Supplementary Figure 1

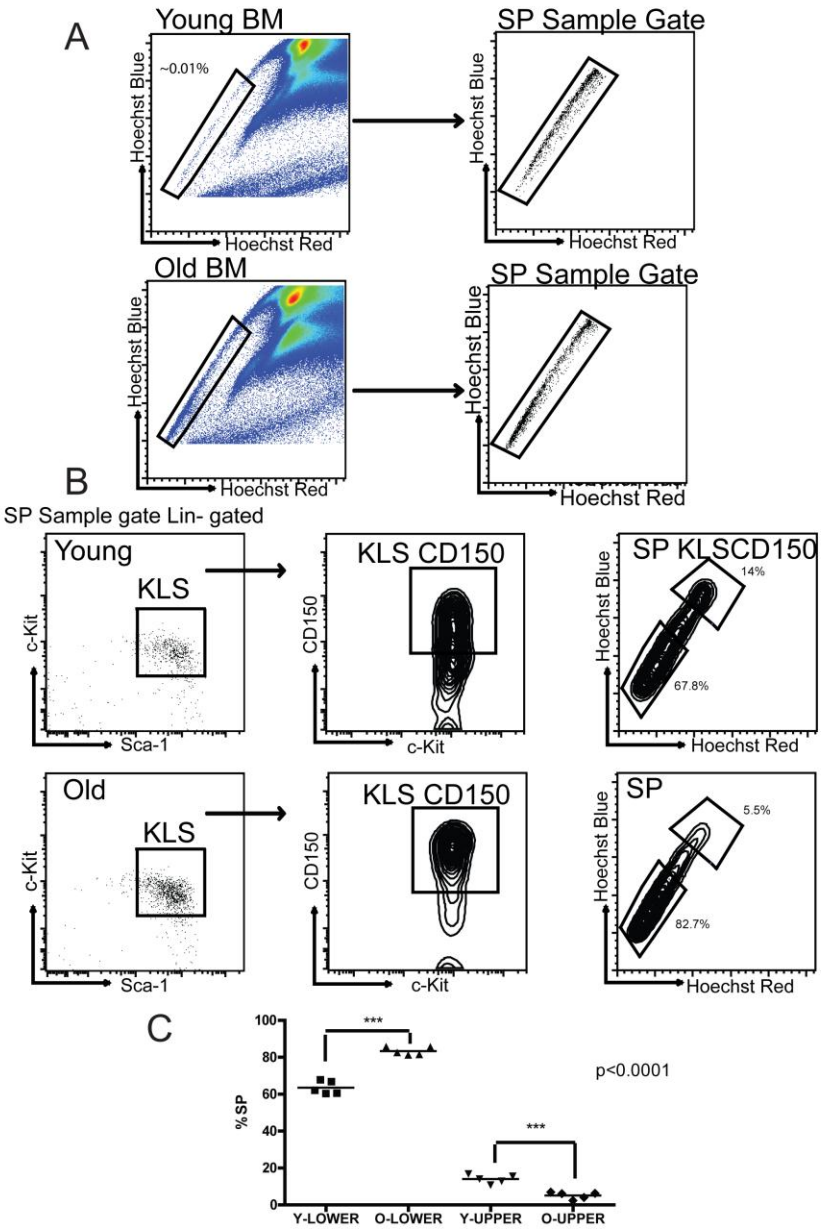
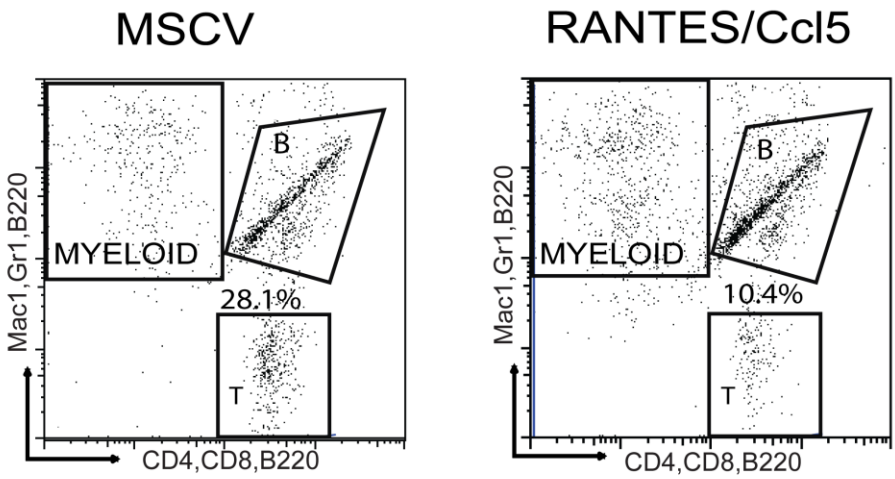


