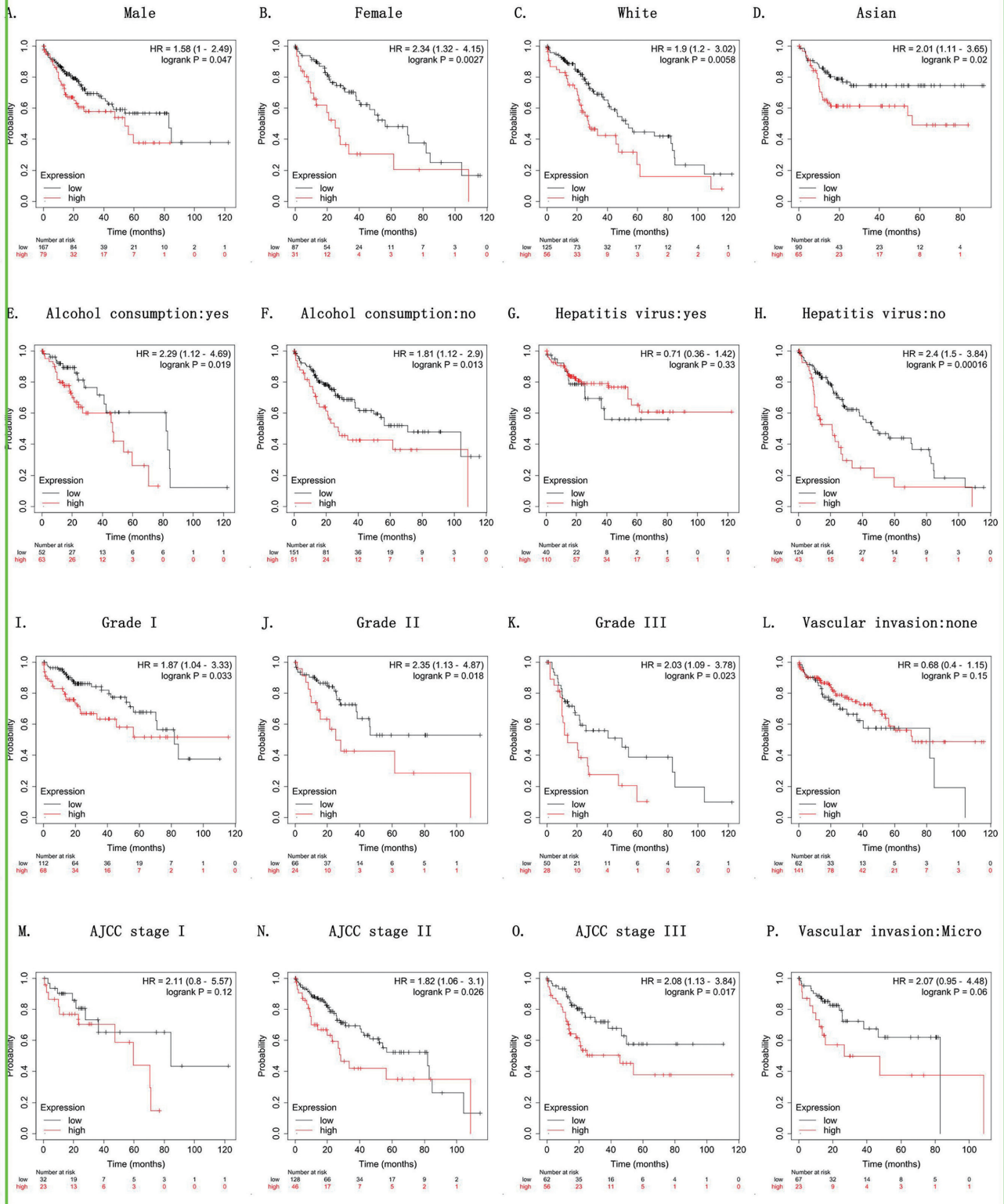


TCGA



