

Supplementary Table S1A: Frequency of platelet producing cells in Lin⁻ALDH⁺ CB at different time points post-transplant

CB unit	Dose	# Positive/Total mice			
		Week 3	Week 6	Week 13	Week 20
1	1000	2/2	1/2	1/2	2/2
	5000	2/2	1/2	1/2	1/1
2	1000	0/2	0/2	1/2	2/2
	5000	2/2	2/2	2/2	2/2
3	5000	4/4	3/3	3/3	3/3
4	250	1/4	0/4	1/4	1/4
	750	6/9	1/9	5/9	1/9
	2500	4/7	5/7	5/7	6/7
	6000	3/3	2/3	3/3	
5	13000	3/3	3/3	3/3	
	4000	3/3	2/3		
6	1000	2/3	3/3	2/3	2/3
	5000	2/2	2/2	2/2	2/2
	10000	3/3	3/3	2/2	2/2
7	5000	4/4	2/4	2/4	2/4
Overall frequency 95% CI		1 in 1255 1 in 1970 - 1 in 799	1 in 2984 1 in 4523 - 1 in 1968	1 in 1993 1 in 3105 - 1 in 1279	1 in 1836 1 in 2939 - 1 in 1146

CI: Confidence interval

Supplementary Table S1B: Frequency of platelet producing cells in Lin⁻ALDH⁺ mPB at different time points post-transplant

mPB unit	Dose	# Positive/Total mice			
		Week 3	Week 6	Week 13	Week 20
1	1000	3/3	2/2	0/2	0/2
	5000	3/3	2/3	0/3	0/3
2	2000	8/8	6/8	0/8	0/8
	4200	2/2	0/2	0/2	0/2
3	4750	1/2	0/2	0/2	0/1
	670	1/3	1/3	0/3	0/3
4	10000	1/2	1/2	0/2	0/2
	12000	3/3	1/3	0/3	0/2
5	46000	3/3	3/3	0/2	0/2
	1000	0/2	0/2	0/2	
6	3000	1/3	0/3	0/3	
	9000	0/2	0/2	0/2	
Overall frequency		1 in 3246	1 in 8530	< 1 in 229910	< 1 in 200910
95% CI		1 in 5422 - 1 in 1944	1 in 15465 - 1 in 4704		

CI: Confidence interval

Supplementary Table S1C: Frequency of neutrophil producing cells in Lin⁻ALDH⁺ CB at different time points post-transplant

CB unit	Dose	# Positive/Total mice			
		Week 3	Week 6	Week 13	Week 20
1	1000	2/2	2/2	2/2	2/2
	5000	2/2	2/2	2/2	2/2
2	1000	2/2	1/2	2/2	2/2
	5000	2/2	2/2	2/2	2/2
3	5000		3/3	3/3	3/3
4	250	1/4	0/4	1/4	3/4
	750	6/9	4/9	6/9	7/9
	2500	6/7	5/7	6/7	7/7
	6000	3/3	3/3	3/3	
	13000	3/3	3/3	3/3	
5	4000	3/3	3/3		
6	1000	2/3	2/3	3/3	3/3
	5000	2/2	2/2	2/2	2/2
	10000	3/3	2/3	2/2	2/2
7	5000	4/4	4/4	3/4	3/4
Overall frequency 95% CI		1 in 777 1 in 1292 - 1 in 468	1 in 1737 1 in 2668 - 1 in 1132	1 in 766 1 in 1340 - 1 in 438	1 in 737 1 in 1235 - 1 in 439

CI: Confidence interval

Supplementary Table S1D: Frequency of neutrophil producing cells in Lin⁻ALDH⁺ mPB at different time points post-transplant

mPB unit	Dose	# Positive/Total mice			
		Week 3	Week 6	Week 13	Week 20
1	1000	3/3	2/2	0/2	1/1
	5000	3/3	3/3	1/3	1/3
2	2000	8/8	8/8	4/8	1/8
	4200	2/2	0/2	0/2	0/2
3	4750	2/2	1/2	0/2	0/2
	670	2/3	1/3	0/3	0/3
4	10000	2/2	1/2	0/2	0/2
	12000	1/3	0/3	0/3	0/2
5	46000	3/3	3/3	1/2	2/2
	1000	0/2	0/2	0/2	
6	3000	0/3	0/3	0/3	
	9000	0/2	1/2	0/2	
Overall frequency		1 in 3707	1 in 6176	1 in 32509	1 in 24876
95% CI		1 in 6217 - 1 in 2211	1 in 10788 - 1 in 3536	1 in 77627 - 1 in 13614	1 in 61921 - 1 in 9994

CI: Confidence interval

Supplementary Table S2: Calculated number of 3-week NSG platelet and neutrophil producing cells in 42 individual mPB samples

