

**Table S1.** Antigens Used for Identification of Specific Cell Populations

Population	Phenotype	Assays used
Myeloid cells	Mac1 <sup>+</sup>	Lineage analysis
B-cell	B220 <sup>+</sup> CD19 <sup>+</sup>	Lineage analysis
T-cell	CD4 <sup>+</sup> and/or CD8 <sup>+</sup>	Lineage analysis
LSK	Lineage (CD4, CD5, CD8a, Mac1, B220, Ter119, Gr1) <sup>-</sup> Sca1 <sup>+</sup> cKit <sup>+</sup>	HSC/MPP staging
HSC (BM)	Lineage (CD4, CD5, CD8a, Mac1, B220, Ter119, Gr1) <sup>-</sup> Sca1 <sup>+</sup> cKit <sup>+</sup> CD150 <sup>+</sup> CD48 <sup>-</sup>	HSC/MPP staging
HSC (FL)	Lineage (CD5, CD8a, B220, Ter119, Gr1) <sup>-</sup> Sca1 <sup>+</sup> cKit <sup>+</sup> CD150 <sup>+</sup> CD48 <sup>-</sup>	HSC/MPP staging
MPP (BM)	Lineage (CD4, CD5, CD8a, Mac1, B220, Ter119, Gr1) <sup>-</sup> Sca1 <sup>+</sup> cKit <sup>+</sup> CD150 <sup>-</sup> CD48 <sup>+</sup>	HSC/MPP staging, CCR9 analysis
DN1	Lineage (CD3e, NK1.1, B220, Gr1, CD11c, CD19) <sup>-</sup> CD4 <sup>-</sup> CD8 <sup>-</sup> CD44 <sup>+</sup> CD25 <sup>-</sup>	Early thymic progenitor staging
ETP (DN1Kit <sup>+</sup> )	Lineage (CD3e, NK1.1, B220, Gr1, CD11c, CD19) <sup>-</sup> CD4 <sup>-</sup> CD8 <sup>-</sup> CD44 <sup>+</sup> CD25 <sup>-</sup> cKit <sup>+</sup>	Early thymic progenitor staging
DN2Kit <sup>+</sup>	Lineage (CD3e, NK1.1, B220, Gr1, CD11c, CD19) <sup>-</sup> CD4 <sup>-</sup> CD8 <sup>-</sup> CD44 <sup>+</sup> CD25 <sup>+</sup> Kit <sup>+</sup>	Early thymic progenitor staging
DN3	Lineage (CD3e, NK1.1, B220, Gr1, CD11c, CD19) <sup>-</sup> CD4 <sup>-</sup> CD8 <sup>-</sup> CD44 <sup>-</sup> CD25 <sup>+</sup>	Early thymic progenitor staging
Pre-pro-B	Lineage (CD3e, CD11b, Gr1, Ter119, Ly6c) <sup>-</sup> CD19 <sup>-</sup> CD24 <sup>-</sup> CD43 <sup>mid</sup> AA4.1 <sup>+</sup> B220 <sup>+</sup>	B-cell progenitor staging
Pro-B	Lineage (CD3e, CD11b, Gr1, Ter119, Ly6c) <sup>-</sup> B220 <sup>+</sup> CD43 <sup>+</sup> CD19 <sup>+</sup> CD24 <sup>mid</sup> AA4.1 <sup>+</sup>	B-cell progenitor staging

HSC hematopoietic stem cell; MPP multipotent progenitor; DN double negative.

**Table S2.** Antibodies and Viability Stains Used for FACS Staining

<b>Antigen</b>	<b>Conjugate</b>	<b>Company</b>	<b>Catalogue Number</b>	<b>Staining panel</b>
AA4.1	PE Cy7	eBio	25-5892-81	B Cell staging
B220	PE Cy5	BD	553091	CCR9, HSC
B220	PE TxR	BD	551489	Lin, B Cell staging
B220	APC	BioL	103211	Thymocyte progenitor staging
CCR9	APC	eBio	17-1991-82	CCR9
Cd11c	APC	eBio	17-0114-81	Thymocyte progenitor staging
CD150	PE Cy7	BioL	115914	CCR9, HSC
CD19	PE Cy7	eBio	25-0193-82	Lin
CD19	APC	BD	550992	Thymocyte progenitor staging
CD19	FITC	BD	553785	B Cell staging
CD24	PE	eBio	12-0242-81	B Cell staging
CD25	Per CP Cy5.5	BD	551071	Thymocyte progenitor staging
CD3e	APC	eBio	17-0031-81	Thymocyte progenitor staging
CD3e	Biotin	eBio	13-0033-82	B Cell staging
CD4	PE Cy5	BD	553050	CCR9, HSC
CD4	APC eF780	eBio	47-0042-82	Lin
CD4	AF700	eBio	56-0042-82	Thymocyte progenitor staging
CD43	APC	BD	560663	B Cell staging
CD44	FITC	BD	553133	Thymocyte progenitor staging
CD48	PE	BioL	103405	CCR9
CD48	APC	BioL	130412	HSC
CD5	PE Cy5	BioL	100610	CCR9, HSC
CD8	APC eF780	eBio	47-0081-82	Lin
CD8a	PE Cy5	BD	553034	CCR9, HSC
CD8a	PE Cy7	eBio	25-0081-82	Thymocyte progenitor staging
cKit	APC Cy5.5	Invitrogen	RM6219	B Cell staging
c-Kit	APC eF780	eBio	47-1171-82	CCR9, HSC, ETP