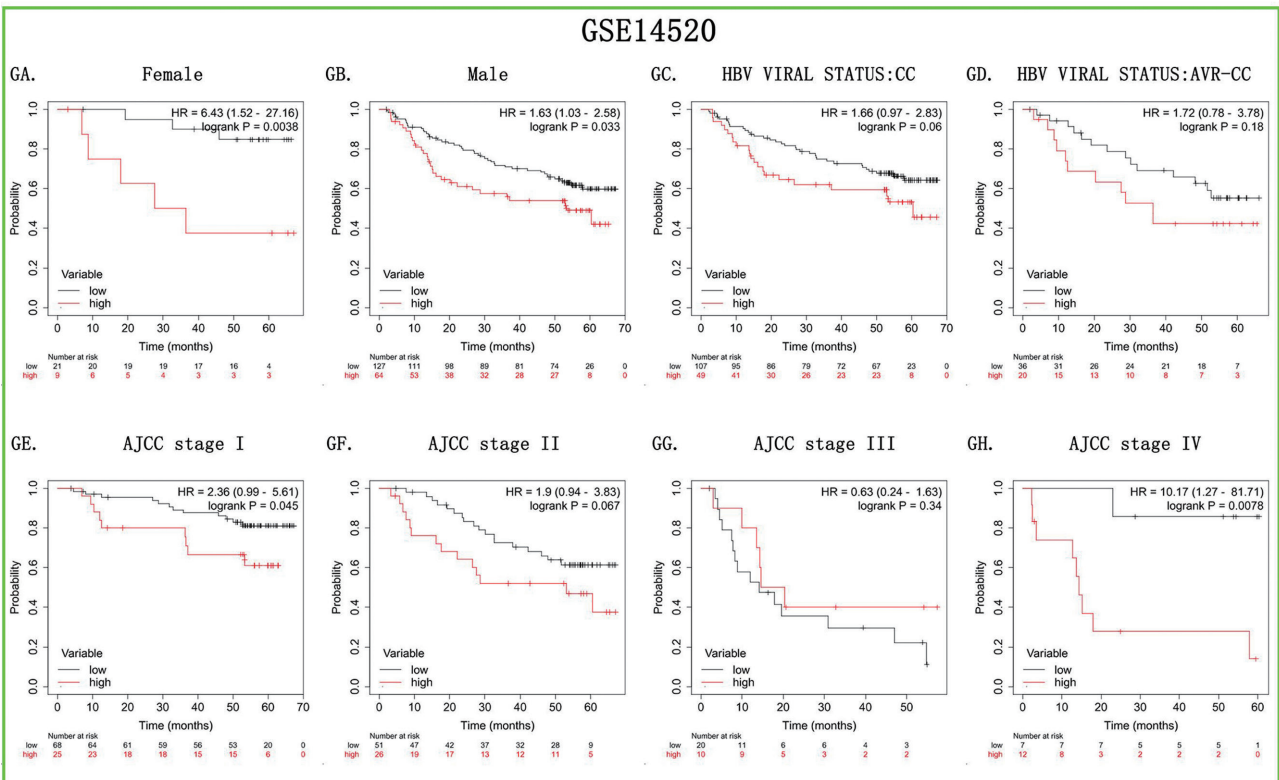
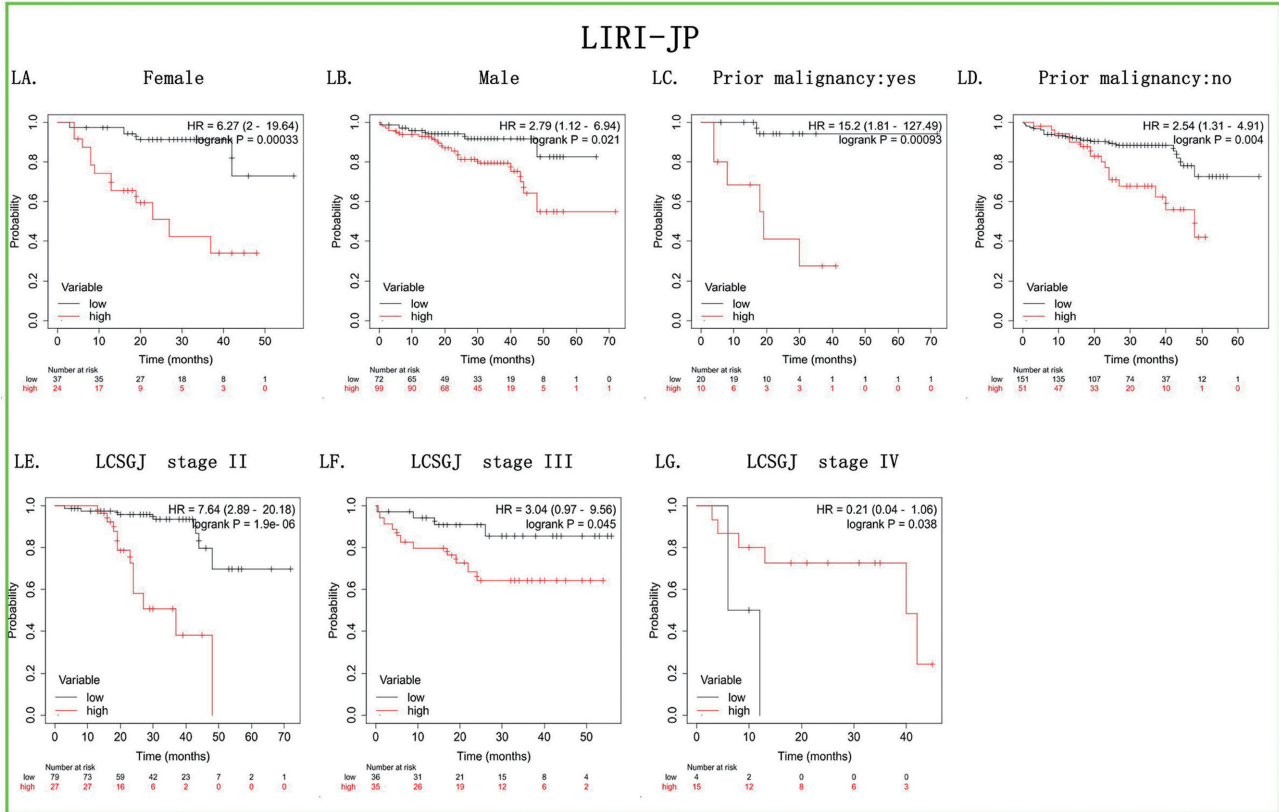


