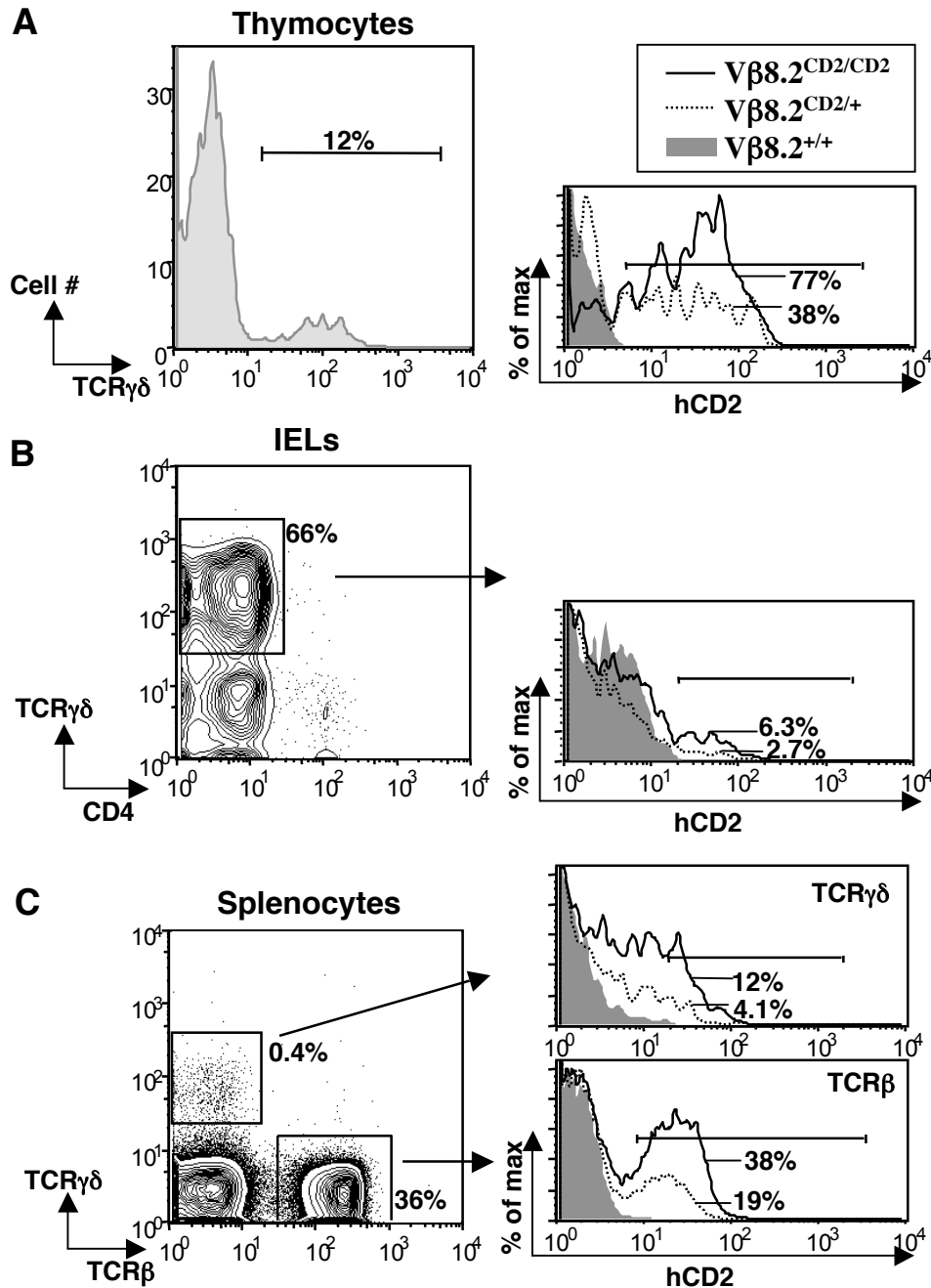
