## **Supporting Information**

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**Fig S1.** Number of CD44<sup>+</sup>CD122<sup>+</sup>Ly49<sup>+</sup> CD8 cells in B6(WT), B6.Qa-1(D227K), and B6-Yaa mice. At 7 d after i.p. immunization with 100 μg of KLH in CFA, the number of CD44<sup>+</sup>CD122<sup>+</sup>Ly49<sup>+</sup> CD8 T cells was measured in spleen cells from 2-mo-old B6(WT), B6.Qa-1(D227K), and B6-Yaa mice and nonimmunized controls.



**Fig. S2.** Suppressive activity by CD44<sup>+</sup>ICOSL<sup>+</sup> CD8<sup>+</sup> T cells. Ab response after transfer of B, CD4, and CD8 cells into  $Rag2^{-/-}$  hosts. Here  $2 \times 10^6$  WT naïve B cells were transferred along with  $0.5 \times 10^6$  CD25<sup>+</sup>-depleted CD4 cells from B6.Qa-1(WT) or B6.Qa-1(D227K) mice into  $Rag2^{-/-}$  hosts. CD44<sup>+</sup>ICOSL<sup>+</sup> CD8<sup>+</sup> T cells were sorted by FACS from spleen cells of KLH/CFA-immunized WT (B6) mice, and  $0.15 \times 10^6$  sorted CD44<sup>+</sup>ICOSL<sup>+</sup> CD8 cells were transferred into  $Rag2^{-/-}$  hosts. Immediately after cell transfer, the  $Rag2^{-/-}$  hosts were immunized i.p. with 100 µg of NP19-KLH in CFA. At day 10, mice were challenged i.p. with 50 µg of NP<sub>19</sub>-KLH in IFA, and high-affinity NP-specific Ab responses were measured by ELISA 7 d later.