Figure S1 Subgroup analyses of overall survival comparison in HCC patients by Kaplan-Meier plotter. From the TCGA database: (A, B) sex; (C, D) race; (E, F) alcohol consumption; (G, H) hepatitis virus; (L-K) grade; (M-0) AJCC stage; (L, P) vascular invasion. From the ICGC database: (LA, LB) sex; (LC, LD) prior malignancy; (LE-LG) LCSGJ stage. From the GSE14520: (GA, GB) sex; (GC, GD) HBV viral status; (GE-GH) AJCC stage. HR and P values were calculated by Kaplan-Meier Plotter, $P < 0.05$ with statistical significance. AJCC, American Joint Committee on Cancer; HBV, hepatitis B virus; HCC, hepatocellular carcinoma; HR, hazard ratio; ICGC, International Cancer Genome Consortium; LCSGJ, Liver Cancer Study Group of Japan; TCGA, The Cancer Genome Atlas.

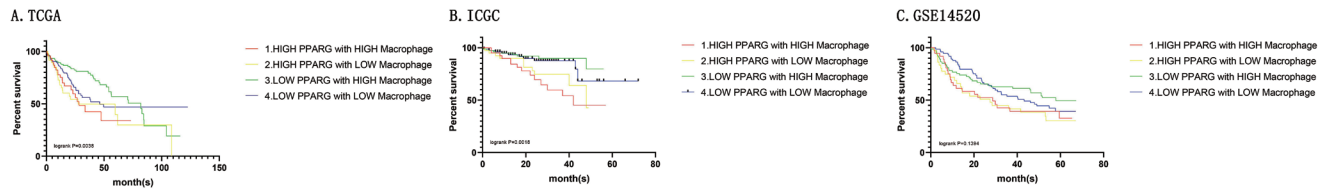


Figure S2 Kaplan-Meier plot of High or low PPARG expression with High or low Macrophage infiltration. (A) TCGA, (B) ICGC, (C) GSE14520. P value was calculated by GraphPad Prism8. ICGC, International Cancer Genome Consortium; PPARG, peroxisome proliferator-activated receptor gamma; TCGA, The Cancer Genome Atlas.

Table S1 Details of GEO series included in this analysis.