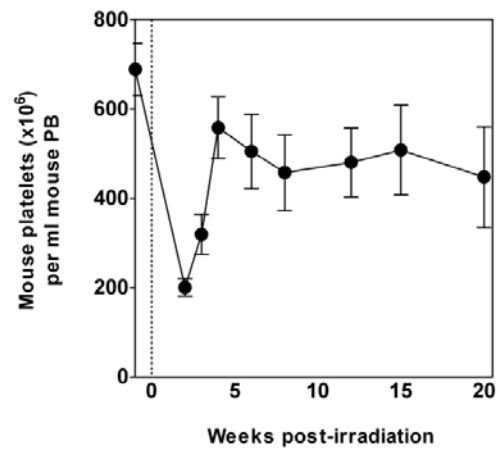
Sample ID	Transplant cell dose/kg weight in patient		Days to recovery		Measured week 3 output		Cal. no. of week 3 producing cells per 2×10^5 CD34 ⁺ cells	
	34 ⁺ x10 ⁸	ALDH ⁺ x 10 ⁶	Platelet	Neutrophil	Platelet (x10 ³)/ml mouse PB	Neutrophil (%) in mouse BM	Platelet	Neutrophil
1	0.08	0.18	34	25	1300	11	21	37
2	0.03	0.09	22	10	36	0.2	0.59	0.66
3	0.07	0.41	21	10	81	0.57	1.3	1.8
4	0.03	0.19	19	11	36	0.05	0.59	0.15
5	0.06	0.25	19	11	10	0.05	0.17	0.17
6	0.03	0.37	18	11	49	0.4	0.81	1.3
7	0.04	0.02	17	11	55	0.04	0.91	0.11
8	0.04	0.55	17	19	170	5.1	2.8	17
9	0.06	0.17	16	10	71	0.05	1.2	0.17
10	0.07	1.1	16	10	250	5.7	4.1	18
11	0.03	0.04	15	11	31	0.04	0.52	0.11
12	0.07	0.45	15	11	36	0.86	0.59	2.8
13	0.1	0.64	15	11	30	0.2	0.49	0.65
14	0.02	0.07	14	14	490	9.5	8.1	31
15	0.25	6.5	13	9	3200	13	53	40
16	0.07	1.5	13	12	21000	8.6	350	28
17	0.06	0.18	13	10	58	3.1	0.96	10
18	0.1	0.54	13	10	170	3.6	2.8	12
19	0.21	3.1	12	13	3700	16	61	52
20	0.1	0.74	12	9	990	3.6	16	12
21	0.09	0.56	12	14	8900	23	150	73
22	0.07	2	12	11	670	10	11	33
23	0.03	0.16	12	15	69	0.37	1.2	1.2
24	0.13	2	11	9	1900	12	31	38
25	0.09	1.5	11	15	180	1.3	2.9	4.3

Cont. Supplementary Table S2

Sample ID	Transplant cell dose/kg weight in patient		Days to recovery		Measured week 3 output		Cal. no. of week 3 producing cells per 2×10^5 CD34 ⁺ cells	
	34 ⁺ x10 ⁸	ALDH ⁺ x 10 ⁶	Platelet	Neutrophil	Platelet (x10 ³)/ml mouse PB	Neutrophil (%) in mouse BM	Platelet	Neutrophil
26	0.08	1.1	11	11	440	19	7.2	61
27	0.04	0.18	11	13	3400	9.3	56	30
28	0.12	3.2	10	9	85	4.2	1.4	13
29	0.1	1.6	10	16	460	6.8	7.6	22
30	0.07	0.66	10	11	82	1.4	1.4	4.4
31	0.27	2	9	10	290	8.6	4.8	28
32	0.26	2.3	9	12	91	1.9	1.5	6.1
33	0.18	2.9	9	14	450	1.8	7.4	5.8
34	0.16	3.6	9	12	1000	26	17	84
35	0.13	0.81	9	11	480	1.2	8	3.9
36	0.44	7.5	8	10	1900	8.2	32	26
37	0.44	12	8	10	68	0.15	1.1	0.47
38	0.18	1.1	8	11	1200	4.6	19	15
39	0.17	0.95	8	21	1500	1.8	25	5.8
40	0.04	0.3	8	11	64	0.03	1.1	0.08
41	0.17	2.8	7	17	720	1	12	3.2
42	0.13	1.6	6	10	250	0.56	4	1.8

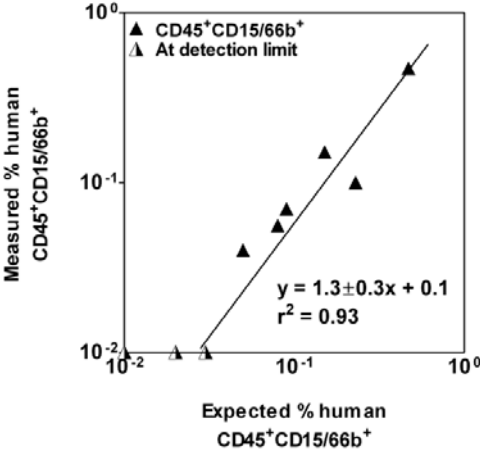
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Supplementary Figure S1

