Values are the means ± SEM from six independent experiments, with at least 50 random conjugates analyzed per experiment.

FIGURE 7. IL-2-expanded CB-NK cells exhibit potent *in vivo* anti-leukemic effector function by inhibition of primary human AML cells engraftment in NOD-SCID-IL2Rγ ^{null} mice. *A*, Schematic summary of *in vivo* functional studies using expanded CB-NK cells with a NOD-SCID-IL2Rγ^{null} model. BM, bone marrow. *B*, Representative flow cytometric analysis showing the percentage of CD45^{+} human leukemia cells detected in the peripheral blood of a control (saline treated) mouse versus a mouse treated with expanded (Ex.) CB-NK cells. Data are shown from weeks 5, 6, and 12 after CB-NK cell administration. *C*, The cumulative flow cytometric analysis of treated mice at weeks 5, 6, and 12 after infusion of IL-2 Ex. CB-NK cells compared with the control (saline treated) group is shown. Bars represent the percentage of human leukemia in the peripheral blood obtained from the control group (black bars) versus the Ex. CB-NK treated group (gray bars). Values are means ± SEM for 6 mice. Data show one of two independent studies using human AML primary cells.

Supplementary Figure legends

Supplementary FIGURE 1. Kinetics of the CB-NK cell expansion. **A**. Kinetics of IL-2 expansion CB-NK *vs.* PB-NK cells (control) within 14 day time period. The Y-axis shows the fold of expansion of total NK cells. **B**. Flow cytometry analysis of the kinetics of CD56^{+}NKp44^{+} expression on CB-NK cells at day 0, day5, day7, and day14 after IL-2 expansion. **C**. Flow cytometry analysis of CD27, CD11b expression of CB-NK cells

before and after IL-2 expansion. Left panel, unexpanded CB-NK cells gated on the CD56bright (top panel) and CD56dim (bottom panel) population. Right panel: IL-2 expanded CB-NK cells gated on CD56bright (top panel) and CD56dim (bottom panel) population.

Supplementary FIGURE 2. Representative flow cytometric analysis of human AML engrafted in the NOD-SCID-IL-2R/null mice. Mouse bone marrow cells were harvested 3 months after human AML cell infusion, and stained for human CD45, CD34, CD33, CD11b, and CD117.