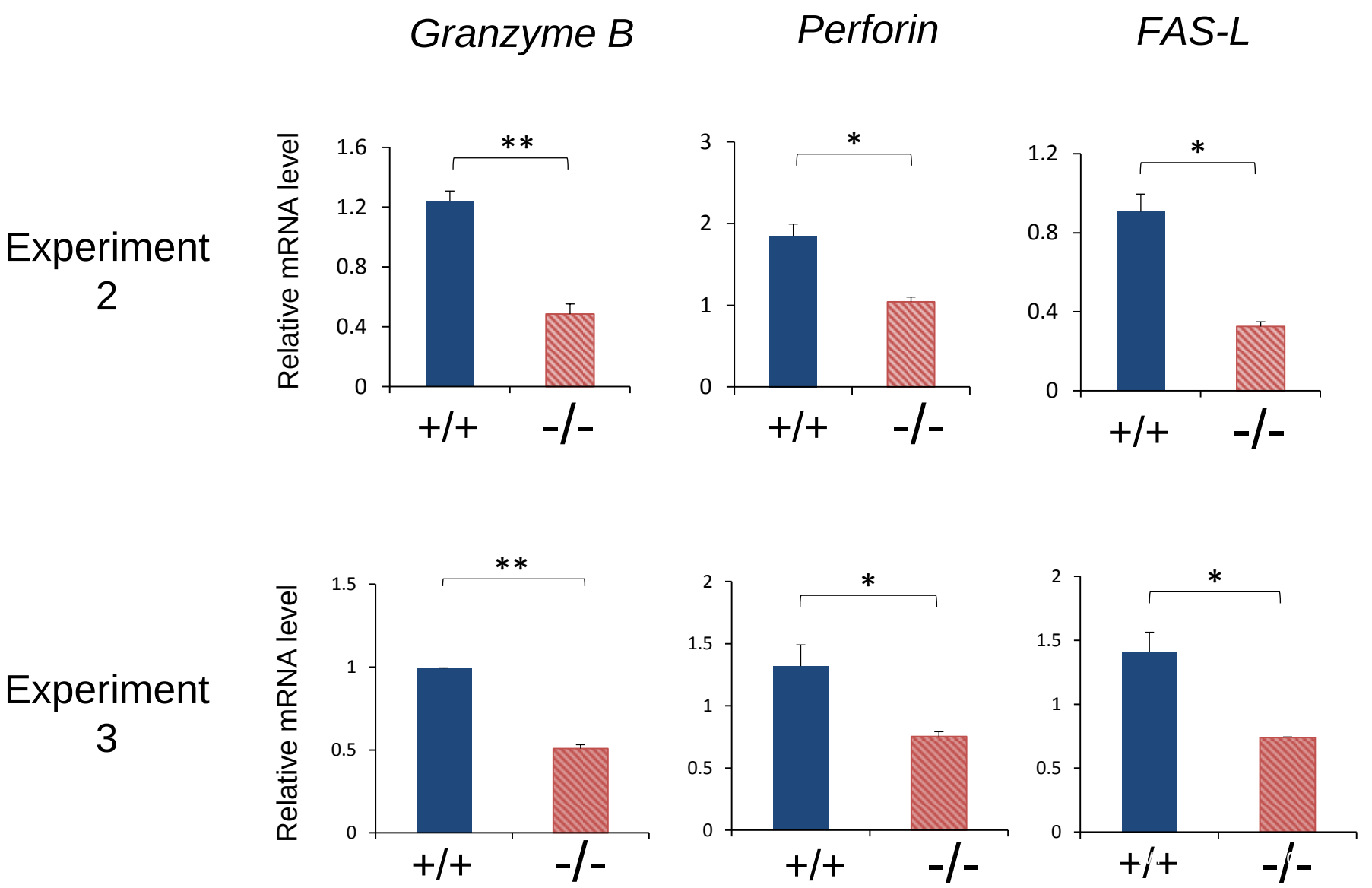
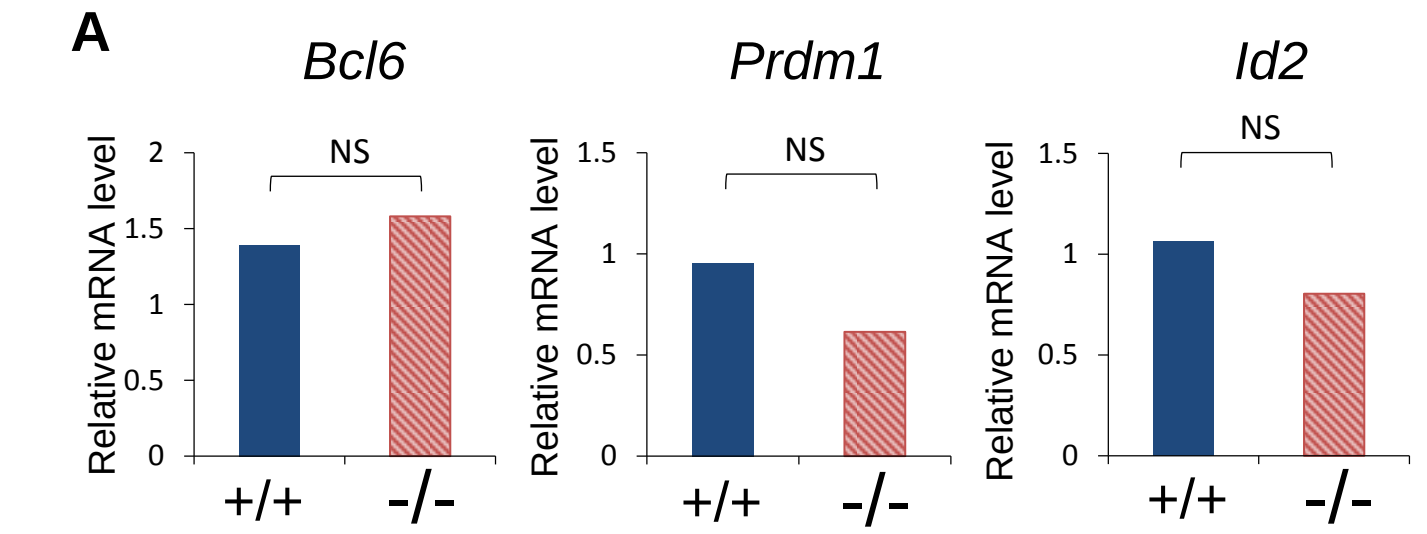
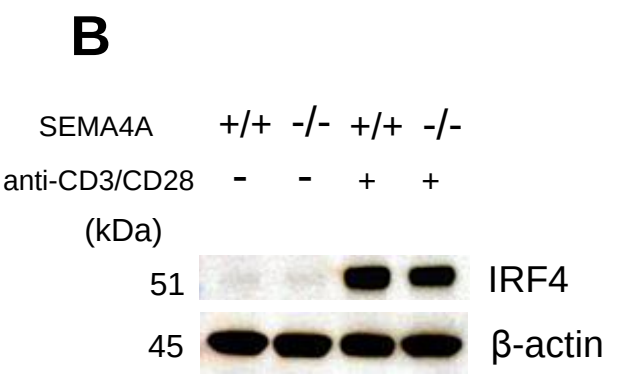
Supplemental Figure. 1