Figure S1. Myeloid-biased HSCs increase with aging. (A-B) BM of 2-3 month- or 22-24 month-old mice was analyzed for My-(lower-SP$^{KLS\text{-}CD150+}$) and Ly-bi HSCs (upper-SP$^{KLS\text{-}CD150+}$). Top panel demonstrates delineation of SP gate. From SP sample gate KLS cells were identified, followed by the CD150^{+} fraction, followed by analysis of lower- and upper-SP phenotypes. Representative FACS profiles of lower- and upper-SP$^{KLS\text{-}CD150+}$ HSCs from young and old mice. (C) Frequencies of lower- and upper-SP$^{KLS\text{-}CD150+}$ cells from young and old mice (n=5 Young, n=5 Old). Error bars represent SEM. Representative of 2 experiments.

Supplementary Figure 2

A



B

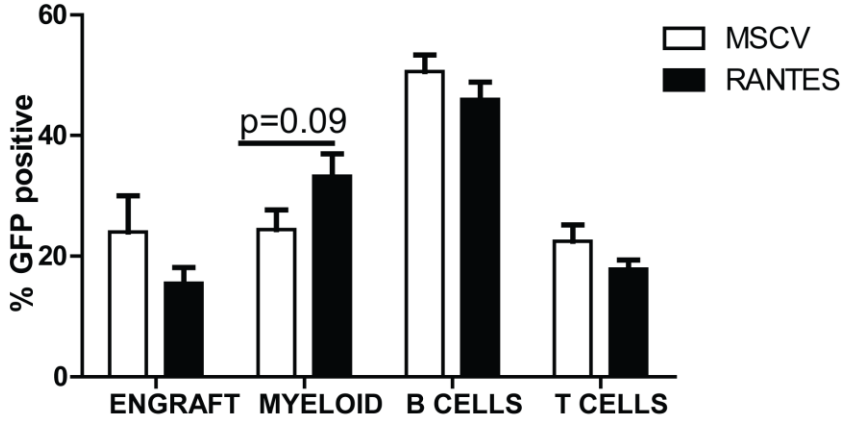


Figure S2. Effect of overexpression of Rantes on PB populations. (A) Representative PB lineage analyses of mice transplanted with control MSCV (GFP- transduced) or Rantes transduced (Rantes+ GFP) bone marrow cells 12 weeks after transplantation. Representative FACS profiles of lineages (Myeloid, B- cells and T-cells) within the donor-derived GFP+ cells in GFP-only or Rantes-GFP overexpressing mouse. (B) The graph represents the lineage distribution (Myeloid, B- cells, and T-cells) of GFP+ donor-derived white blood cells of mice transplanted with GFP-only or Rantes-GFP-transduced cells 16 weeks after transplantation (n=10). Error bars represent SEM.