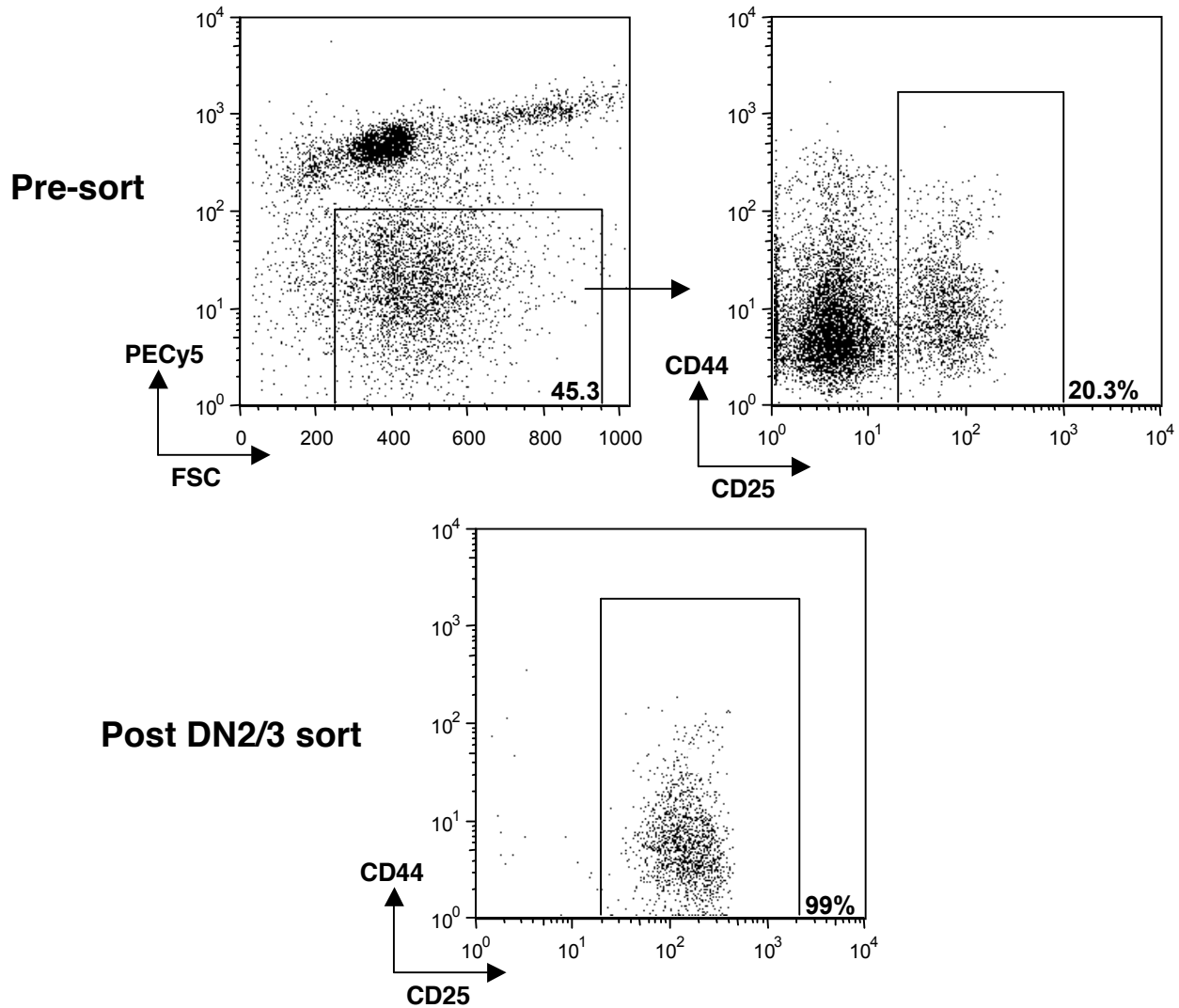