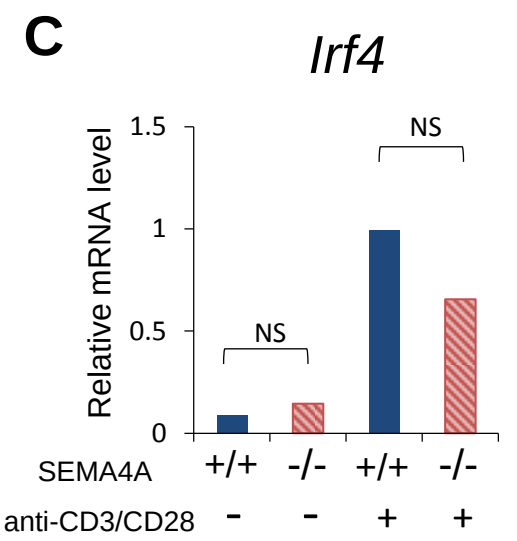


Supplemental Figure 1. Reduced mRNA expression levels of *Granzyme B*, *Perforin*, and *FAS-L* in SEMA4A$^{-/-}$ CD8^{+} T cells were reproducible in two experiments in addition to that shown in Fig. 2F. CD8^{+} T cells prepared from wild-type (+/+, blue closed bar) or SEMA4A$^{-/-}$ (−/−, red hatched bar) mice were cultured with anti-CD3 (1 μg/ml) and anti-CD28 (2 μg/ml) for 2 days. Relative expression levels of mRNAs encoding *Granzyme B*, *Perforin*, or *FAS-L* were determined by quantitative real-time PCR, with *GAPDH* as the normalization control. Data are represented as means ± s.e.m. Statistical analysis used Student's t-test (n = 3 from each group). *, $p < 0.05$; **, $p < 0.01$.

