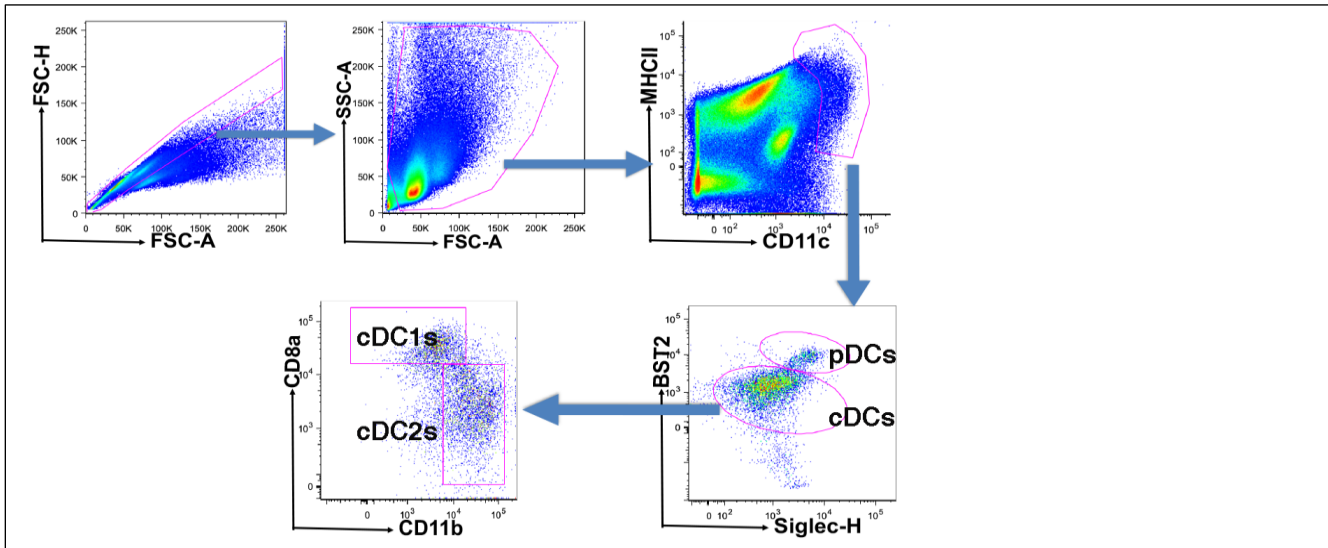
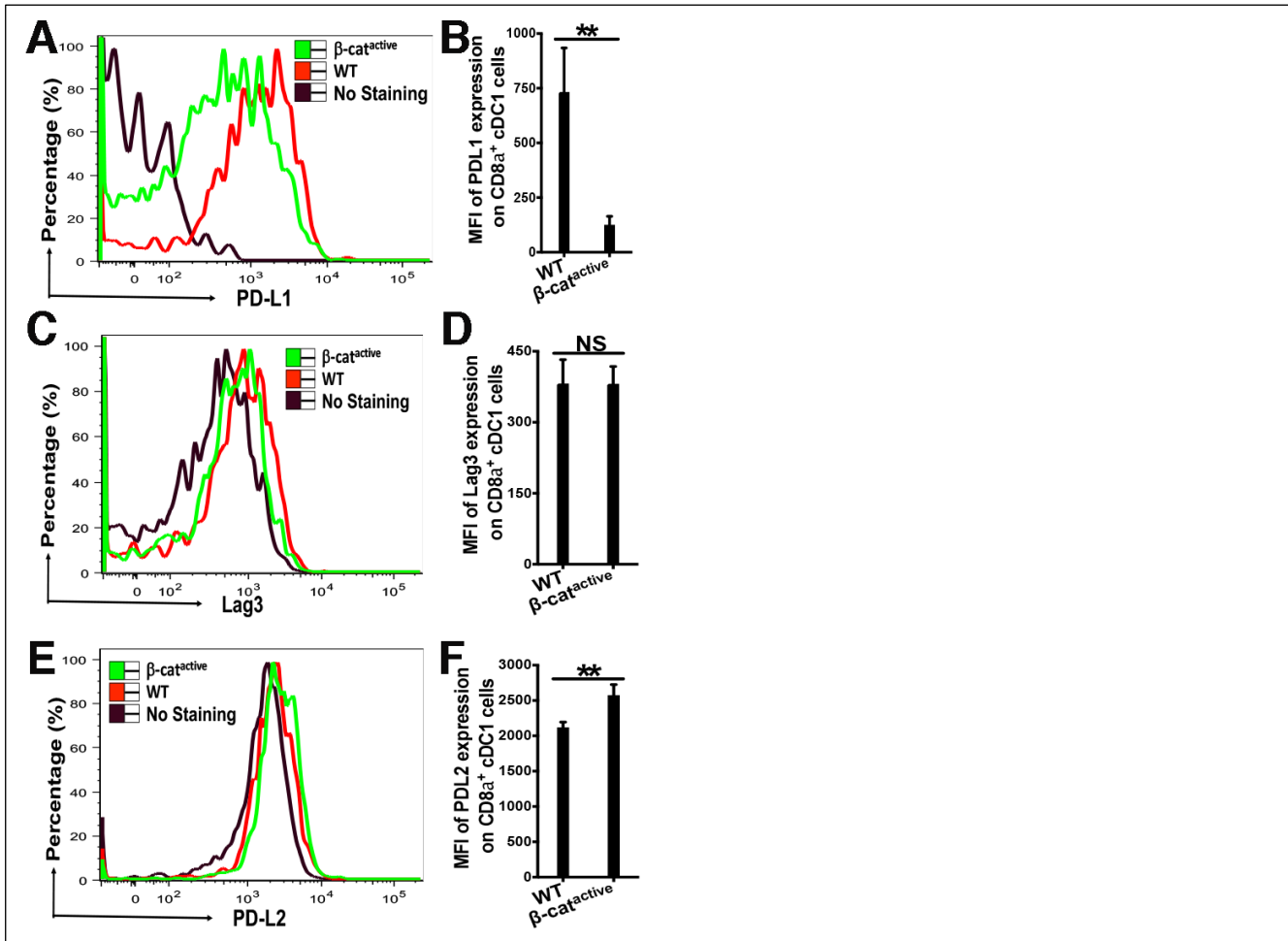