Supplemental Figure 1. hCD2 expression in bone marrow proB and preB/B cells (A) and splenic NK cells (B). Total Bone marrow cells were stained with FITC conjugated anti-CD43, APC conjugated anti-B220, PE conjugated anti-hCD2 and 7AAD. Total spleen cells were stained with PE conjugated anti-DX5, FITC conjugated anti-CD3, FITC conjugated anti-hCD2, PE-Cy5 conjugated B220 and 7AAD. Events that are shown in the contour plot are pre-gated on viable cells. hCD2 staining of the gated population from wild-type, $V\beta 8.2^{CD2/+}$ and $V\beta 8.2^{CD2/CD2}$ mice is presented as overlaid histogram.

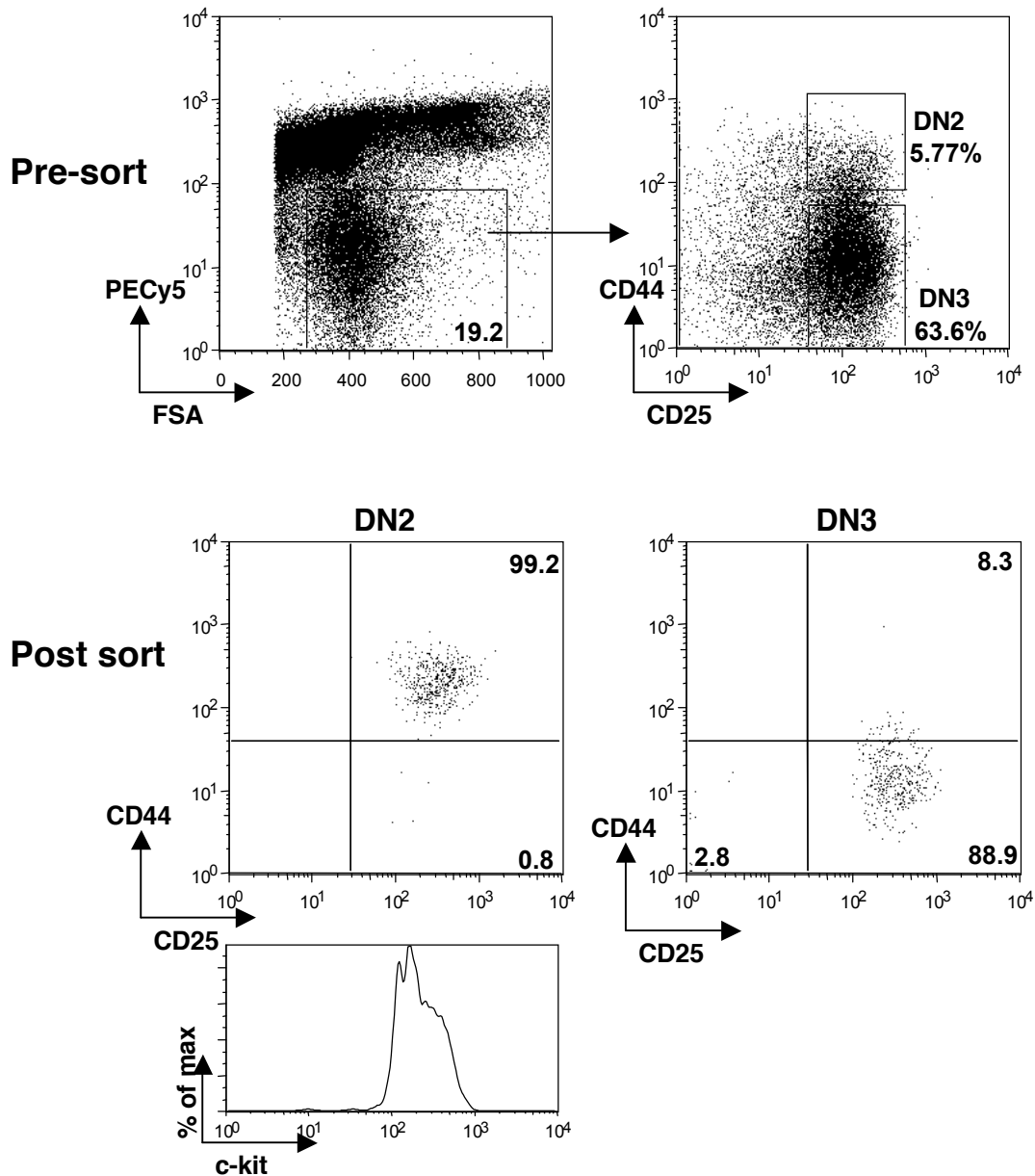


Supplemental Figure 2. hCD2 expression in gdT cells. hCD2 expression in thymic gdT cells (A), splenic gdT cells (B) and gdT cells in IELs (C) from 4~6-week old $V\beta 8.2^{CD2/CD2}$, $V\beta 8.2^{CD2/+}$ and wild type mice. The gating of gdT cells is indicated in the contour plots. hCD2 expression in gated T cells from $V\beta 8.2^{CD2/CD2}$ (black line), $V\beta 8.2^{CD2/+}$ (dotted line), and wild type (shade) mice is presented by overlaid histograms. Percentages of hCD2 positive cells are also shown in the histograms. Results are representative of at least 3 separate experiments.

