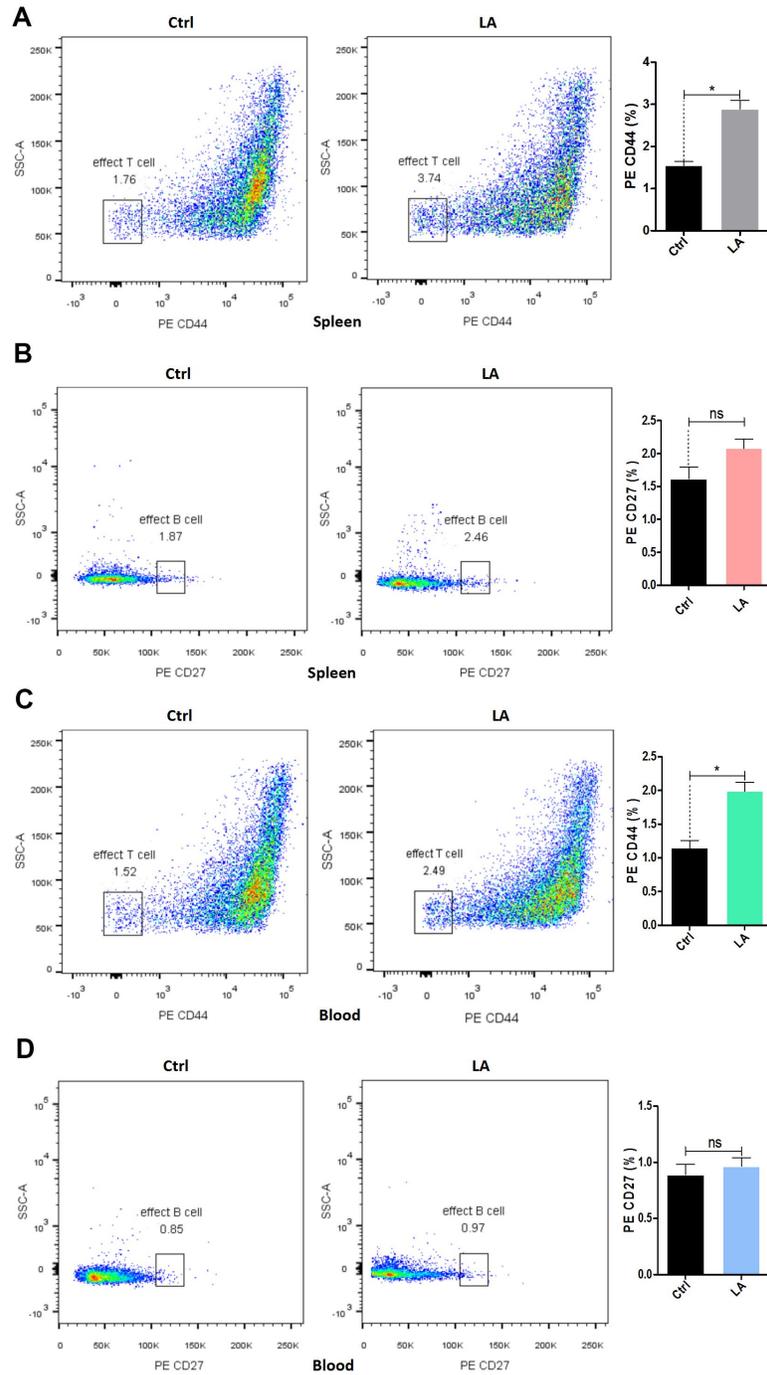
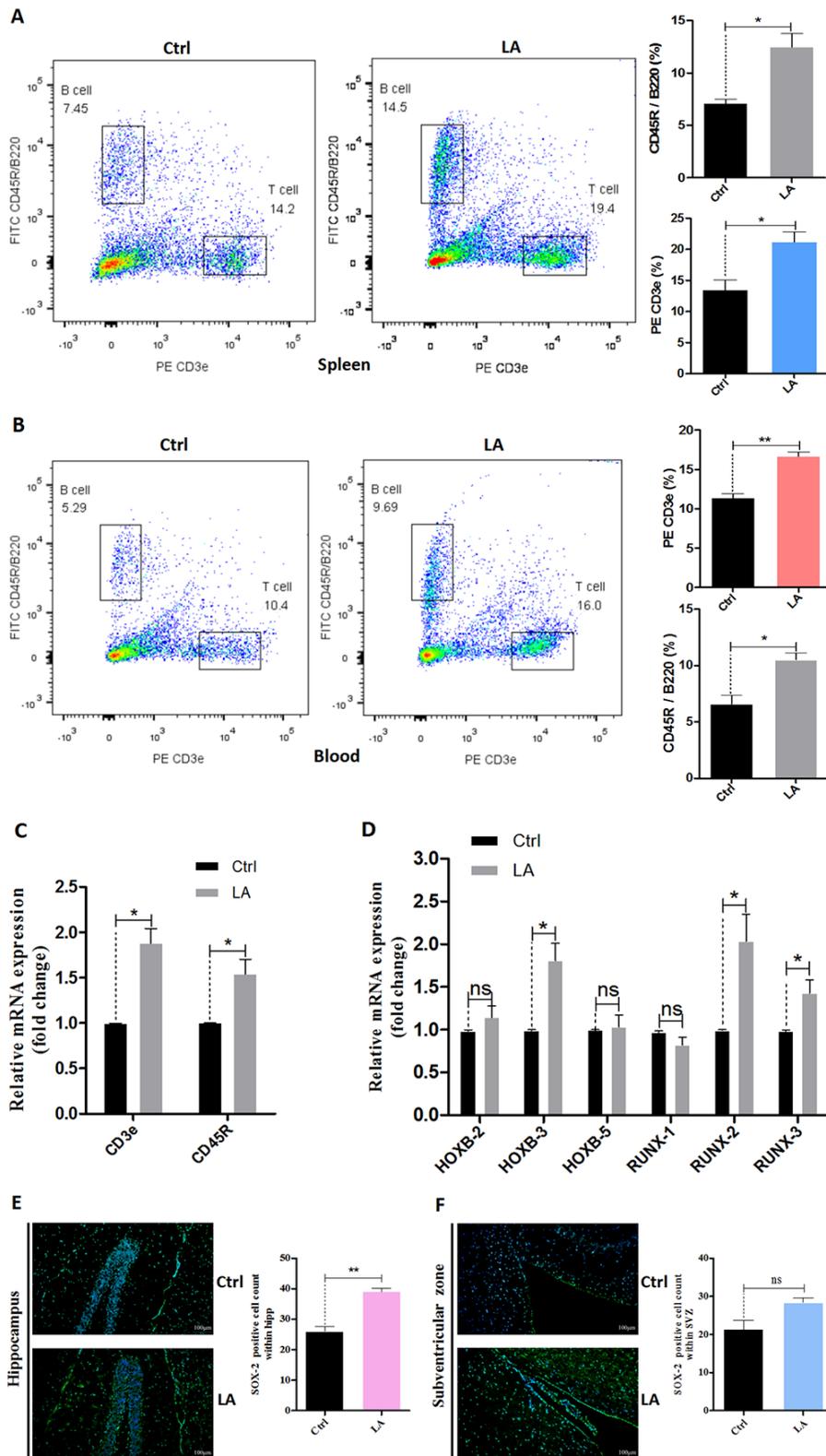


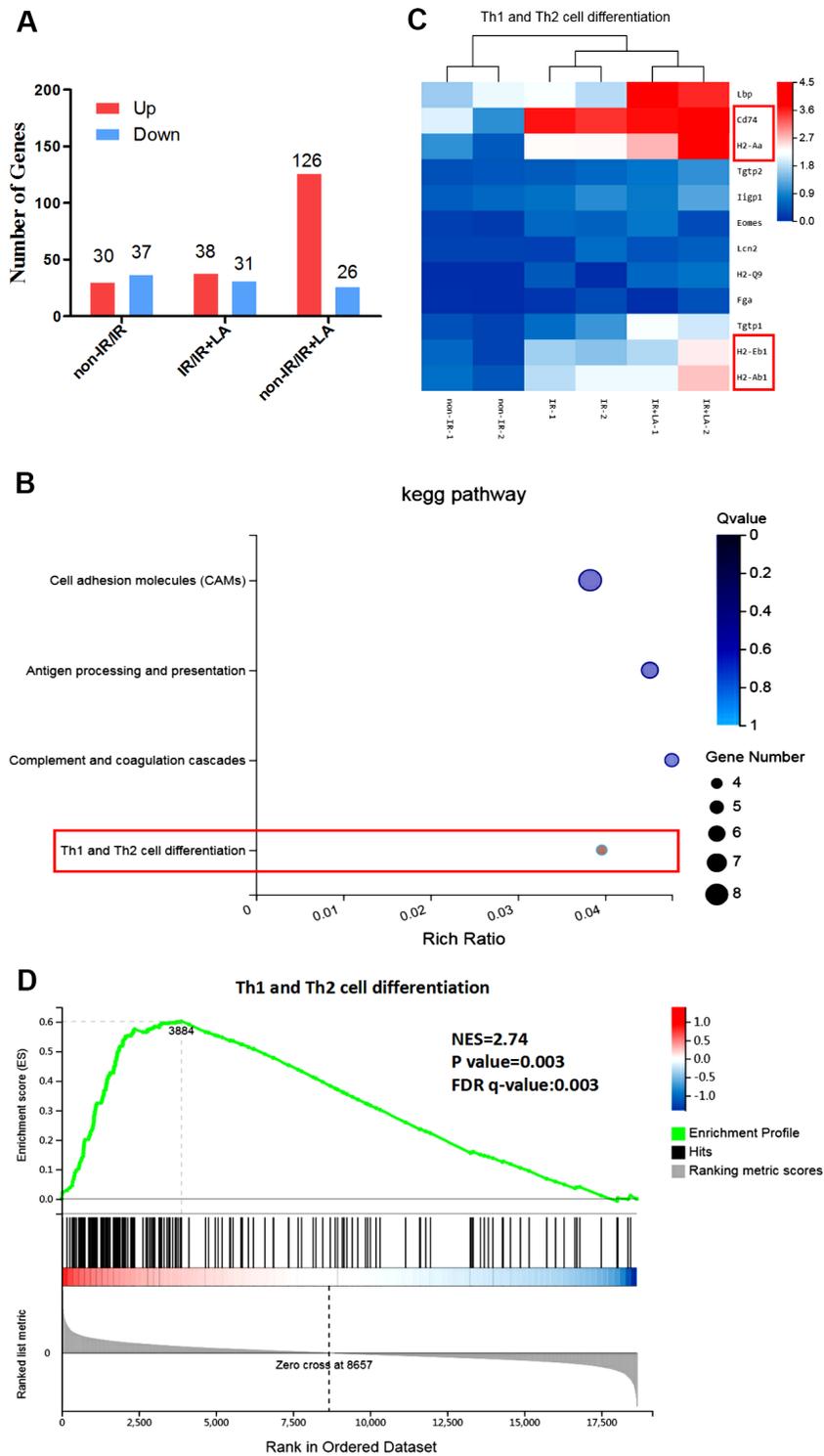
SUPPLEMENTARY FIGURES



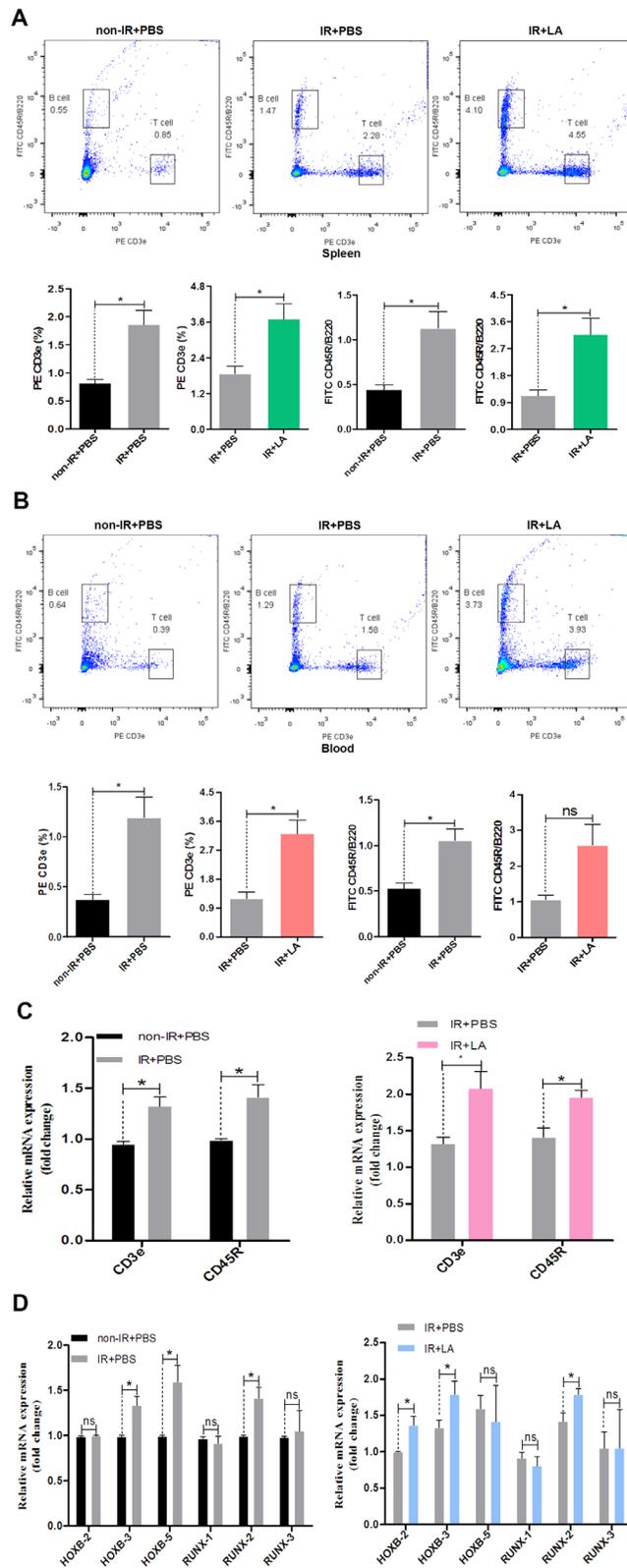
Supplementary Figure 1. LA effect on effector T- and B-cell proliferation in the spleen and whole blood in C57BL/6 mice. (A) Effector T-cell proliferation in the spleen of LA- or control (Ctrl)-treated mice. **(B)** Effector B-cell proliferation in the spleen of LA- or control (Ctrl)-treated mice. **(C)** Effector T-cell proliferation in the whole blood of LA- or control (Ctrl)-treated mice. **(D)** Effector B-cell proliferation in the whole blood of LA- or control (Ctrl)-treated mice. The data are presented as the mean±SD of three independent experiments. Statistical significance was determined using unpaired t-tests. * $p < 0.05$, ** $p < 0.01$ compared with the Ctrl group.