Supplementary Figure 3

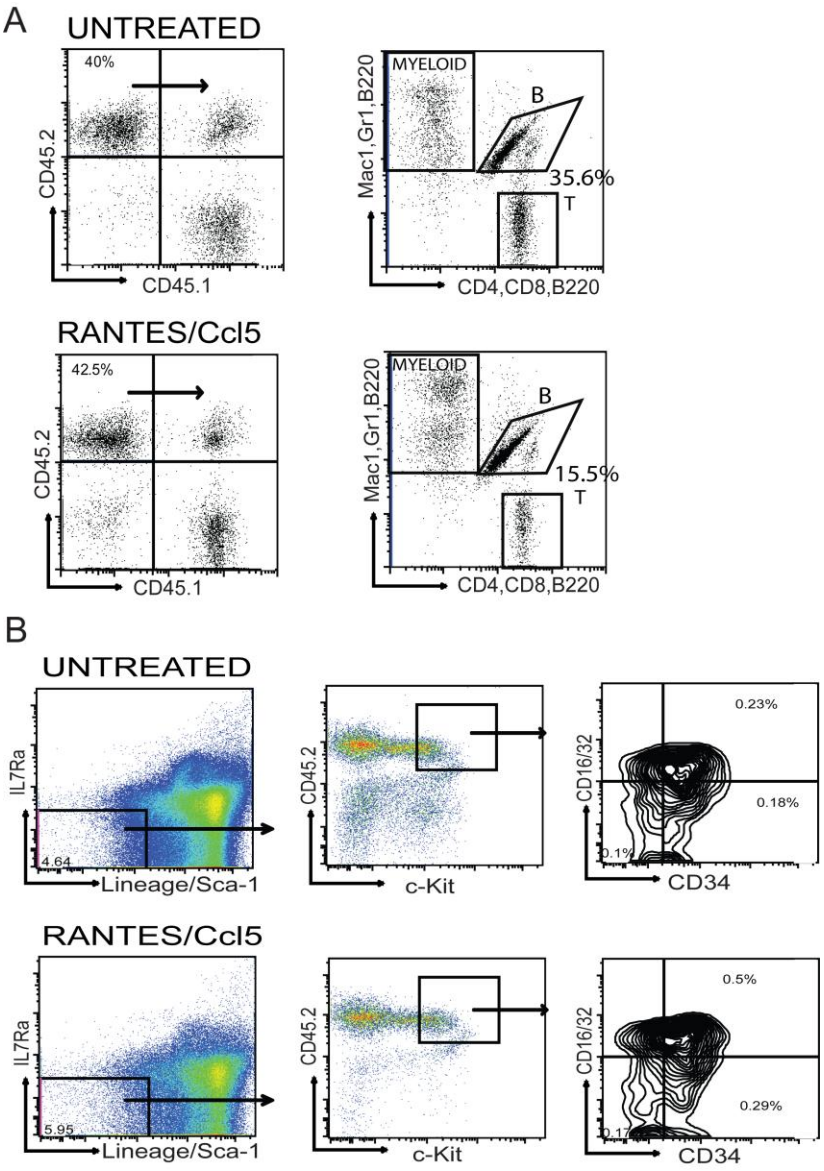


Figure S3. Effect of ex-vivo treatment of stem cells with Rantes/Ccl5 before transplantation. (A) Peripheral blood lineage analyses of mice transplanted with stem cells that are either un-treated or Rantes-treated ex-vivo before transplantation. Representative FACS profiles of lineage distribution of donor derived ($CD45.2^+$) white blood cells 16 weeks after transplantation. (B) Representative FACS profiles of BM frequencies of donor-derived myeloid progenitors in BM from mice transplanted with Rantes-treated or un-treated HSCs (SP^{KLS}) in a competitive transplantation. 5 months after-transplantation, HSC-derived progenitors was analyzed as follows, CMP: Lin^-, $Sca\text{-}1^-$, $IL7r\alpha^-$, $c\text{-}Kit^+$, $CD45.2^+$, $Fc\gamma R^{lo}\,CD34^+$; GMP: Lin^- $Sca\text{-}1^-$, $IL7r\alpha^-$, $c\text{-}Kit^+$, $CD45.2^+$, $Fc\gamma R^+\,CD34^+$; MEP: Lin^-, $Sca\text{-}1^-$, $IL7r\alpha^-$, $c\text{-}Kit^+$, $CD45.2^+$, $Fc\gamma R^-CD34^-$ (n=7 Untreated, n=7 Rantes).