GEO series	Contributor (s)	Pre disease	Nontumor	Tumor	Platform
GSE102079	Norimichi, Chiyonobu <i>et al.</i> , 2018	unknown	91	152	Affymetrix Human Genome U133 Plus 2.0 Array
GSE164760	Josep, M, Llovet <i>et al.</i> , 2021	NASH	29	53	Affymetrix Human Genome U219 Array
GSE121248	Hui KM, 2018	HBV	37	70	Affymetrix Human Genome U133 Plus 2.0 Array
GSE25097	Chunsheng Zhang, 2011	unknown	243	268	Rosetta/Merck Human RSTA Affymetrix 1.0 microarray, Custom CDF
GSE14520#	Xin Wei Wang, 21010	unknown	220	225	Affymetrix HT Human Genome U133A Array
GSE55092	Michael, Kew <i>et al.</i> , 2014	unknown	39	81	Affymetrix Human Genome U133 Plus 2.0 Array
GSE57958	Lee, Guat Lay, Caroline, 2014	unknown	39	39	Illumina HumanHT-12 V4.0 expression beadchip

#GSE14520 contains clinical data.

Table S2 primer list

Gene symbol	Forward Primer(5'→3')	Reverse Primer(5'→3')
GAPDH	GGAGCGAGATCCCTCCAAAAT	GGCTGFTGTGCATACTTCTCATGG
CCND1	GCTGCGAAGTGGAACCATC	CCTCCTTCTGCACACATTGAA
CCND2	ACCTTCCGCAGTGCTCCTA	CCCAGCCAAGAAACGGTCC
CDK4	ATGGCTACCTCTCGATATGAGC	CATTGGGGACTCTCACACTCT
CDK6	GCTGACCAGCAGTACGAATG	GCACACATCAAACAACCTGACC

Table S3 Significant changes of PPARG expression in transcription level between HCC and normal liver tissues.

Data source	Types of HCC VS liver	Fold change	P value	T-test
Oncomine	Hepatocellular Carcinoma (Roessler Liver2)	1.945	1.92E-34	14.087
	Hepatocellular Carcinoma (Roessler Liver1)	1.655	8.77E-4	3.503
GEO	GSE112791 Hepatocellular Carcinoma	1.11	7E-4	4.026
	GSE57958 Hepatocellular Carcinoma	1.06	1E-4	4.103
	GSE25097 Hepatocellular Carcinoma	1.7	1.23E-27	12.01
	GSE102079 Hepatocellular Carcinoma	1.08	1E-6	4.94
	GSE164760 Hepatocellular Carcinoma	1.10	0.035	2.146
	GSE121248 Hepatocellular Carcinoma	1.08	9.97E-8	5.724
	GSE14520 Hepatocellular Carcinoma	1.243	4.79E-34	14.055
ICGC(LIRI-JP)	Hepatocellular Carcinoma	1.238	1.3833E-18	9.217

HCC, hepatocellular carcinoma; PPARG, PPARG peroxisome proliferator activated receptor gamma.

Table S4 correlation between PPARG expression and complement as well as the mean difference of complement between High and Low PPARG expression group

Complement	Database	Cor	P	mean difference [95%CI]	Forest plot (mean difference)
C1r	TCGA	-0.213278887	***	-0.66 [-0.95, -0.37]	
	ICGC	-0.194087878	**	-0.78 [-1.10, -0.46]	
	GSE14520	0.256029761	***	-0.62 [-0.95, -0.28]	
C1s	TCGA	-0.213897117	***	-0.75 [-1.04, -0.46]	
	ICGC	-0.166287822	*	-0.78 [-1.11, -0.45]	
	GSE14520	0.321975925	***	-0.63 [-0.94, -0.32]	
C2	TCGA	0.096270606	0.067	0.06 [-0.21, 0.33]	
	ICGC	-0.026524047	0.688	-0.16 [-0.51, 0.19]	
	GSE14520	0.011928847	0.86	-0.20 [-0.43, 0.03]	
C3	TCGA	-0.331076183	***	-0.98 [-1.35, -0.61]	
	ICGC	-0.131423951	*	-0.93 [-1.32, -0.54]	
	GSE14520	-	-	-	
C5	TCGA	-0.133526804	*	-0.52 [-0.88, -0.16]	
	ICGC	-0.013502664	0.84	-0.69 [-1.09, -0.29]	
	GSE14520	0.202534108	**	-0.46 [-0.77, -0.15]	
C6	TCGA	-0.232522179	***	-1.76 [-2.37, -1.15]	
	ICGC	-0.066430692	0.314	-1.66 [-2.17, -1.14]	
	GSE14520	-0.002792824	0.967	-1.08 [-1.58, -0.58]	
C7	TCGA	-0.2302484	***	-2.17 [-2.86, -1.48]	
	ICGC	0.107486699	0.102	-1.32 [-1.85, -0.79]	
	GSE14520	-0.003304013	0.961	-1.02 [-1.48, -0.57]	