<b>Antigen</b>	<b>Conjugate</b>	<b>Company</b>	<b>Catalogue Number</b>	<b>Staining panel</b>
Flt3	PE	BD	553842	HSC
Flt3	PE	BioL	135305	Thymocyte progenitor staging
Gr1	PE Cy5	BioL	108410	CCR9, HSC
Gr1	FITC	eBio	11-5931-85	Lin
Gr1	Biotin	eBio	13-5931-82	B Cell staging
Gr1	APC	BioL	108412	Thymocyte progenitor staging
Kit	APC	BD	553356	Lin
Ly6C	Biotin	BD	557359	B Cell staging
Mac1	PE Cy5	BioL	101210	CCR9, HSC
Mac1	PE	eBio	12-0112-85	Lin,
Mac1	Biotin	eBio	13-0112-82	B Cell staging
NK1.1	PB	BioL	108722	Lin
NK1.1	APC	eBio	17-5941-82	Thymocyte progenitor staging
Sca-1	PB	BioL	122520	CCR9, HSC
Streptavidin	QD655	MP	Q10121MP	B Cell staging
Ter119	PE Cy5	BioL	116210	CCR9, HSC
Ter119	Biotin	Invitrogen	MTER15	B Cell staging
Viability	DAPI dilactate (4',6-diamidino-2-phenylindole, dihydrochloride)	Invitrogen	D3571	Thymocyte and B-cell staging
Viability	7-aminoactinomycin D (7-AAD)	Sigma	A9400	HSC, Lin, CCR9

HSC hematopoietic stem cell; MPP multipotent progenitor

**Table S3.** Taqman Assays (Applied Biosystems) Used for Multiplex Quantitative Real-Time PCR

<b>Assay</b>	<b>Assay ID</b>
<i>Cd79a</i>	Mm00432423_m1
<i>Cebpa</i>	Mm00514283_s1
<i>Cebpb</i>	Mm00843434_s1
<i>Cited2</i>	Mm00516121_m1
<i>Csf1r</i>	Mm00432689_m1
<i>Csf2r</i>	Mm00438331_g1
<i>Csf3r</i>	Mm00432735_m1
<i>Ebfl</i>	Mm00395519_m1
<i>Eklf</i>	Mm00516096_m1
<i>Epor</i>	Mm00438760_m1
<i>Gapdh</i>	Mm99999915_g1
<i>Gata1</i>	Mm00484678_m1
<i>Gata3</i>	Mm00484683_m1
<i>Hes1</i>	Mm01342805_m1
<i>Hes5</i>	Mm00439311_g1
<i>HoxB4</i>	Mm00657964_m1
<i>Hprt1</i>	Mm00446968_m1
<i>Id1</i>	Mm00775963_g1
<i>Il2ra</i>	Mm00434261_m1
<i>Il7r</i>	Mm00434295_m1
<i>Il7r</i>	Mm00434295_m1
<i>Mafb</i>	Mm00627481_s1
<i>Mcl1</i>	Mm00725832_s1
<i>Meis1</i>	Mm00487664_m1
<i>Mpl</i>	Mm00440310_m1
<i>Myb</i>	Mm00501741_m1
<i>Notch1</i>	Mm00435249_m1
<i>Pax5</i>	Mm00435501_m1
<i>Pim1</i>	Mm00435712_m1

<b>Assay</b>	<b>Assay ID</b>
<i>Rag1</i>	Custom
<i>Rag2</i>	Mm00501300_m1
<i>Sfp1</i>	Mm00488140_m1
<i>sIgH</i>	Custom
<i>Socs1</i>	Mm00782550_s1
<i>Vwf</i>	Mm00550376_m1