Supplementary Figure 4

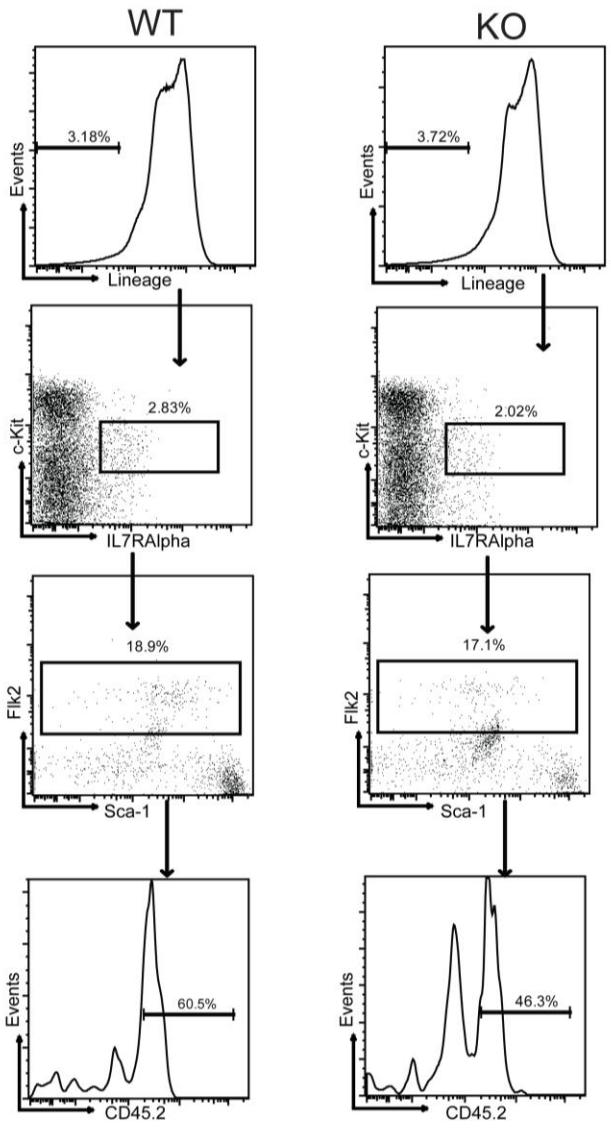


Figure S4.Effect of ex-vivo treatment of stem cells with Rantes/Ccl5 before transplantation. Representative FACS profiles of BM frequencies of donor-derived common lymphoid progenitors in BM from mice transplanted with Rantes-treated or untreated HSCs (SP^{KLS}) in a competitive transplantation. 5 months after-transplantation, HSC-derived CLPs were analyzed as follows : Lin^{-},IL7rα^{+}, c-Kit^{lo},$Flt3^{+}$, Sca-1^{lo} (n=7 untreated n=7 Rantes).