Supplemental Figures

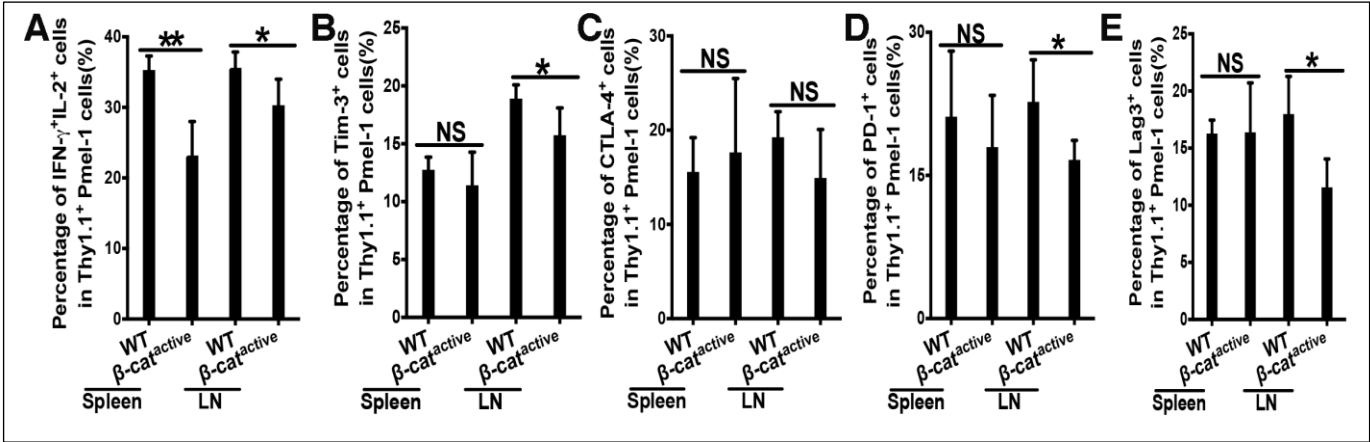
Supplemental Figure S1



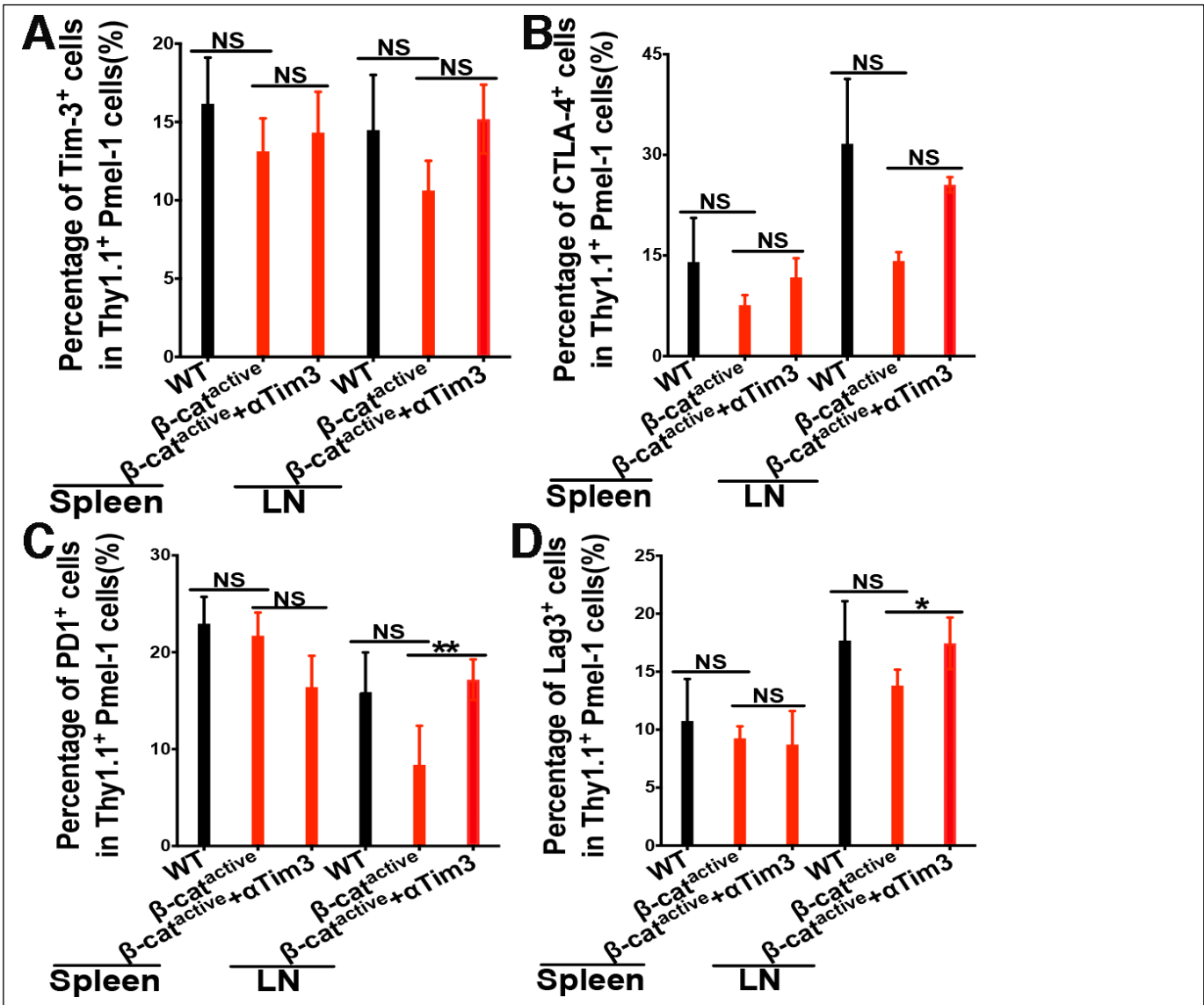
Supplemental Figure S2



Supplemental Figure S3



Supplemental Figure S4



## Supplemental Figure Legends

### Figure S1. Gating strategy for splenic DCs.

### Figure S2. The effects of $\beta$ -catenin on expression of inhibitory molecules PD-L1, PD-L2 and

**Lag3 in splenic cDC1s.** Splenic cells from WT and CD11c- $\beta$ -catenin<sup>active</sup> mice (n=4) were stained and analyzed by flow cytometry, and the expression of inhibitory molecules PD-L1 (A-B), Lag3 (C-D), and PD-L2 (E-F) on gated CD8 $\alpha$ <sup>+</sup> cDC1s were shown as in Figure 1. Student's t test, \*\*\* $P < 0.001$ , \*\* $P < 0.01$ , \* $P < 0.05$ , and NS  $> 0.05$ . Data shown are representative of three experiments.

### Figure S3. $\beta$ -catenin in DCs negatively regulates DC vaccine-cross-priming against tumor

**antigen.** WT and CD11c- $\beta$ -catenin<sup>active</sup> mice (n=5) were immunized with anti-DEC-205-hgp100 plus CpG, and cross-priming of adoptively transferred Thy1.1<sup>+</sup> Pmel-1 CD8 T cells was examined at day 5 following 5 hour *in vitro* stimulation with hgp100<sub>25-33</sub> with Brefeldin A (BFA). The percentages of IFN- $\gamma$ <sup>+</sup>IL-2<sup>+</sup> (A), Tim-3<sup>+</sup> (B), CTLA-4<sup>+</sup> (C), PD-1<sup>+</sup> (D), and Lag3<sup>+</sup> (E) cells out of total Thy1.1<sup>+</sup> Pmel-1 cells are shown. Student's t test, \*\*\* $P < 0.001$ , \*\* $P < 0.01$ , \* $P < 0.05$ , and NS  $> 0.05$ . Data are representative of three experiments.

### Figure S4. Anti-Tim-3 treatment reverses $\beta$ -catenin-mediated inhibition of cross-priming.

WT and CD11c- $\beta$ -catenin<sup>-/-</sup> mice (n=4-5) were immunized with anti-DEC-205-hgp100 plus CpG with or without anti-Tim-3 treatment, and cross-priming of adoptively transferred Thy1.1<sup>+</sup> Pmel-1 CD8 T cells was examined at day 5 after immunization. The percentages of Tim-3<sup>+</sup> (A),

CTLA-4<sup>+</sup> (B), PD-1<sup>+</sup> (C), and Lag3<sup>+</sup> (D) Pmel-1 cells in total Thy1.1<sup>+</sup> Pmel-1 cells are shown.

Data are representative of two experiments. . One-way ANOVA and Post-hoc T tests with

Bonferroni correction were used. \*\*\* $P < 0.001$ , \*\* $P < 0.01$ , \* $P < 0.05$  and NS  $> 0.05$ .