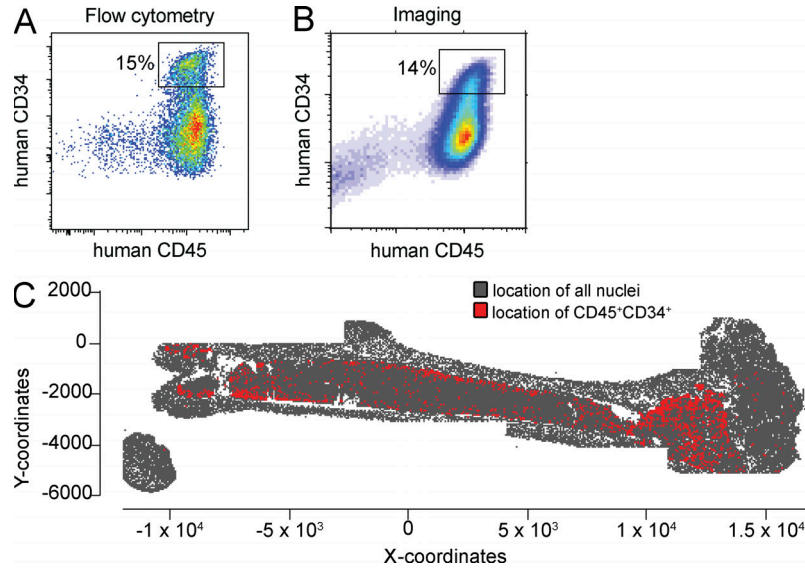
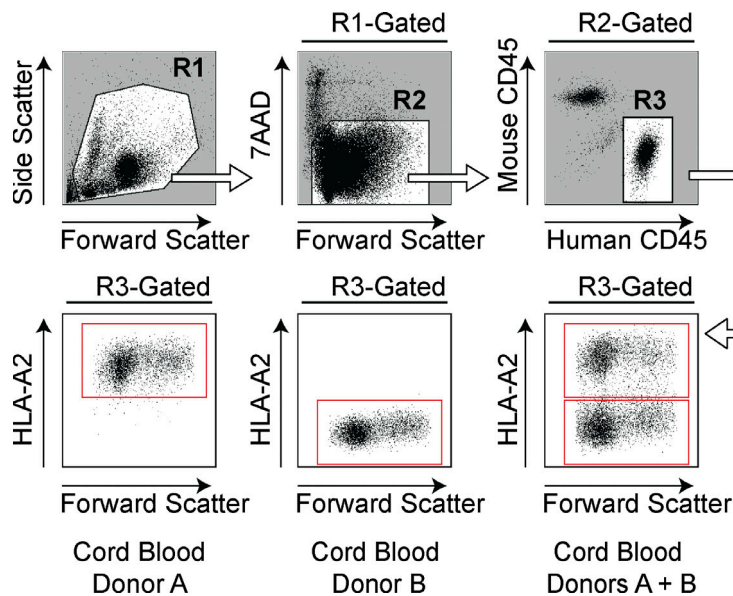


SUPPLEMENTAL MATERIAL

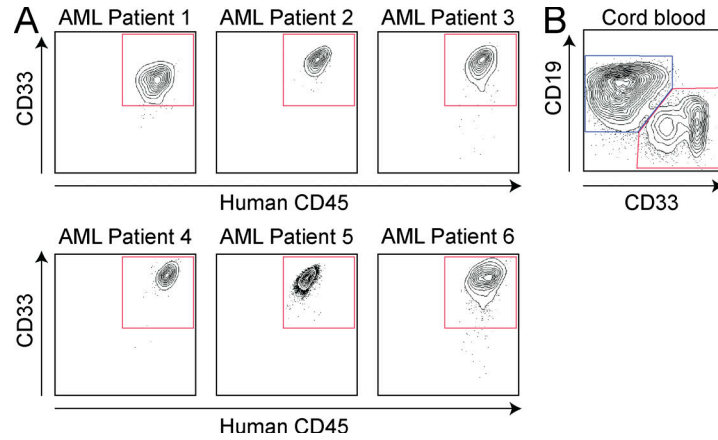
Boyd et al., <http://www.jem.org/cgi/content/full/jem.20140131/DC1>



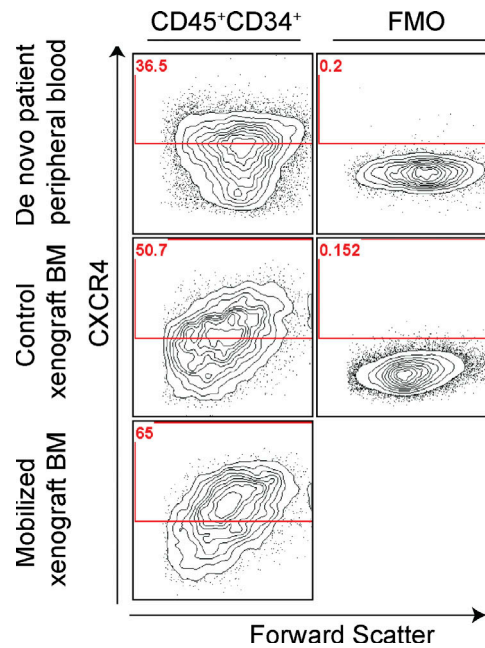
**Figure S1. Gating strategies to quantify primitive leukemic cells in xenografted mouse femurs.** Representative gating strategies showing similar frequencies of human CD45<sup>+</sup>CD34<sup>+</sup> cells detected from different bones of the same mouse, as measured by flow cytometry (A) or whole-bone section imaging (B). (C) Representative total distribution of individually detected CD45<sup>+</sup>CD34<sup>+</sup> cells within an AML-engrafted mouse femur.



**Figure S2. HLA-A2 mismatching provides a means to track hematopoietic cells from individual human donors transplanted into immunodeficient mice.** Representative flow cytometry strategy to analyze the use of HLA-A2 disparity as a means of monitoring relative BM graft contributions of primary cells from pairs of different human individuals.



**Figure S3. Multilineage gating strategy for cotransplanted human AML and CB samples.** (A) Representative multilineage flow cytometry gating strategy for each primary AML patient sample evaluated in HSPC cotransplantation experiments show exclusive myeloid leukemic engraftment after patient-specific HLA-A2 gating. (B) Representative gating strategy shows that multilineage hematopoiesis is evident from healthy CB-HSPCs cotransplanted with AML, as determined by donor-specific HLA-A2 gating. Both myeloid (red gate) and lymphoid (blue gate) subpopulations were consistently detected.



**Figure S4. Gating strategy to evaluate the influence of AML graft mobilization on CXCR4 expression.** Representative flow cytometry gating strategy showing that CXCR4 levels are appropriately increased on AML CD34<sup>+</sup> cells 1 h after mobilization (Petit et al., 2002). Fluorescence minus one (FMO) controls are included to demonstrate gating strategy.

**Table S1.** Clinical details of AML samples used.

Sample	Tissue source	Disease stage	Patient gender	Patient age
AML 1	PB	Progressed from MDS	Female	83
AML 2	PB	Relapse (M4)	Female	51
AML 3	PB	New diagnosis (M4)	Male	56
AML 4	BM	Relapse (M5b)	Male	71
AML 5	PB	New diagnosis	Female	89
AML 6	Leukapheresis	Progressed from MDS	Male	48

#### REFERENCE

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