Supplementary Figure 5

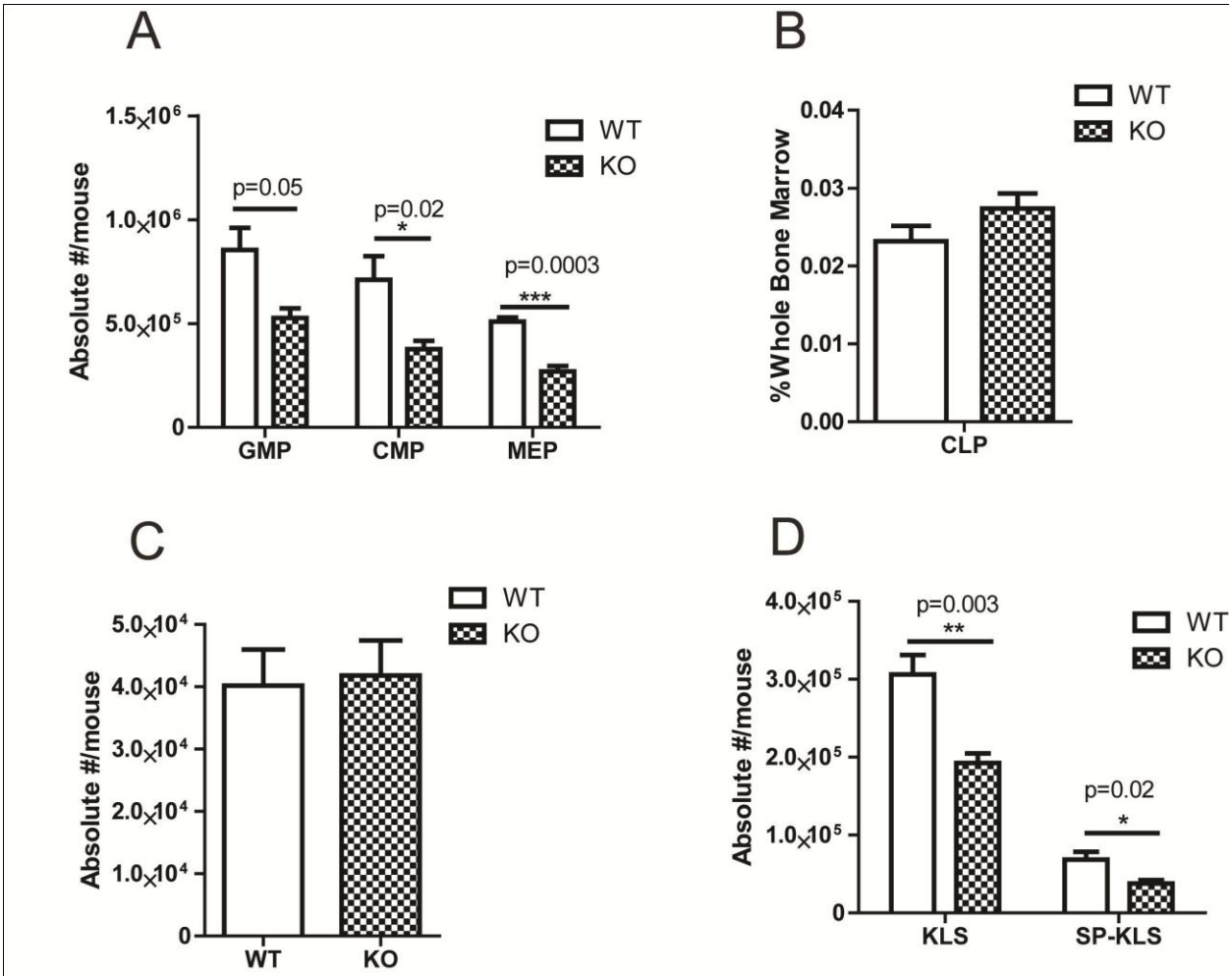


Figure S5. Absolute numbers of progenitor/stem cells in KO mice. (A) Graph represents absolute numbers of common myeloid progenitors (GMP, CMP and MEP) from 5-6 month-old WT and KO mice (n=5 WT, n=5 KO). (B) Frequencies of common lymphoid progenitors (CLP) from 5-6 month-old WT and KO mice (n=5 WT, n=5 KO). (C) Graph represents absolute numbers of CLPs from 5-6 month-old WT and KO mice (n=5 WT, n=5 KO). (D) Absolute numbers of KLS, SP-KLS cells from 5-6 month-old WT and KO mice (n=5 WT, n=5 KO).

