Supplementary Material

**Supplemental Figure 1 Disruption of CD8+ Tc cell subset distribution in patients with liver cirrhosis.** (A) Representative dot plots show the gating strategy of CD8+ T cell subsets basing on CXCR5, CCR6 and CXCR3 expression in spleen and peripheral blood. Values in the quadrants represent the percentages of each subset. Among CD8+ T cells, CXCR5+ Tch cells, CCR6+CXCR3- Tc17 cells, CCR6+CXCR3+ Tc1/Tc17cells, CCR6–CXCR3+ Tc1 cells, CCR6–CXCR3– Tc2 cells were defined, respectively. (B) Summarized data show the percentages of CD8+ T cell subsets in the peripheral blood from HC (n = 42), HBV-LC (n = 24), and Non-HBV-LC groups (n = 23) and in the spleen from HC (n = 22), HBV-LC (n = 27), and Non-HBV-LC groups (n = 13). Each dot represents one subject, and line represents mean value. *P* values are shown.

**Supplemental Figure 2** Representative dot plots show the proportion of PD-1highICOS+ cells among various Th (A) and Tc (B) subsets in peripheral blood and spleen from a LC patient. Values in the quadrants represent the percentages of splenic PD-1highICOS+ cells.

**Supplemental Figure 3 Peripheral Tfh cells were significantly increased in LC patients.** (A) Representative dot plots show the proportion of PD-1highICOS+ cells among CD185+CD4+ Tfh-like cells and CD185+CD8+ Tch cells in peripheral blood from a LC patient. Values in the gate represent the percentages of peripheral Tfh and Tch cell subset. (B) Summarized data show the percentages of PD-1highICOS+CD185+CD4+ T cells and PD-1highICOS+CD185+CD8+ T cells in the peripheral blood from HC (n = 42), HBV-LC (n = 24), and Non-HBV-LC groups (n = 23). Each dot represents one subject, and line represents mean value. \*\*\**P* < 0.001.

**Supplemental Figure 4 Tfh-like cell subsets were disturbed in both peripheral blood and spleen of patients with liver cirrhosis.** (A) Representative dot plots show the gating strategy of CXCR5+CD4+ T cell subsets basing on CCR6 and CXCR3 expression in spleen and peripheral blood. Values in the quadrants represent the percentages of each subset. Within CXCR5+CD4+ Tfh-like cells, CCR6+CXCR3–Tfh17 cells, CCR6+CXCR3+ Tfh1/Tfh17cells, CCR6–CXCR3+ Tfh1 cells, CCR6–CXCR3– Tfh2 cells were defined, respectively. (B) Summarized data show the percentages of CXCR5+CD4+ Tfh-like cells in the peripheral blood from HC (n = 10), HBV-LC (n = 24), and Non-HBV-LC groups (n = 12) and in the spleen from HC (n = 22), HBV-LC (n = 27), and Non-HBV-LC groups (n = 13). Each dot represents one subject, and line represents mean value. *P* values are shown.