Supporting Information

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Fig. S1. Immunophenotype and morphology of BMNC. (*A*) Lineage distribution of WT and NHD13 donor BMNC (six of each genotype). Mean ± SEM is displayed. (*B*) Representative FACS profiles for Mac-1/Gr-1 staining of BMNC. Note the increase in Mac1+Gr1dim cells in the NHD13 BM. (*C*) MGG staining of BM from NHD13 donors. Arrowheads indicate dysplastic cells. *, *P* < 0.05; **, *P* < 0.01.



Fig. 52. Transplantation of MDS in the absence of supporting WT BMNC. (*A*) Hemoglobin levels of the recipients. (*B*) MCV values. (*C*) Total WBC counts with myeloid cell (Polys) and lymphoid cell (Lym) counts. (*D*) Percent engraftment of donor origin cells (Ly5.2+). The results represent pooled data from two independent experiments. *n*, number of mice. Error bars, SEM; *, P < 0.05; **, P < 0.01.

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Fig. S3. Competitive repopulation assay. Lethally irradiated recipient mice (Ly5.1+) received 1×10^5 donor BMNC cells (Ly5.2+) together with 1×10^5 competitor BMNC cells (Ly5.1+). Recipient mice were sacrificed at 2 and 6 weeks after transplantation for analysis of engraftment in the PB and BM. (A) Percent engraftment of donor origin in PB and BM of recipients. (B) The engraftment ratio of PB versus BM. Error bars, SEM; *, P < 0.05; **, P < 0.01.

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Fig. S4. Presence of an M-IC in the lineage-negative BMNC population. Unfractionated (1×10^6) (A–C) or 5×10^4 Lin⁻ (*D*–*F*) donor BMNC (Ly5.2+), together with a life-sparing dose of 1×10^5 WT BMNC (Ly5.1+) were transplanted into lethally irradiated recipients. (*A* and *D*) Hemoglobin levels. (*B* and *E*) MCV values. (*C* and *F*) Total WBC counts and donor engraftment cell counts. *n*, number of mice. Error bars, SEM; *, *P* < 0.05; **, *P* < 0.01.

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Fig. S5. Mouse 2Pe65.1 with AML at week 49 after transplant. (A) Infiltrated liver stained with H&E or anti-myeloperoxidase antibody. Original magnifications, ×100 and ×400. (B) Peripheral blood CBC. (C) BM cytospin, original magnification ×1,000. (D) FACS analysis of Ly5.2+ splenocytes stained with Mac-1 and Gr-1 antibodies.

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Fig. S6. Mouse 2Pe65.4 with AML at week 46 after transplant. (A) Infiltrated liver stained with H&E or anti-myeloperoxidase antibody. Original magnifications, ×100 and ×400. (B) Peripheral blood CBC. (C) BM cytospin, original magnification, ×1,000. (D) FACS analysis of Ly5.2+ splenocytes stained with Mac-1 and Gr-1 antibodies.

Table S1. Hematologic features of BMT donors

	Peripheral CBC								Bone Marrow	
Donor	RBC (millions per HGB microliter) g/dl		MCV, fl	PLT (thousands per microliter)	WBC (thousands per microliter)	Polys (thousands per microliter)	Lym, (thousands per microliter)	No. of cells (×10 ⁶ per 2f2t)	Blast, %	
NHD13 (n = 6)	7.56*	11.57*	56.15**	720.0	3.48**	1.08*	1.77**	66.8	11.9	
SD	±2.27	±2.74	±7.12	±460.3	±1.50	±0.74	±0.66	±7.12	±2.9	
WT (n = 6)	10.62 + 2.50	14.93 + 2.06	44.38 + 1.87	1254.2 + 578 5	10.87 +1.88	2.44 +1.00	7.13 +2.77	72.6 +1.06	9.9 +3.4	
50	_2.50	_2.00	_1.07	_370.3	=1.00	=1.00	_2.77	=1.00	+	

2f2t, two femora and two tibiae. *, *P* < 0.05; **, *P* < 0.01.

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Table S2. Nonirradiated recipient mice transplanted with BMNC from NHD13 or WT mice

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Mouse ID		MCV, fl	PLT (thousands per microliter)	WBC (thousands per microliter)	Polys (thousands per microliter)	Lym (thousands per microliter)	Ly5.2 positive cells, %		
	HGB, g/dl						РВ	Spleen ⁺	BM ⁺
16 weeks afte	er transplantat	tion							
NHD13 #1	14.90	44.20	823.00	10.80	2.86	7.73	0.46	0.55	1.44
NHD13 #2	15.30	43.50	882.00	11.24	2.81	8.01	0.58		
NHD13 #3	16.40	44.00	801.00	10.52	2.54	7.70	0.56		
Mean	15.53	43.90	835.33	10.85	2.74	7.81	0.53		
SD	±0.78	±0.36	±41.88	±0.36	±0.17	±0.17	± 0.06		
WT#1	14.60	43.60	721.00	10.68	2.77	7.72	0.26	0.30	0.57
WT#2	16.40	43.00	783.00	12.90	3.93	8.37	0.24		
WT#3	16.00	42.00	815.00	11.30	3.32	7.65	1.19		
Mean	15.67	42.87	773.00	11.63	3.34	7.91	0.56		
SD	±0.95	±0.81	±47.79	±1.15	±0.58	±0.40	± 0.54		
58 weeks afte	er transplantat	tion							
NHD13 #1	15.30	46.90	748.00	14.58	4.51	9.58	0.47		
NHD13 #2	15.90	47.00	946.00	9.72	2.41	6.98	0.56		
Mean	15.60	46.95	847.00	12.15	3.46	8.28	0.52		

The recipient received 1×10^6 of BMNC. CBCs were acquired from the recipient mice at 16 and 58 weeks after translplantation. [†]The recipients were killed at 17 weeks after transplantation.

Table S3. Clinical outcome of secondary transplant recipient mice

		Weeks		WBC (thousands		PLT (thousands				
ID	Health status	(post-Tx)	Blasts*, %	per microliter)	HGB, g/dl	MCV, fl	per microliter)	Diagnosis		
P#1	Morbid	17	26.1	20.3	11.3	59.9	97	AML		
P#2	Morbid	17	47.4	6.42	11.9	61.3	406	AML		
P#3	f.d.	32	ND	ND	ND	ND	ND	Unknown		
P#4	Morbid	16	21.3	40.4	9.5	59.5	411	AML		
P#5	f.d.	23	ND	ND	ND	ND	ND	Unknown		
2P#1	f.d.	24	ND	ND	ND	ND	ND	Unknown		
2P#2	Morbid	17	38.5	22.8	12.3	60.1	649	AML		
2P#3	Morbid	32	23.6	47.22	7.5	70.6	525	AML		
2P#4	Morbid	22	23.75	ND	ND	ND	ND	AML		
2P#5	f.d.	14	ND	ND	ND	ND	ND	Unknown		

f.d., found dead; ND, not done; post-Tx, after transplantation. *Percentage of blasts in bone marrow.

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