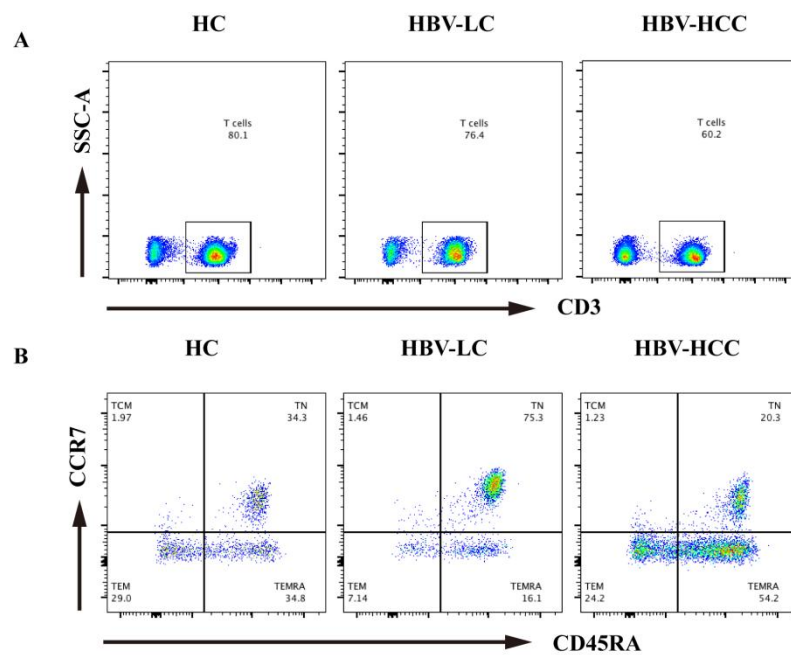


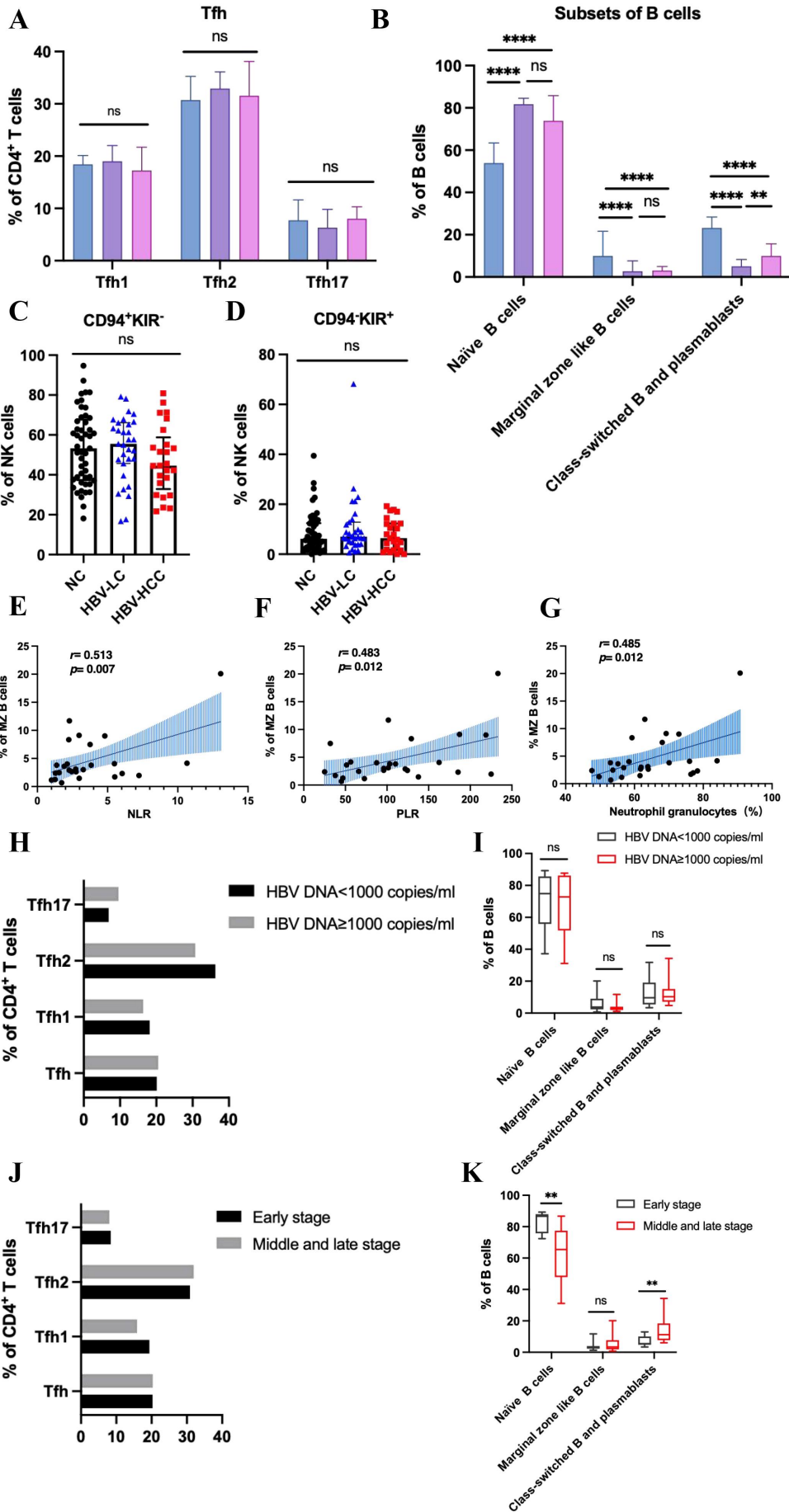
Supplementary Figures and Tables

Supplementary Figure 1.



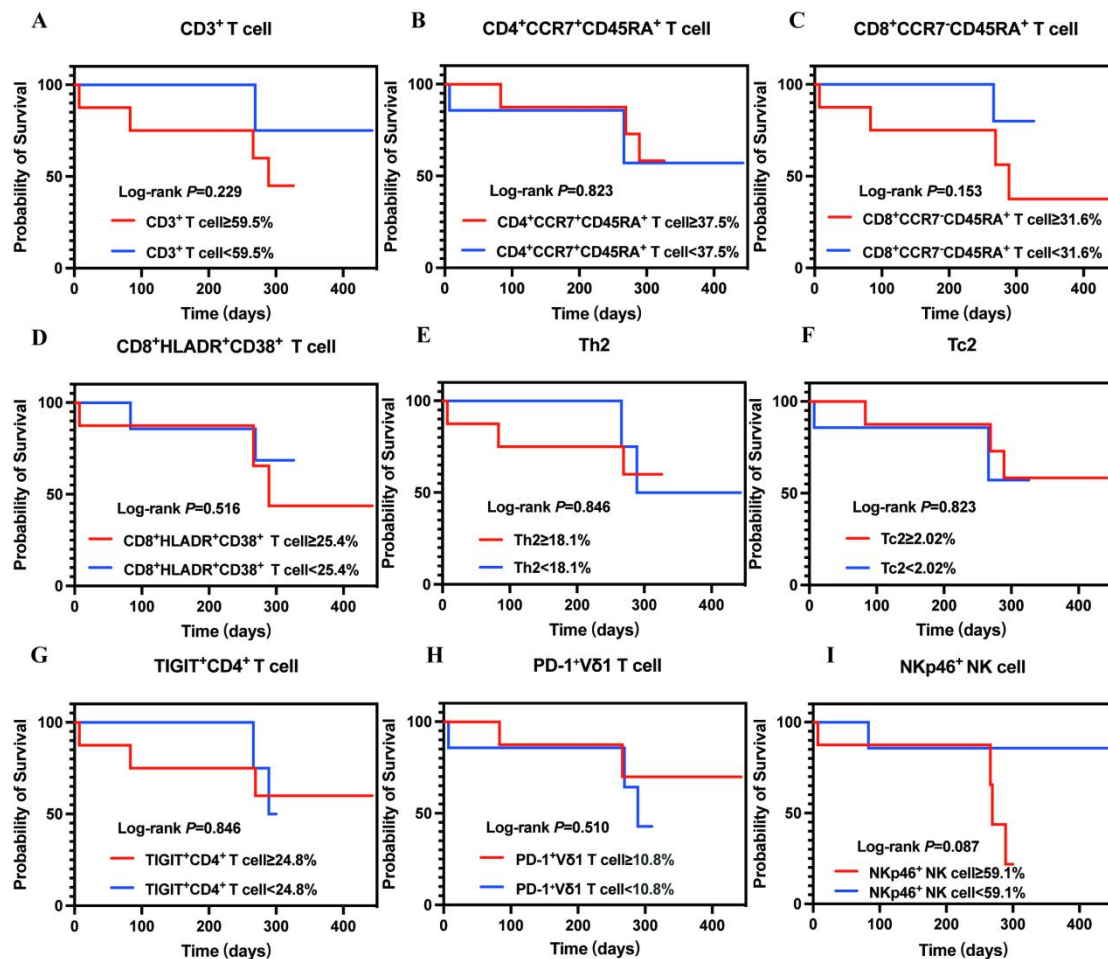
Supplementary Figure 1. The example of flow cytometry scatter plot. (A) The flow cytometry scatter plot of CD3⁺ T cell. **(B)** The flow cytometry scatter plot of CD8⁺CCR7⁺CD45RA⁺ T cell.

