Supplementary Figures

Supplementary Figure 1

**Supplementary Figure 1. The levels of T cells in the spleens and LNs of WT and Wip1KO mice.**

The bar graphs show the percentage (A) and the number (B) of CD4+ and CD8+ T cells in spleen and LNs in WT and Wip1KO mice. Data are expressed as means±SD (n=8). *p<0.05, **p<0.01, ***p<0.001 compared with cells derived from WT mice.
Supplementary Figure 2. B cells and myeloid cells in the chimera mice.

(A, E) The scheme of the experimental design for the bone marrow transplantations is shown. (B, C, F, G) The percentages of WT and Wip1KO donor-derived B cells and myeloid cells in the peripheral blood of the recipient mice 12 weeks after transplantation are summarized (n=4). (D, H) Representative FACS plots and the percentages of WT and Wip1KO donor-derived total B cells in the bone marrow of recipient mice 12 weeks after transplantation are shown. Data are expressed as means±SD (n=5). *p<0.05, **p<0.01, ***p<0.001 compared with cells derived from WT mice.
Supplementary Figure 3. The levels of CLPs in WT and Wip1KO mice.

(A) Representative FACS plots of CLPs within the gated Lin^ckit^mid Sca1^mid bone marrow cells. (B) The bar graph shows the total cell number of CLP cells per mouse (2 hind limbs, pelvic and spinal bones) in young-WT and young-Wip1KO mice. Data are expressed as means±SD (n=7). *p<0.05, **p<0.01, ***p<0.001 compared with cells derived from WT mice.
Supplementary Figure 4. The phospho-p53 (ser 15) expression in sorted pre-B cells from bone marrow of WT and Wip1KO mice.

(A) Western blot analysis of phospho-p53 (ser 15) expression in sorted pre-B cells from bone marrow of WT and Wip1KO mice. (B) The bar graph show the expression of phosphor-p53 (ser 15) in sorted pre-B cells from bone marrow of WT and Wip1KO mice (n=3). The data are normalized for actin band intensity.
Supplementary Figure 5. The developing B cells and cell proliferation of B cell subpopulations in the bone marrow of WT, Wip1KO, p53KO, p21KO, Wip1/p53 DKO and Wip1/p21 DKO mice.

(A) The percentages of pro-B cell and pre-B cells in the bone marrow of WT, Wip1KO, p53KO and Wip1/p53 DKO mice. (B) The cell numbers of pro-B cell and pre-B cells in the bone marrow of WT, Wip1KO, p53KO and Wip1/p53 DKO mice. Data are expressed as means±SD (n=7). (C) The percentages of pro-B cell and pre-B cells in the bone marrow of WT, Wip1KO, p21KO and Wip1/p21 DKO mice. (D) The cell numbers of pro-B cell and pre-B cells in the bone marrow of WT, Wip1KO, p21KO and Wip1/p21 DKO mice. Data are expressed as means±SD (n=5). (E) The percentages of immature and mature B cells in the bone marrow of WT, Wip1KO, p21KO and Wip1/p21 DKO mice. (F) The cell numbers of immature and mature B cells in the bone marrow of WT, Wip1KO, p21KO and Wip1/p21 DKO mice. Data are expressed as means±SD.
(n=5). Representative FACS plots show the cell cycle profile of the early B cell precursors including pre-pro-B cells (G), pro-B cells (H) and pre-B cells (I). The bar graphs show the percentages of pre-pro-B, pro-B, and pre-B cells in G1, S, G2/M phases. Data are expressed as means±SD (n=9). *p<0.05, **p<0.01, ***p<0.001 compared with the WT mice.
Supplementary Figure 6. Donor B cells and CLPs in recipients as long as 20 weeks after transplantation and these cells in old mice.

**(A)** The scheme of the experimental design for the bone marrow transplantations is shown in the left panel. The right panel shows the percentage of donor-derived B cells in peripheral blood by 20 weeks after transplantation of bone marrow cells which were harvested from WT and Wip1KO old mice (20-24 months). Data are expressed as means±SD (n=6). *p<0.05, **p<0.01, ***p<0.001 compared with WT mice or between the indicated groups. **(B)** The bar graphs show the percentage of Annexin V positive pre-B cells in old bone marrow and **(C)** bone marrow cells 20 weeks after transplantation (n=6). **(D)** Representative FACS plots of CLPs within the gated Lin\[^{-}\]ckit\[^{mid}\] Sca1\[^{mid}\] bone marrow cells from old mice (20-24 months). **(E)**
Bar graph shows the number of CLP cells in old-WT and old-Wip1KO mice. Data are expressed as means±SD (n=14). (F) Representative FACS plots of CLP cells in the gated donor-derived Lin<sup>−</sup>ckit<sup>mid</sup> Sca1<sup>mid</sup> bone marrow cells 20 weeks after the 1<sup>st</sup> transplantation. (G) Bar graph shows the number of CLP cells in donor-derived WT and Wip1KO mice (n=14). (H) Bar graph show the number of CLP cells in WT, Wip1KO, p53, Wip1/p53 DKO bone marrow cells. Data are expressed as means±SD (n=4). *p<0.05, **p<0.01, ***p<0.001 compared with cells derived from WT mice.
Supplementary Figure 7. B cells and T cells in aged WT and Wip1KO mice.

(A) Bar graph shows the number of CD4 and CD8 T cells in the spleen of WT and Wip1KO mice in old (20-24 months) mice were summarized. (B) The ratio of CD4/CD8 T cells in spleen of WT and Wip1KO mice in young (2 months) and old (20-24 months) ages are shown. Data are expressed as means±SD (n=4). (C) The Wip1 mRNA expression in pre-pro-B, pro-B, pre-B, immature-B, and mature B cells of 2-month-old WT and p53KO mice were analyzed by real-time PCR. Results are standardized to β-actin. Data are expressed as
means±SD (n=3). *p<0.05, **p<0.01 compared with cells derived from WT mice.