

Figure S1 Expression of *CG8312* in *bocks* deletion mutants. Shown is a graph of quantitative real time PCR analyses of RNAs obtained from *bocks*^{+/+}, *bocks*^{Δ10/Δ10} or *bocks*^{Δ66/Δ66} late, wandering third instar larvae. Fold change is set relative to the value obtained in *bocks*^{+/+} RNA and genes were normalized to *Rpl32*, with expression of *heat shock factor (hsf)* measured as an additional control. Error bars indicate standard deviation from three biological replicates. (*, p<0.05, Student's t-test).

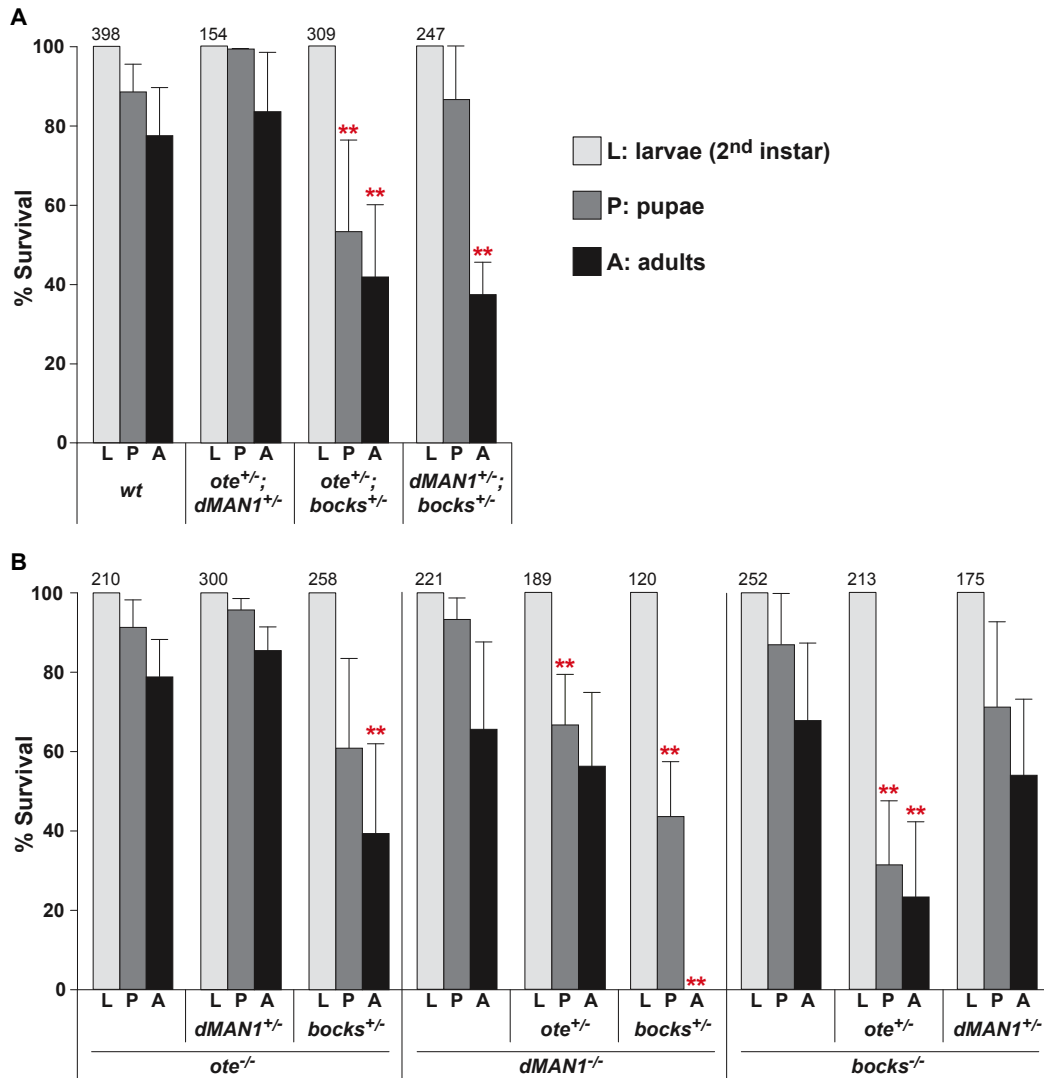


Figure S2 Lethal phase analysis of *lem-d* mutants. **A.** Shown is a graph of the percent survival of collected heterozygous *lem-d* double mutant second instar larvae (L) to pupae (P) and adults (A) of the indicated genotypes. **B.** Shown is a graph of the percent survival of heterozygous and homozygous *lem-d* double mutants, divided into sections by which *lem-d* gene is homozygous mutant. For each graph, the total number of second instar larvae analyzed is listed above each set of bars. At least three independent experiments were completed, with error bars corresponding to standard deviation. Student's t-test p-values were obtained by comparing the percent survival of the heterozygous *lem-d* double mutant with the homozygous *lem-d* single mutant at matching developmental stages (* = p<0.05, ** = p<0.01).