Supplemental Figure. 2

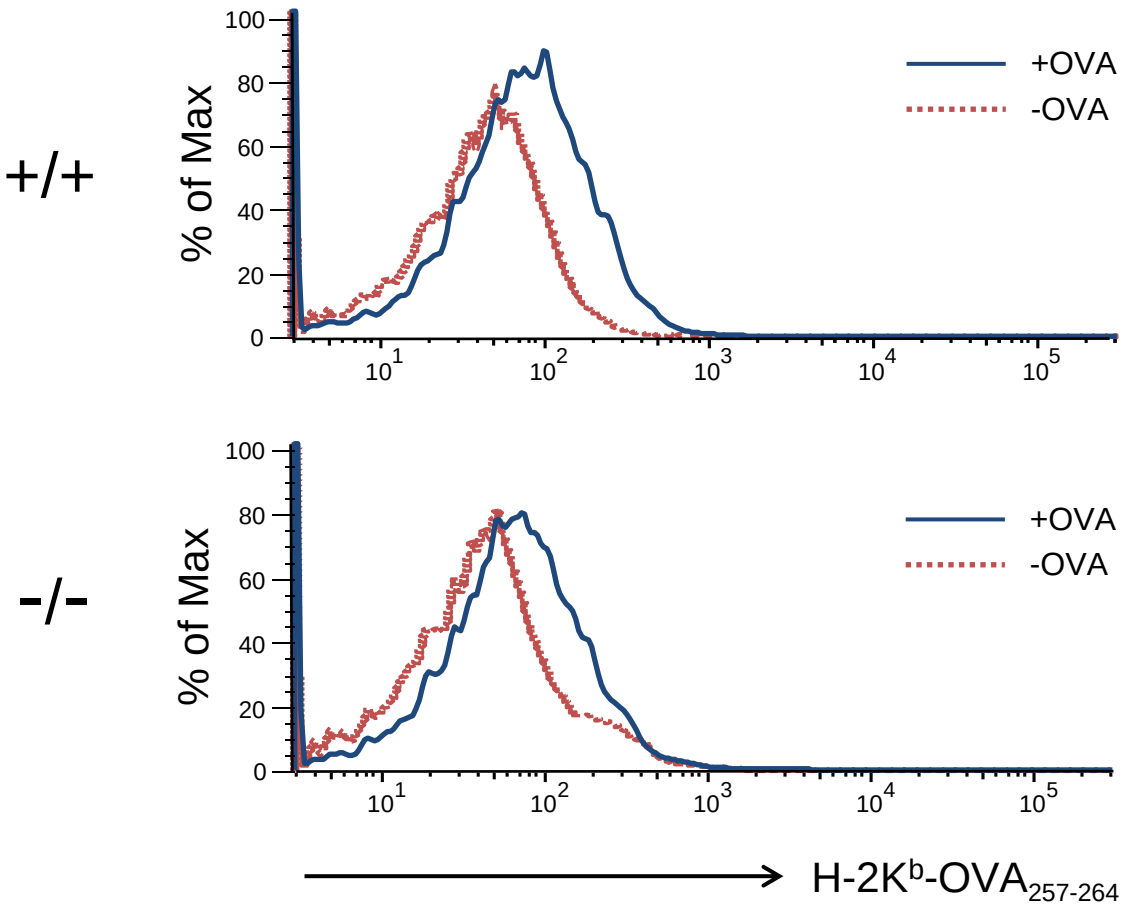






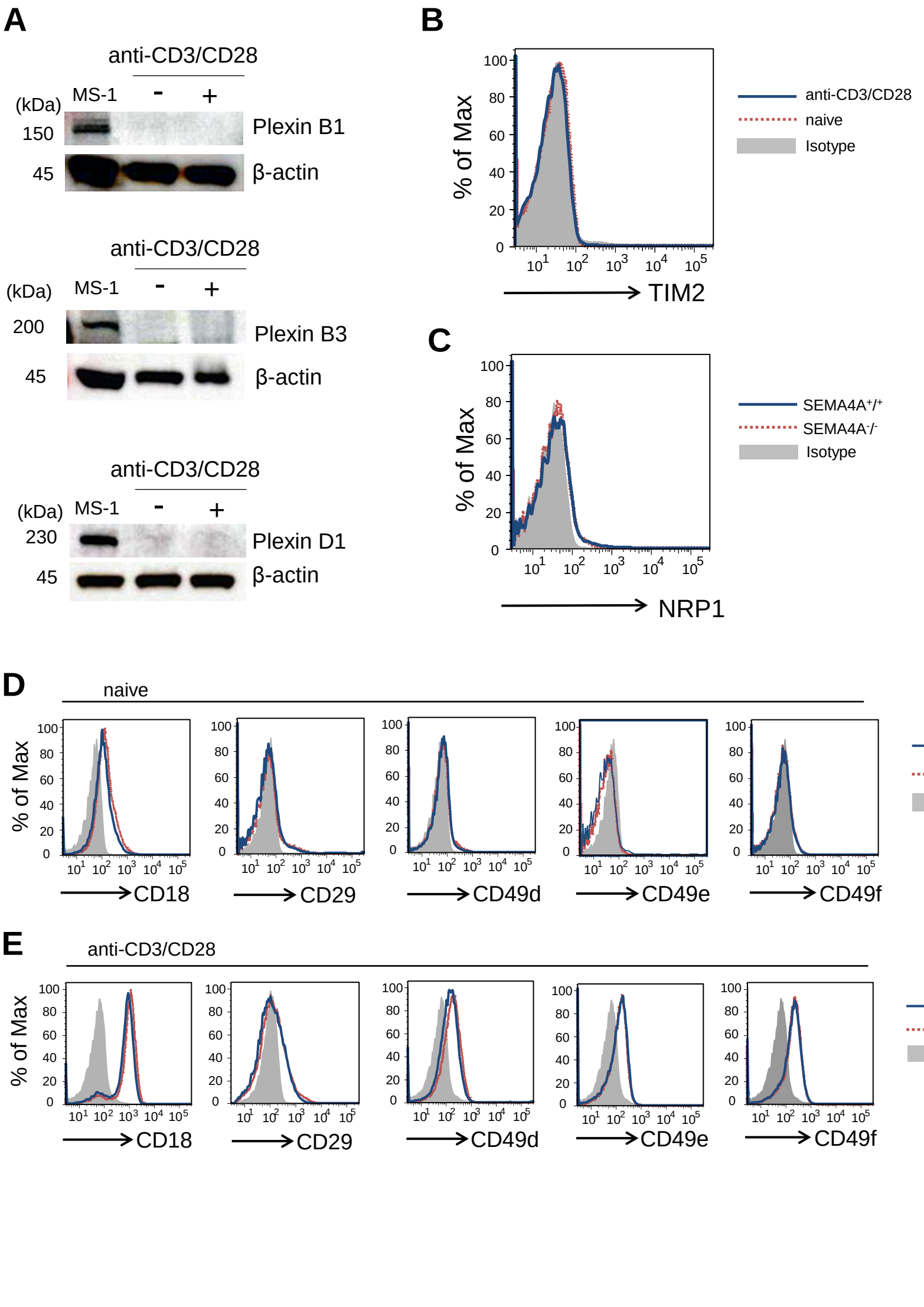
Supplemental Figure 2. (**A**) CD8⁺ T cells prepared from wild-type (+/+, blue closed bar) or SEMA4A$^{-/-}$ (−/−, red hatched bar) mice were cultured with anti-CD3 (1 μg/ml) and anti-CD28 (2 μg/ml) for 2 days. mRNAs were prepared from these CD8⁺ T cells. Relative levels of *Bcl6, Prdm1*, or *Id2* were determined by quantitative real-time PCR, with *GAPDH* as the normalization control. Data are represented as means ± s.e.m. Statistical analysis used Student's t-test (n = 3 from each groups). NS, not significant, $p > 0.05$. (**B**) Whole-cell extracts prepared from CD8⁺ T cells cultured for 2 days with or without anti-CD3 (1 μg/ml) and anti-CD28 (2 μg/ml) were probed by western blotting with anti-IRF4 or anti–β-actin. (**C**) CD8⁺ T cells prepared from wild-type (+/+, blue closed bar) or SEMA4A$^{-/-}$ (−/−, red hatched bar) mice were cultured with or without anti-CD3 (1 μg/ml) and anti-CD28 (2 μg/ml) for 2 days. mRNAs were prepared from these activated CD8⁺ T cells. Relative expression levels of *Irf4* were determined by quantitative real-time PCR, with *GAPDH* as the normalization control. Data are represented as means ± s.e.m. Statistical analysis used Student's t-test (n = 3 from each groups). NS, not significant, $p > 0.05$.