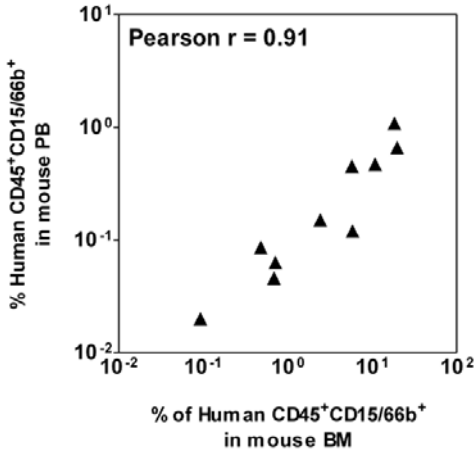


Supplementary Figure S2

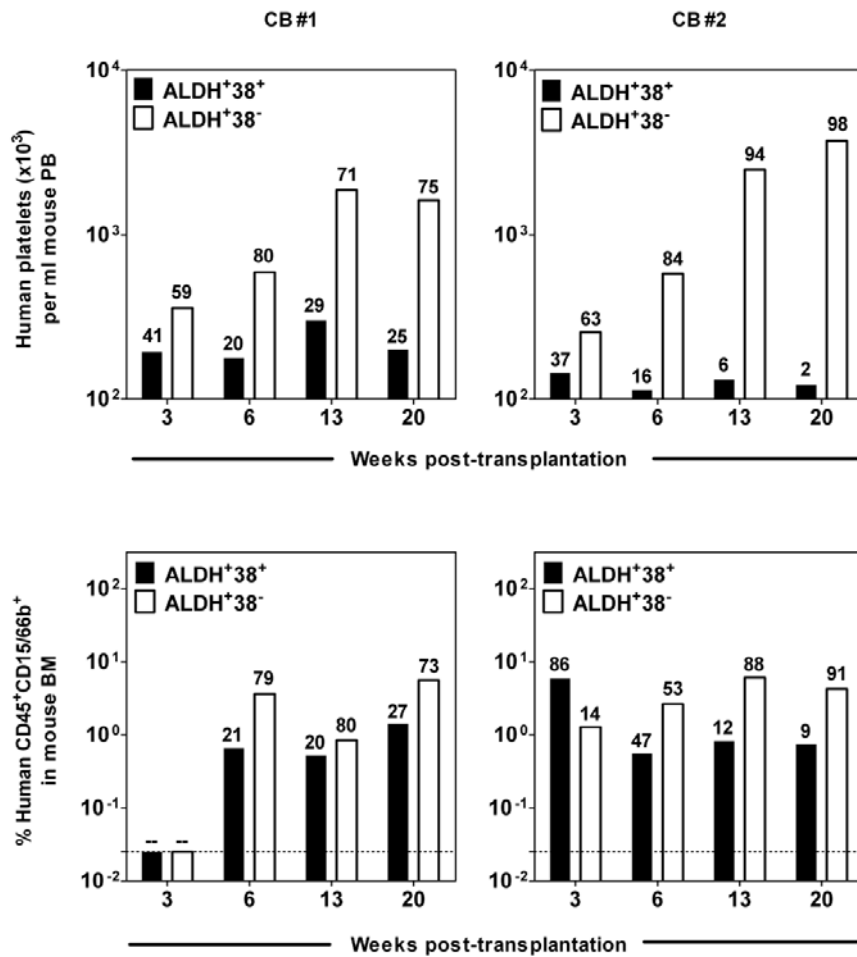
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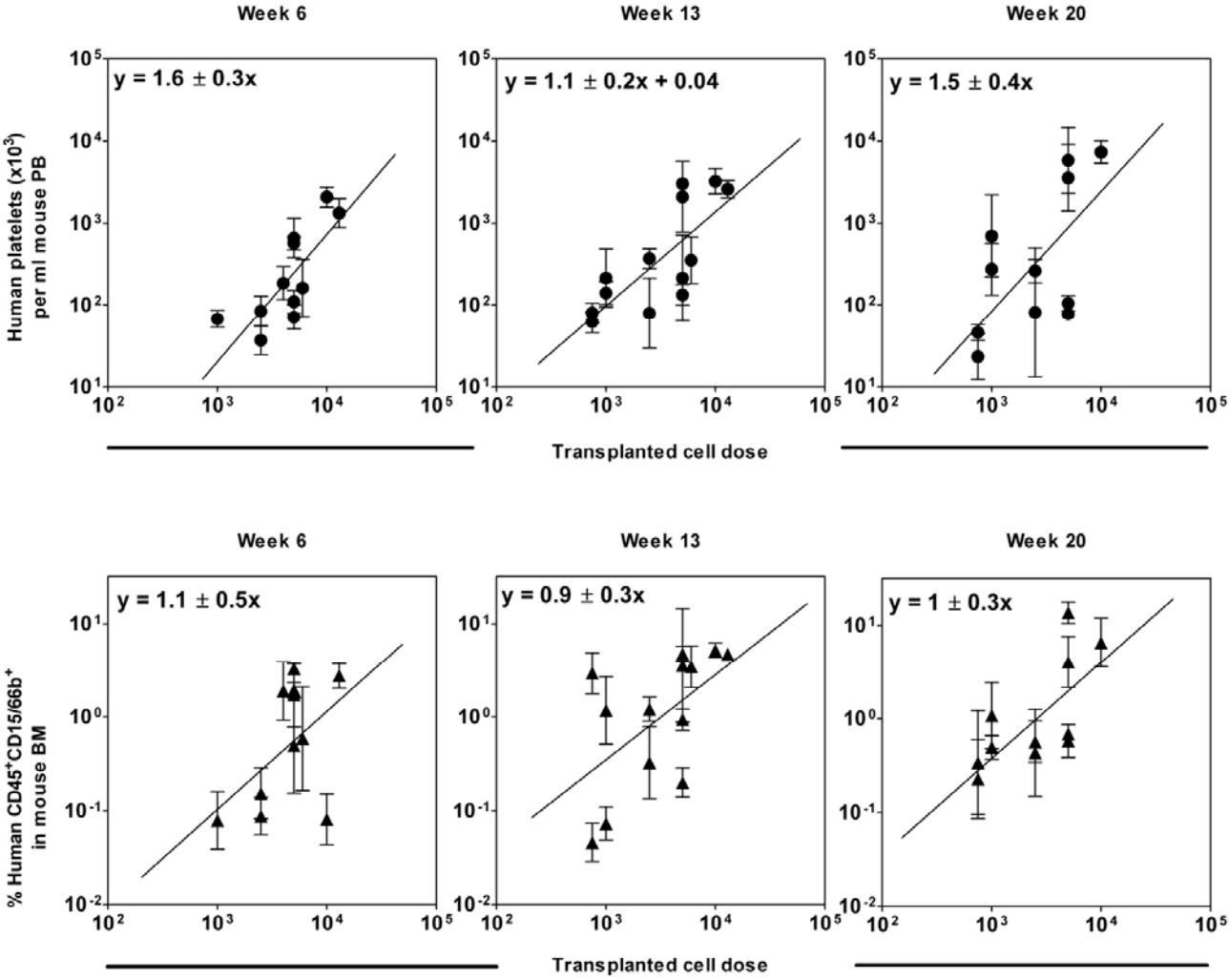
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Supplementary Figure S3



