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**Supplemental Figure S1. Validation of T cell depletion by antibodies.** (A) Peripheral blood of T cell-depleted mice was monitored by flow cytometry beginning at the initial depletion and every 2-3 weeks thereafter. Data for CD8+ T cells (left) and CD4+ T cells (right) for all depleted mice are shown as the mean of the percentage of CD45+ leukocytes, pooling all measurements for each individual mouse. For isotype-treated KPC mice, a randomly selected subset (N=10) was assessed for T cell levels at an interim timepoint. \*\*\*\* indicates P<0.0001 for depleted cohorts compared to isotype control by one-way ANOVA. (B) T cell levels in pancreatic (tumor) tissue and spleen at the time of harvest from isotype or T cell-depleted mice enrolled in the survival study. CD4 and CD8 cells are expressed as a percentage of viable (7AAD-) cells. \* indicates P<0.05 and \*\* P<0.01 by two-way ANOVA. (C) Peripheral blood samples of three mice chronically depleted of CD4 and CD8 T cells and used to generate tumor cell lines 1262, 1493, and 1638. T cell levels are shown as a percentage of viable (7AAD-) CD45+ leukocytes at various time points post-enrollment (~4 weeks of age) until tumor-associated morbidity and euthanasia.



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## Supplemental Figure S2. Effect of PD-1 and CTLA-4 blockade on 4662 PDA tumor cell

**growth.** C57BL/6 mice were implanted subcutaneously with parental 4662 cells as in Figure 2 and were treated with a combination of antibodies blocking PD-1 and CTLA-4, as described in Methods and Materials. A second cohort received an isotype control antibody. N=10 mice per cohort. Tumor growth by caliper was analyzed using two-way ANOVA (left), and overall survival was assessed by Log-Rank/Mantel-Cox test (right).



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## Supplemental Figure S3. Expression of MHC class I and class II and PD-L1.

Parental 4662 and V6.OVA cells were analyzed by flow cytometry for expression of (**A**) td-Tomato, MHC class I (H2-K<sup>b</sup> and H2-D<sup>b</sup>) and MHC class II (I-A<sup>b</sup>) with or without IFNg stimulation *in vitro*. Positive control for MHC class II staining is shown on the bottom right for total wildtype (WT) splenocytes and CD19+ B cells, or (**B**) PD-L1.



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Supplemental Figure S4. Additional Tdt-Ova expressing 4662 PDA clones. (A)Td-tomato expression levels of three 4662 Tdt-Ova tumor clones (V6.Ova, G7.Ova and G10.Ova) compared to 4662 parental and OvaNeg (negatively sorted) cell lines, gating on viable (7-AAD-negative) cells. (B) Survival data of immune-competent or CD8-depleted C57BL/6 mice implanted subcutaneously with 0.75x10<sup>6</sup> cells of each clone (N=4-5 mice per cohort). P-values were determined by Log-rank (Mantel-Cox) analysis. One mouse was censored for non-tumor related mortality (CD8-depleted cohort, G7.Ova clone).



## Supplemental Figure S5. Characterization of tumor-infiltrating leukocytes in 4662 and V6.Ova tumors. Cohorts of mice (n=5/group) were injected with 10<sup>6</sup> 4662 or V6.Ova tumor cells s.c. and tumors were harvested at day 9 for analysis by flow cytometry with regard to the indicated leukocyte subsets. Statistical analysis was performed by Mann-Whitney t test with significance as indicated: \*p<0.05, \*\*p<0.01.



**Supplemental Figure S6. Tumor experiments in OVA tolerant mice.** Subcutaneous growth of V6.OVA tumor cells in C57BL/6 wildtype (WT), CD8-depleted WT, or (**A**) Act-mOVA Tg mice, (N=3-5 mice per cohort, representative of two independent experiments, or (**B**) orally tolerant OVA mice (N=5-8 mice per cohort, one experiment). P-values shown are generated by two-way ANOVA.



Supplemental Figure S7 Evans et al **Supplemental Figure S7. Orthotopic growth of 4662 PDA and V6.OVA tumor cells. (A)** The parental 4662 cell line was implanted orthotopically in immune-competent C57BL/6 host mice at a dose of 0.125x10<sup>6</sup> cells (N=8; left panel). Tumor growth was assessed by serial ultrasound and is shown for each individual mouse post-injection until the time of death. (Right panel) Representative H&E analysis of 4662 tumor 22 days after orthotopic injection (10x). (**B**) The V6.Ova clone was orthotopically implanted (N=12), and mice were monitored for tumor growth. (**C**) Overall survival for experiments in (a) and (b) were compared; P-value calculated by Log-rank/Mantel-Cox test).



## Supplemental Figure S8. Differential gene expression analysis of 4662 parental vs.

**V6.ova.** Comparison of gene expression between 4662 parental and V6.ova cell lines *in vitro* as determined through RNA-seq; samples submitted in biological triplicate (n=3). Normalized gene transcript counts (plus pseudocount +1) and Wald test statistics p-values were calculated using DESeq2 v1.12.3 (R 3.3.0). \*b-catenin adjusted p-value = 2.81E-12.