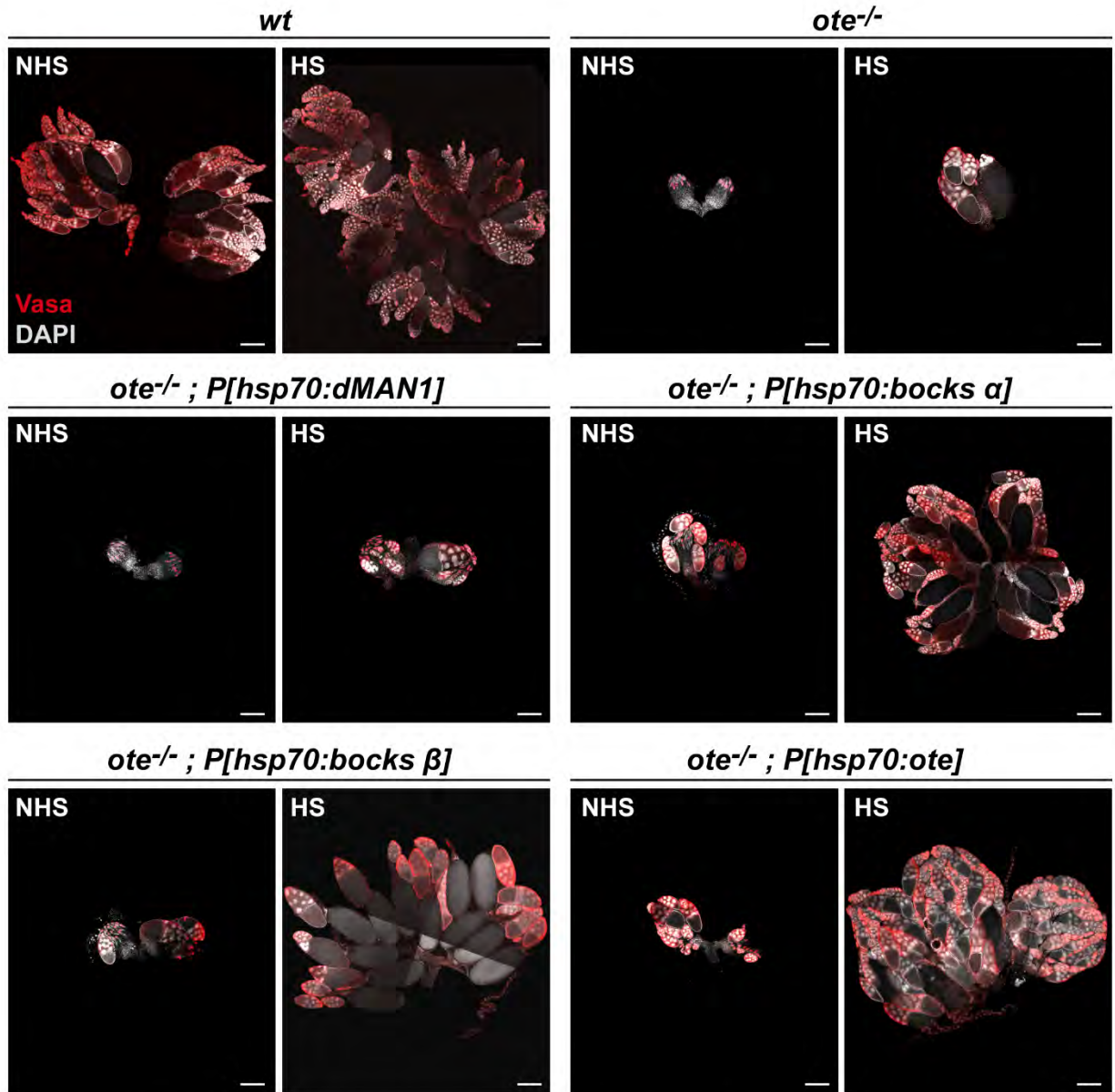


Figure S3 Phenotypes of ovaries isolated from *ote*^{-/-} and *ote*^{-/-}; *P[hsp70:lemd]* females. Confocal images of ovaries isolated from two-day-old females stained for Vasa (red) and DAPI (gray). Genotypes are noted above each set of panels that include ovaries isolated from non-heat shocked (NHS) and heat shocked (HS) females. All scale bars represent 100 μm.

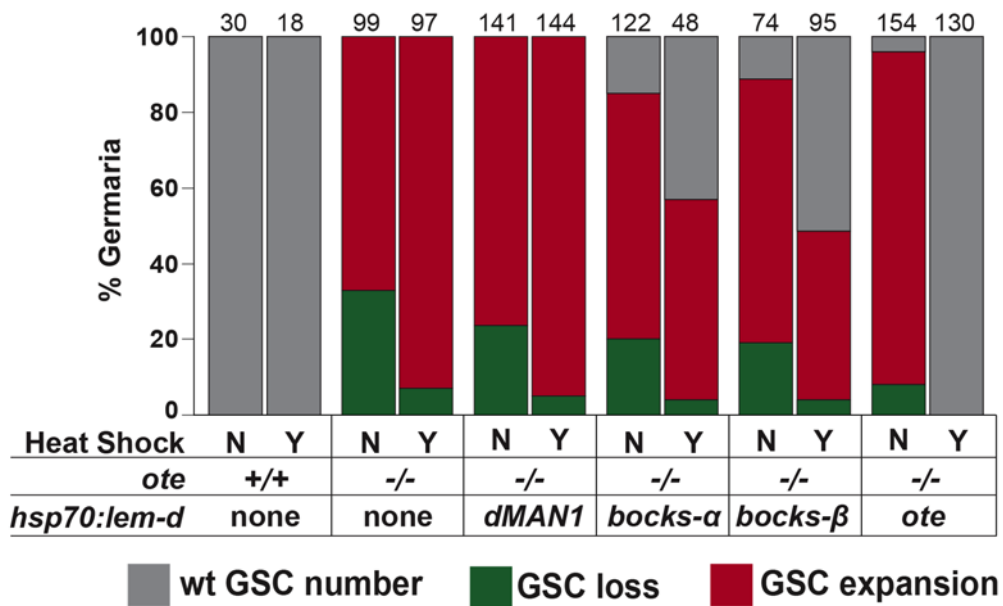


Figure S4 Analysis of germarial phenotypes in *ote*^{-/-} and *ote*^{-/-}, *P[hsp70:lemd]* ovaries. Shown is a graph of quantified germarial phenotypes in ovaries obtained from two-day old females that did not receive (N) or received (Y) heat shock treatments during development. Wild type (wt) GSC number (gray) corresponds to germaria with one to three GSCs adjacent to the niche and differentiating germ cells. GSC loss (green) corresponds to germaria that have a complete absence of GSCs or germ cells in the germaria. GSC expansion (red) corresponds to germaria with more than five GSC-like cells and the absence of differentiating germ cells. The ovary genotypes are shown below each pair of bars. The number of germaria analyzed for each genotype and treatment is indicated above the bars. Data were obtained from at least two independent experiments.