Supplementary Figure 2. Effect of LA on lymphocyte proliferation *in vitro*. (A, B) Proliferation of LA-treated or control (Ctrl)-treated *in vitro* cultured T and B cells from the spleen (A) or whole blood (B) of C57BL/6 mice. (C) Relative mRNA expression of *in vitro* splenic lymphocytes. (D) Relative mRNA expression of genes that might regulate lymphocyte proliferation. (E, F) Expression of the neural stem cell marker *SOX-2* in the hippocampus (Hipp) (E) and SVZ (F) of C57BL/6 mice. The data are presented as the mean±SD of three independent experiments. Statistical significance was determined using unpaired *t*-tests. * $p < 0.05$, ** $p < 0.01$, as compared with the Ctrl.



Supplementary Figure 3. Exploring the mechanism by which LA regulates the immune system by performing RNA-seq on the hippocampus of B-NDG mice. (A) The differentially expressed genes between non-IR and IR PBS-treated mice, between non-IR PBS-treated mice and IR LA-treated (IR+LA) mice, and between IR PBS-treated mice and IR+LA mice. (B) A bubble diagram showing the Th1- and Th2-cell differentiation signaling pathway regulated by LA treatment. (C) Heatmap showing the differentially expressed genes related to the Th1- and Th2-cell differentiation signaling pathway. (D) Enrichment plots of gene expression signatures for Th1- and Th2-cell differentiation. Barcode plot indicates the positions of genes in each gene-set. NES, normalized enrichment score. The data are presented as the mean±SD of three independent experiments. Statistical significance was determined using unpaired *t*-tests. **p* < 0.05, ***p* < 0.01, as compared with the control.



Supplementary Figure 4. The effect of LA on the *in vitro* proliferation of lymphocytes from B-NDG mice. (A, B) Proliferation of LA-treated or PBS-treated *in vitro* cultured T and B cells from the spleen (A) or whole blood (B) of IR B-NDG mice. (C) The relative mRNA expression of CD3e and CD45R. (D) Relative mRNA expression of genes that might regulate lymphocyte proliferation. The data are presented as the mean \pm SD of three independent experiments. Statistical significance was determined using unpaired *t*-tests. * $p < 0.05$, ** $p < 0.01$, as compared with the Ctrl.