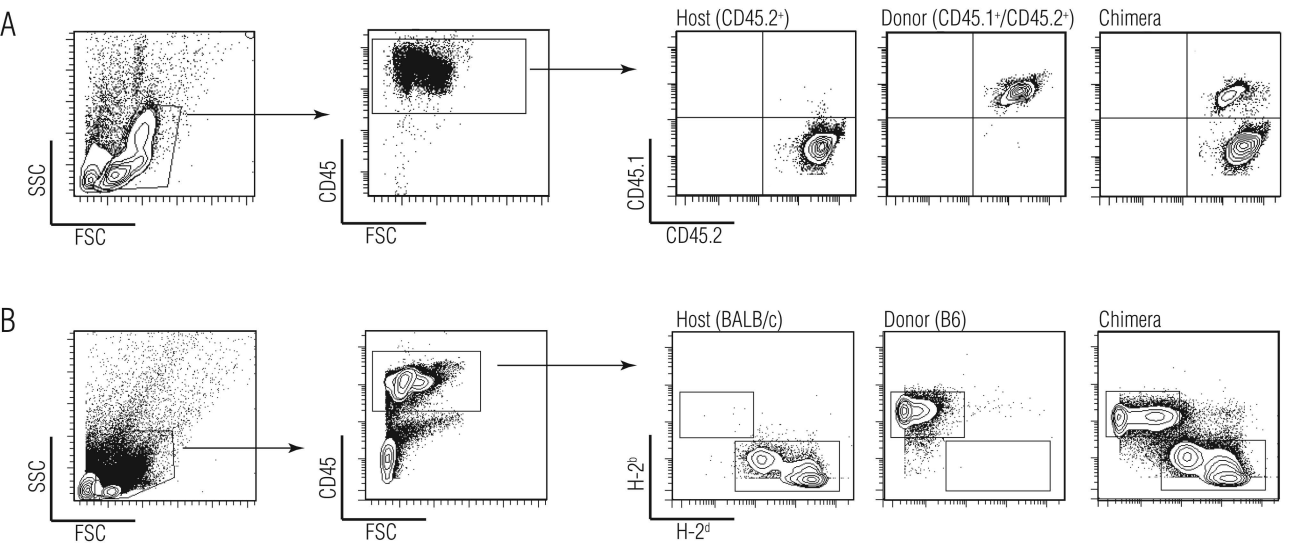
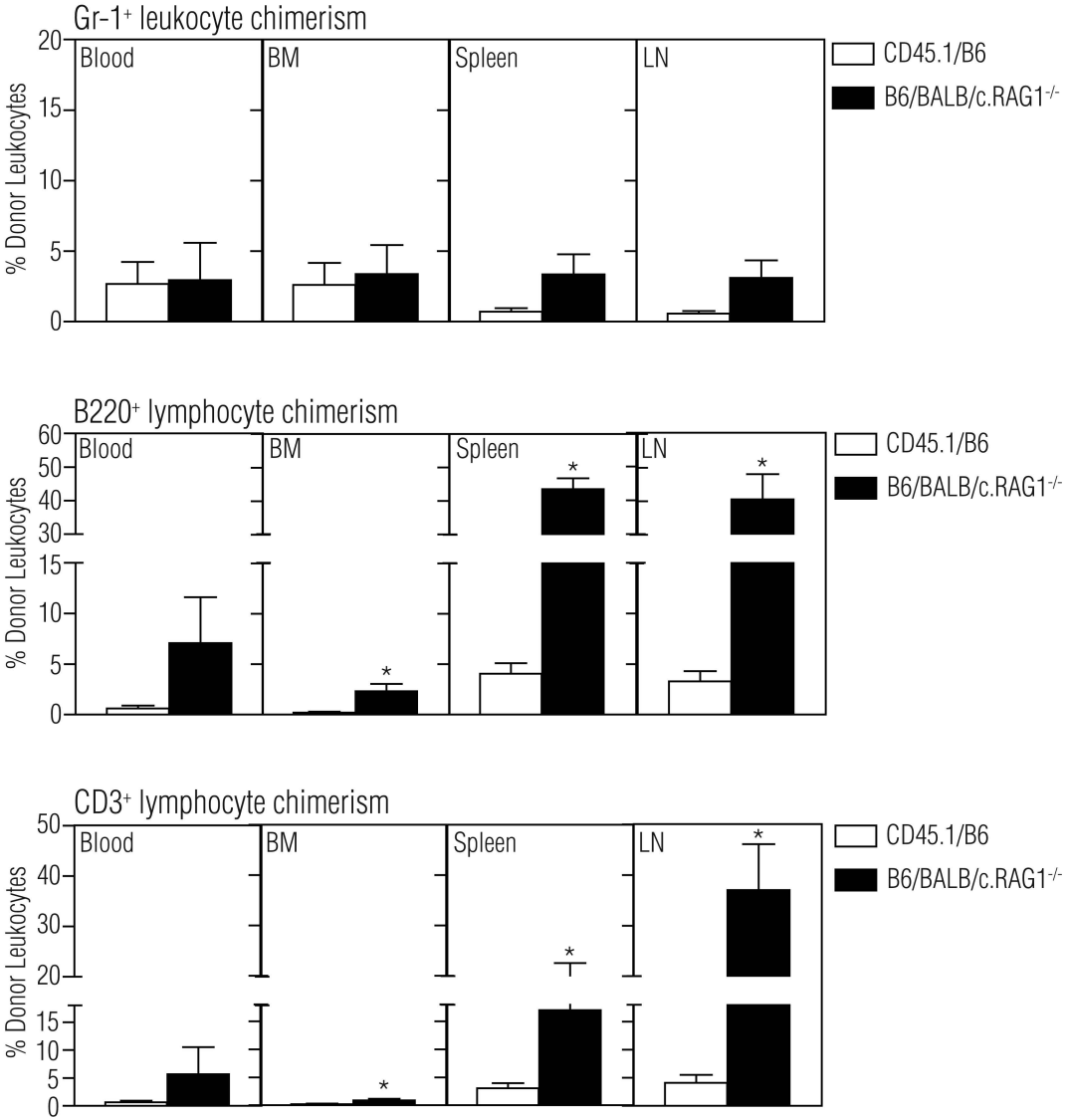
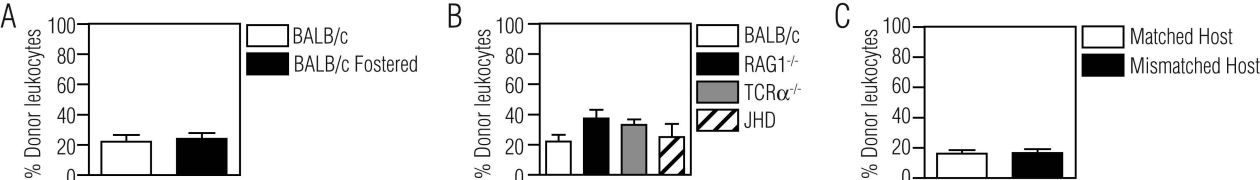


