

Primary Transplant	% of Peripheral Blood				
	% CD45.2 <sup>+</sup>	% CD45.2 <sup>+</sup> Granulocytes	B Cells	T Cells	Myeloid
<b>Total</b>	20.97±5.16	35.24±7.96	9.74±3.09	3.34±1.90	6.96±1.55
<b>GFP<sup>Hi</sup></b>	30.25±6.04	64.60±6.27	14.01±3.50	2.66±1.47	12.50±1.77
<b>GFP<sup>Lo</sup></b>	10.07±3.16	22.56±6.57	5.85±2.38	0.91±0.38	2.96±0.95
<b>Secondary Transplant</b>					
<b>Total</b>	14.55±2.87	20.54±7.98	5.97±1.33	4.06±1.29	4.28±1.65
<b>GFP<sup>Hi</sup></b>	12.03±3.95	29.70±7.58	11.61±5.79	1.13±0.46	4.04±1.11
<b>GFP<sup>Lo</sup></b>	1.30±0.65	1.40±0.49	0.80±0.41	0.26±0.21	0.20±0.06

**Table S1 – Related to Figure 1. Donor cell contribution to peripheral blood.** White blood cell and granulocyte contributions, as well as donor derived lineage contributions to total peripheral blood at the end of primary (22 weeks) or secondary (24 weeks) transplantation. Data are represented as mean ± SEM of 8-14 mice per group from two independent experiments.

	Mice Reconstituted	Repopulating Cell Frequency (1/x)	Repopulating Cell Range (95% CI)	Cell #/ Mouse	Cell # Range (95% CI)	CD45.2 <sup>+</sup> Chimerism (% ± SEM)
<b>GFP<sup>Lo</sup> CD41<sup>+</sup></b>	6/12	21.6	9.57<x<49.0	0.69	1.57>x>0.31	1.12±0.67%
<b>GFP<sup>Lo</sup> CD41<sup>-</sup></b>	7/11	14.8	6.85<x<32.1	1.01	2.19>x>0.47	13.09±11.73%
<b>GFP<sup>Hi</sup> CD41<sup>+</sup></b>	4/6	13.7	4.87<x<38.2	1.09	3.08>x>0.39	37.59±19.55%
<b>GFP<sup>Hi</sup> CD41<sup>-</sup></b>	7/9	9.97	4.42<x<22.5	1.50	3.39>x>0.67	27.70±6.62%

**Table S2 – Related to Figure 3. Limiting dilution analysis of aging HSC populations.** CD45.2<sup>+</sup> chimerism was determined at 24 weeks in primary transplantation, and averaged between all mice considered repopulated regardless of retrospectively identified repopulating cell type.

**Table S3: Antibody Panel Related to STAR Methods**

	Lineage Cocktail					Stem/progenitor Panel										Cell Cycle		Peripheral Blood				Viability			
	CD3e	B220	CD11b	Gr1	Ter119	Streptavidin PE/Cy5 or eFluor450	c-KIT (PE or APC)	Sca-1 (PacificBlue)	CD48 (Biotin)	Flk2 (Biotin)	CD150 (PE/Cy7)	CD41 (APC)	IL-7R $\alpha$	Fc $\gamma$ RIII	CD34	Ki67 (PE)	DNA Content	CD45.2	CD4	CD8a	B220 (PE/Cy7)		CD11b (APC/Cy7)	Gr1 (APC/Cy7)	
HSC panel (UBC Analysis)	17A2 (Biotin)	RA3-6B2 (Biotin)	M1/70 (Biotin)	R86-8C5 (Biotin)	TER-119 (Biotin)	PE/Cy5 or eFluor450	288 (PE or APC)	D7 (APC/Cy7 or PacificBlue)	HM48-1 (Biotin)	A2F10 (Biotin)	TC15-12F12.2 (PE/Cy7)	eBiomWreg31 (APC)													DAPI or PI
HSC panel (Cell Cycle)	17A2 (Biotin)	RA3-6B2 (Biotin)	M1/70 (Biotin)	R86-8C5 (Biotin)	TER-119 (Biotin)	PE/Cy5 or APC	288 (FITC or PerCP/Cy5.5)	D7 (APC/Cy7 or PacificBlue)	HM48-1 (Biotin)	A2F10 (Biotin)	TC15-12F12.2 (PE/Cy7)	eBiomWreg31 (APC)				SoIA15 (PE)									DAPI
HSPC Analysis (After Transplantation)	17A2 (Biotin)	RA3-6B2 (Biotin)	M1/70 (Biotin)	R86-8C5 (Biotin)	TER-119 (Biotin)	APC/Cy7	288 (PE)	D7 (PacificBlue)	HM48-1 (PerCP/Cy5.5)		TC15-12F12.2 (PE/Cy7)	eBiomWreg31 (APC)													DAPI
Myeloid Progenitors (After Transplantation)	17A2 (Biotin)	RA3-6B2 (Biotin)	M1/70 (Biotin)	R86-8C5 (Biotin)	TER-119 (Biotin)	APC/Cy7	288 (APC)	D7 (PacificBlue)																	DAPI
CLP (After Transplantation)	17A2 (Biotin)	RA3-6B2 (Biotin)	M1/70 (Biotin)	R86-8C5 (Biotin)	TER-119 (Biotin)	APC/Cy7	288 (APC)	D7 (PacificBlue)		A2F10 (PE)															DAPI
Peripheral Blood																									DAPI

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