vector (lane 5). The white line in between lanes 1 and 2 indicates the deletion of some irrelevant lanes. (B, C) Confocal micrographs of Stage 10 egg chambers of the indicated genotypes. Red arrowheads indicate border cell clusters. Scale bars, 50 μ m. (D) Quantification of migration defects in the indicated genotypes. Flies were fattened at 29°C. We adopted Mann-Whitney U test to analyze the statistics significance of border cell migration defect, and **** indicates $p < 0.0001$.

Supplemental Table 1. Tlk is not required for polar cell or border cell viability.

Cell type	Genotype	% of cCasp-3 ⁺ egg chambers	N
Polar cells	<i>upd-Gal4, UAS-RFP</i>	0	101
	<i>tlk^{Δ14}/upd-Gal4, UAS-RFP, UAS-tlkRNAi</i>	0	71
Border cells	<i>tlk^{Δ14}/upd-Gal4, UAS-RFP, UAS-tlkRNAi</i>	0	71
Other follicle cells	<i>FRT101</i> clone	2.44	41
	<i>tlk^{Δ14}</i> clone	42.86	84



Supplemental Figure 2. *tlk* mutation in polar cells causes extra polar cells.

(A-D') Confocal micrographs of border cell clusters in indicated genotypes. (A-C) RFP and numerals label polar cells. (D and D') A border cell cluster containing two *tlk* mutant polar cells (p1 and p2, GFP-negative and Fas3-positive, circled by white dotted lines) and one wild type polar cell (p3, GFP-positive and Fas3-positive). Polar cells and border cells are labeled with "p" and "b", respectively. Scale bars, 10 μ m. (E) Quantification of egg chambers containing more than two polar cells per cluster. 52% of *upd-Gal4*>*UAS-tlkRNAi* egg chambers contained more than two anterior polar cells. We used t-test for statistical significance, and **** indicates p<0.0001.

Supplemental Table 2. Candidate border cell migration genes identified in the RNAi screen.

Gene	RNAi lines tested in 1 ^o screen	Border cell defect	Additional RNAi lines tested	Border cell defect	Mutant alleles tested	Border cell defect
<i>tlk</i>	V105732	+	B33983 B36102 B35298	+	<i>tlk</i> ^{Δ14} N.D. N.D.	+
<i>dom</i>	V7787 V7789	+	N.D. N.D.		<i>dom</i> ¹ <i>dom</i> ³	+
<i>asf1</i>	V23737 V23738 V107711	+	N.D. N.D. N.D.		N.D. N.D. N.D.	
<i>HDAC4</i>	V20522	+	N.D.		N.D.	
<i>not</i>	V45775 V45776	+	N.D. N.D.		N.D. N.D.	
<i>Usp7</i>	V18231	+	N.D.		N.D.	
<i>Mt2</i>	V37815	+	N.D.		N.D.	
<i>phol</i>	V26196	+	N.D.		N.D.	
<i>piwi</i>	V22235	+	N.D.		N.D.	

N.D. not determined