Supplementary Figure S4



Supplementary Figure Legends

Supplementary Figure S1: Kinetics of circulating platelet levels after sublethal irradiation (315 cGy) of adult (6-10 week-old) NSG mice

Starting values were measured one week before the irradiation. Values shown are the mean \pm SEM of measurements on 8 mice tracked over 20 weeks.

Supplementary Figure S2: Detection of human neutrophils in NSG mouse blood and BM

(A) The minimum number of human CD45⁺CD15/66b⁺ neutrophils detectable in mouse blood determined from an analysis of serial dilutions of human blood cells in undiluted mouse blood (= 0.01%). (B) Matching outputs of human neutrophils in the PB and BM of 10 individual mice expressed as a % of the total viable (PI⁻) nucleated cells (mouse and human) per ml PB or per femur. The calculated Pearson correlation coefficient shows a significant correlation between the values.

Supplementary Figure S3: CB sample-specific differences in their phenotype distributions of cells that produce platelets and neutrophils for varying periods in NSG mice

NSG mice were each transplanted with 4,000 Lin⁻ALDH⁺CD38⁺ CB cells or the cells from the matching fraction of Lin⁻ALDH⁺CD38⁻ cells of each of 2 separate CB samples and the numbers of human platelets in the PB (upper panels) or human neutrophils in the BM (lower

panels) were determined up to 20 weeks later. The number above each bar indicates the proportion of total platelet or neutrophil producing cell activities in that cell fraction. The dotted line in the lower panels indicates the limit of detection of human neutrophils in the BM.

Supplementary Figure S4: Linear relationship between the dose of Lin⁻ALDH⁺ CB cells transplanted and the level of human platelets and neutrophils detected up to 20 weeks later. Shown are the mean \pm SEM of data pooled from 7 experiments (groups of 2-5 mice per cell dose per experiment).