Supplementary Figure 1: Determination of chimerism among fetal liver (FL) recipients. The percentage of circulating donor leukocytes in recipient mice was determined 4 weeks after in utero transplantation of **(A)** congenic or **(B)** allogeneic FL cells. **(A)** Congenic B6 (Donor, CD45.1$^+$/CD45.2$^+$) FL was transplanted into B6 (Host, CD45.2$^+$) fetuses and flow cytometric analysis was used to identify donor leukocytes in recipient animals. **(B)** For allogeneic transplants, B6 (Donor, H-2^b) FL was transplanted into BALB/c (Host, H-2^d) fetuses.



Supplementary Figure 2: Higher overall chimerism levels in immunodeficient hosts are due to increased chimerism in lymphoid, but not granulocyte, compartments. Lymphoid tissues were harvested from either wild-type (CD45.1/B6, n≥5) or immunodeficient recipients (B6/BALB/c.RAG1$^{-/-}$, n≥3) 43 to 57 weeks after in utero transplantation. The chimerism level of individual leukocyte subsets was calculated by dividing the total number of donor Gr-1^{+} granulocytes, B220^{+} B cells, or CD3^{+} T cells by the total number of leukocytes found in recipient bone marrow (BM), spleen, lymph node (LN), or blood. Significantly higher levels of CD3^{+} and B220^{+} leukocyte chimerism were observed in immunodeficient recipients compared to wild-type recipients in all tissues except for blood. *$p<0.05$ by t-test.



Supplementary Figure 3: Levels of chimerism among fetal liver (FL) recipients. The percentage of donor leukocytes in chimeras was determined 4 weeks after in utero transplantation of allogeneic FL cells. **(A)** Levels of chimerism in non-fostered (BALB/c, n=16) and fostered (BALB/c Fostered, n=13) pups that were born to wild-type BALB/c parents. **(B)** Levels of chimerism in pups that were born to wild-type BALB/c fathers and either wild-type BALB/c (n=16) or immunodeficient mothers (RAG1$^{-/-}$, n=12; TCR$\alpha^{-/-}$, n=19; JHD, n=5). **(C)** Donor hematopoietic cells were MHC-matched to pregnant mothers. Levels of chimerism after IUHCTx are shown among fetuses that are MHC matched (matched host, n=11) or mismatched (mismatched host, n=10) to the donor graft.