Supplemental Fig.3



Supplemental Figure 3. Gating and Purity of DN2/3 thymocyte sorting for quantitative PCR analysis. Total thymocytes from wild-type, $V\beta 8.2^{CD2/+}$ and $V\beta 8.2^{CD2/CD2}$ mice were stained as described in *Method*. Gating and frequency of gated population in CD4/CD8 depleted thymocytes prior to sorting are shown in the pre-sort dot plot. A small fraction of sorted cells were subjected to four-color FACS analysis directly after cell sorting. Purity of sorted DN2/3 thymocytes is shown in the post sort dot plot. Events are pre-gated on viable cells. Graphs of wild-type sample are shown as a representative of all three genotypes.



Supplemental Figure 3. Gating and purity of DN2 and DN3 thymocyte sorting for quantitative PCR analysis. Total thymocytes from B6 and SJL/B6 F1 mice were stained as described in *Method*. Cells were enriched for CD25 positive staining on AUTO MACS before sorting. Gating and frequency of DN2 and DN3 cells were shown in pre-sort plot. A small fraction of sorted cells were subjected to four-color FACS analysis directly after cell sorting. Events that are shown in the plots are pre-gated on viable cells. c-kit expression in sorted DN2 thymocytes is also shown as histogram. Graphs of B6 sample are shown as a representative of both strains.

Supplemental Table 1. Primer sequence used for quantitative PCR analysis.

GAPDHfor	5'- CCT GGA GAA ACC TGC CAA GTA TG -3'	Forward primer for GAPDH
GAPDHrev	5'-AGA GTG GGA GTT GCT GTT GAA GTC 3'	Reverse primer for GAPDH
TCRV β 8.2for	5'-ATG GTG CTG GCA GCA CTG AG-3'	Specific for TCR V β 8.2 exon; Forward primer for V β 8.2 ^{CD2} knock-in allele germline transcription
LoxPrev	5'-CTT CGA ATA GCA TAC ATT ATA CGA AGT TAT CC-3'	Specific for loxP sequece; Reverse primer for V β 8.2 ^{CD2} knock-in allele germline transcription
TCRV β 8.2L/efor	5'-CTC CTG TGT TCA AAA CAC ATG GAG G -3'	Specific for 3' of TCRV β 8.2 leading exon and 5' of TCRV β 8.2 exon; Forward primer for V β 8.2 germline transcription
TCRV β 8.2R4GL	5'-GGA ACT TTC TTA GGT ACA CAG GCA C -3'	Reverse primer for V β 8.2 germline transcription
TCRV β 4L/efor	5'-TCC TGG TGG CAG GTC CAG TCG ACC -3'	Specific for 3' of TCRV β 4 leading exon and 5' of TCRV β 4 exon; Forward primer for V β 4 germline transcription
TCRV β 4 R4GL	5'- GAC CAG TTA CAT CAA CAG TTT CCT GG-3'	Reverse primer for V β 4 germline transcription
TCRV β 5.1L/efor	5'-CCT GGG AAC AAG TTC AGC AAA TTC -3'	Specific for 3' of TCRV β 5.1 leading exon and 5' of TCRV β 5.1 exon; Forward primer for V β 5.1 germline transcription
TCRV β 5.1R4GL	5'-CCT CTC CAG TAC ATC ACC AGC TGG -3'	Reverse primer for V β 5.1 germline transcription
TCRV β 12L/efor	5'-CCT TGA CAC AGT ACT GTC TGA AGC -3'	Specific for 3' of TCRV β 12 leading exon and 5' of TCRV β 12 exon; Forward primer for V β 12 germline transcription
TCRV β 12 R4GL	5'-CCA TGG AGT ATA AGA AAT AGT CCC AGG -3'	Reverse primer for V β 12 germline transcription