Supplemental Figure. 3



Supplemental Figure 3. SEMA4A$^{-/-}$ DCs did not exhibit impaired cross-presentation capacity. Splenic DCs derived from wild-type (+/+) or SEMA4A$^{-/-}$ (−/−) mice were incubated for 15 hours with or without OVA. Subsequently, DCs were stained with anti-CD11c and anti-H-2K^b–OVA$_{257–264}$. Expression of H-2K^b–OVA$_{257–264}$ in CD11c-positive cells is presented in the histogram.

Supplemental Figure. 4



Supplemental Figure 4. (**A**) Whole-cell extracts were prepared from wild-type $CD8^+$ T cells cultured for 2 days with or without anti-CD3 (1 μg/ml) and anti-CD28 (2 μg/ml), and then probed by western blotting with the indicated antibodies. MS-1, a cell line established from pancreatic islet endothelial cells, was used as a positive control. (**B**) $CD8^+$ T cells prepared from wild-type mice were cultured with anti-CD3 (1 μg/ml) and anti-CD28 (2 μg/ml) for 2 days, and then stained with anti-TIM2. Wild-type $CD8^+$ T cells were also stained with the isotype-matched control antibody (Isotype, grey-filled histogram). (**C**) $CD8^+$ T cells prepared from wild-type (+/+, blue closed bar) or $SEMA4A^{-/-}$ (−/−, red hatched bar) mice were stained with anti-NRP1. Wild-type $CD8^+$ T cells were also stained with the isotype-matched control antibody (Isotype, grey-filled histogram). (**D**) Expression levels of indicated integrin molecules in $CD8^+$ T cells prepared from wild-type ($SEMA4A^{+/+}$, blue solid line) or $SEMA4A^{-/-}$ (red dotted line) mice was examined by flow cytometry. Wild-type $CD8^+$ T cells were also stained with an isotype-matched control antibody (Isotype, grey-filled histogram). (**E**) $CD8^+$ T cells prepared from wild-type ($SEMA4A^{+/+}$, blue solid line) or $SEMA4A^{-/-}$ (red dotted line) mice were cultured with anti-CD3 (1 μg/ml) and anti-CD28 (2 μg/ml) for 2 days. The expression levels of the indicated integrin molecules on the resultant cells were analyzed by flow cytometry. $CD8^+$ T cells prepared from wild-type mice were also stained with the isotype-matched control antibody (Isotype, grey-filled histogram).