Supplementary Figure 6

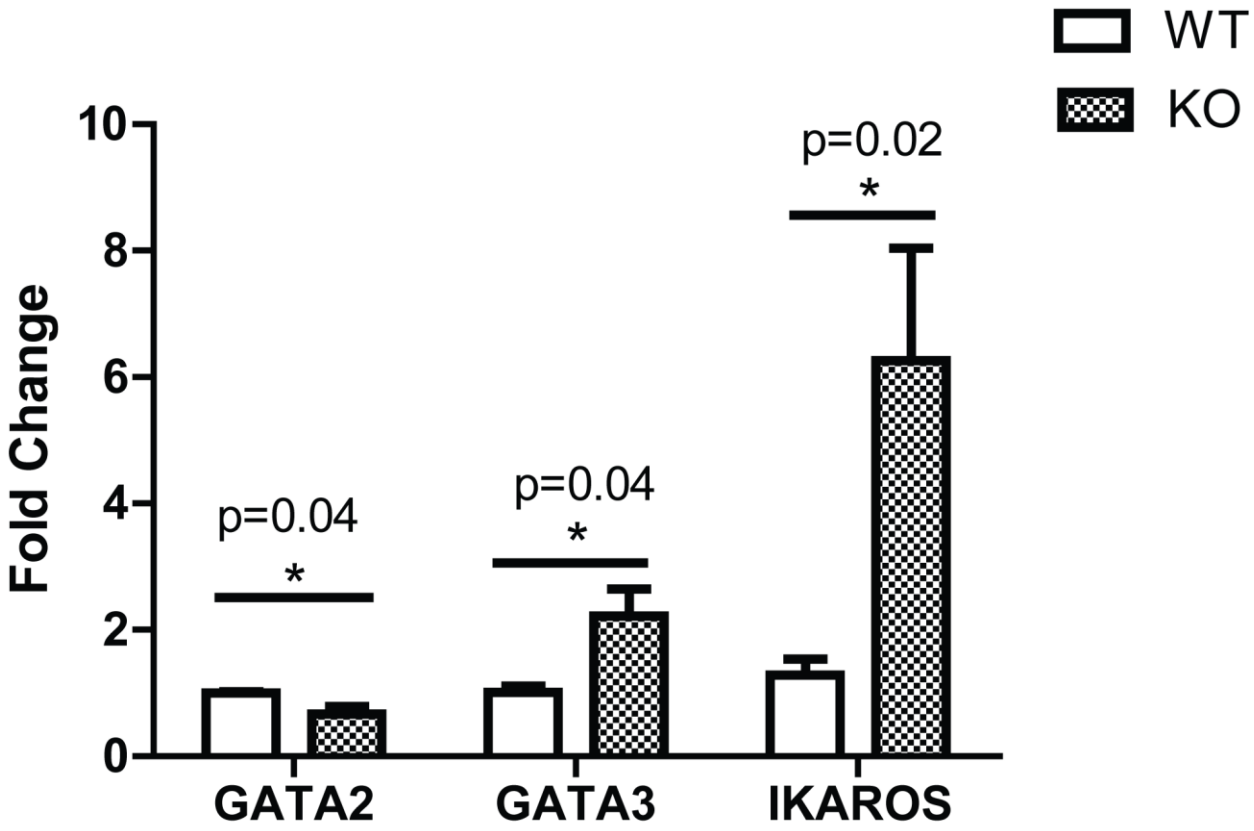


Figure S5. Expression of pro-lymphoid genes increase in KO mice. Quantitave real-time PCR analysis of Gata2, Gata3 and Ikaros on mRNA purified from WT and KO HSCs ($SP^{KLS-CD150+}$) (n=3 WT , n=3 KO). Error bars represent SEM.