Supplementary Figure 2.



Supplementary Figure 2. (A) The frequency of Tfh1, Tfh2, Tfh17 cells. (B) The frequency of subsets of B cells. (C) The frequency of CD94⁺KIR⁻ NK cells. (D) The frequency of CD94⁻KIR⁺ NK cells. (E, F, G) The correlation of MZ B cells and inflammatory markers. (H) The frequency of Tfh, Tfh1, Tfh2, Tfh17 cells between two groups. (I) The frequency of subsets of B cells between two groups. (J) The frequency of subsets of Tfh, Tfh1, Tfh2, Tfh17 cells between two groups. (K) The frequency of subsets of B cells between two groups.

Supplementary Figure 3.



Supplementary Figure 3. Kaplan–Meier curve analysis of immune cells as a predictor of overall survival in HBV-HCC. (A) Kaplan–Meier curve analysis of CD3⁺ T cell. (B) Kaplan–Meier curve analysis of CD4⁺CCR7⁺CD45RA⁺ T cell. (C) Kaplan–Meier curve analysis of CD8⁺CCR7⁺CD45RA⁺ T cell. (D) Kaplan–Meier

curve analysis of CD8⁺HLADR⁺CD38⁺ T cell. (E) Kaplan–Meier curve analysis of Th2 cell. (F) Kaplan–Meier curve analysis of Tc2 cell. (G) Kaplan–Meier curve analysis of TIGIT⁺CD4⁺ T cell. (H) Kaplan–Meier curve analysis of PD-1⁺ Vδ1 T cell. (I) Kaplan–Meier curve analysis of NKp46⁺ NK cell.

Supplementary Table 1. List of fluorescence conjugated antibodies including clone number, Antibody article No and company.

Target	Fluorochrome	Clone	Art. No.	Company
CD3	PerCP-Cy5.5	UCHT1	560835	BD
CD3	APC-H7	SK7	560176	BD
CD4	APC-H7	RPA-T4	560158	BD
CD4	PE-Cy7	SK3	557852	BD
CD8	FITC	RPA-T8	301050	Biolegend
CD8	BV510	SK1	563919	BD
CD8	PerCP-Cy5.5	SK1	565310	BD
CD28	PE-Cy7	CD28.2	560684	BD
CD25	PE	M-A251	555432	BD
CD45RA	FITC	HI100	555488	BD
CCR7	Alexa 647	150503	560816	BD
CD127	BV421	HIL-7R-M21	562436	BD
CD57	BV421	NK-1	563896	BD
PD-1	Alexa 647	EH12.1	560838	BD
PD-1	FITC	EH12.2H7	329904	Biolegend
PD-1	BV605	EH12.2H7	329924	Biolegend
HLA-DR	PE	G46-6	555812	BD
CD38	BV510	HIT2	563251	BD
CD38	APC	HIT2	555462	BD
CD45	APC-Cy7	HI30	304014	Biolegend
CD19	PerCP-Cy5.5	HIB19	561295	BD
IgM	BV510	G20-127	563113	BD
IgD	BB515	IA6-2	565243	BD
CD27	BV421	M-T271	562513	BD
CD21	PE-Cy7	B-1Y4	561374	BD
CD56	APC	5.1H11	362504	Biolegend
CD94	PerCP-Cy5.5	HP-3D9	562361	BD
KIR/NKB1	PE	DX9	555967	BD
NKG2D	PE-Cy7	1D11	562365	BD
NKP30	Alexa 647	p30-15	325212	Biolegend
NKP30	BV421	p30-15	563385	BD

NKP46	BV510	9E2/NKp46	564064	BD
$\gamma\delta$	BV421	11F2	624336	BD
TCR Vδ1	PerCP-vio700	REA173	130-120-441	Miltenyi Biotec
TCR Vδ2	PE	B6	555739	BD
TCR Vδ2	BV510	B6	331432	Biolegend
LAG3	APC-R700	T47-530	565774	BD
TIM3	APC	F38-2E2	345012	Biolegend
TIGIT	BV421	741182	747844	BD