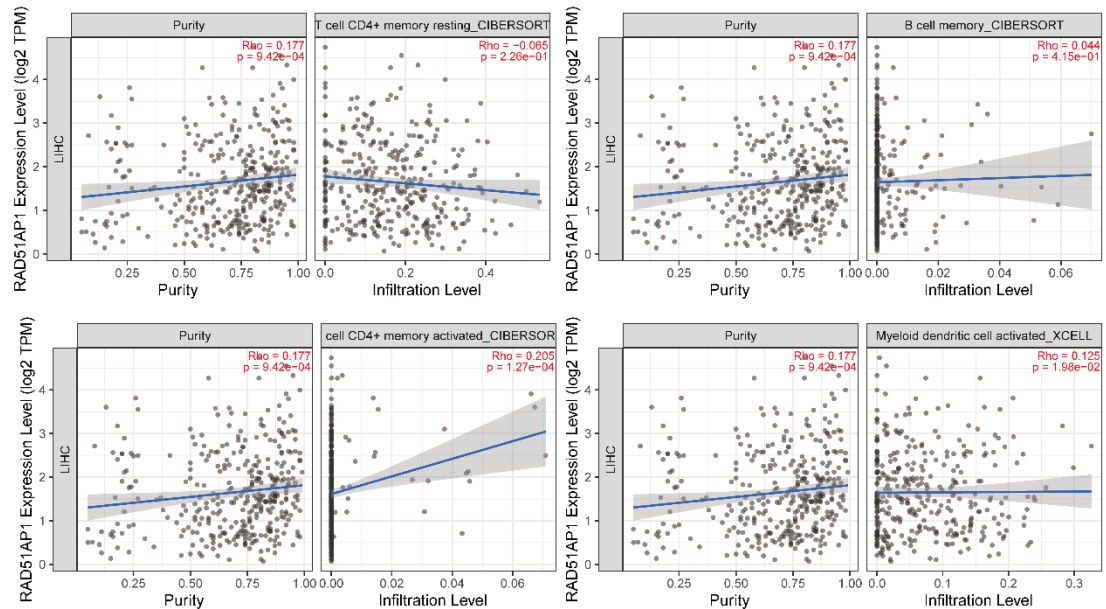


Supplementary Materials to:

RAD51AP1 as an immune-related prognostic biomarker and therapeutic response predictor in hepatocellular carcinoma



Supplementary Figure 1. In TIMER2, spearman correlation analyses revealed that *RAD51AP1* expression negatively correlated to the infiltration levels of T cells CD4⁺ memory resting, but positively correlated to B cell memory, cell CD4⁺ T memory activated and Myeloid dendritic cell activated in liver hepatocellular carcinoma (LIHC). TIMER2, Tumor Immune Estimation Resource 2; *RAD51AP1*, *RAD51* associated protein 1.

Supplementary Table 1. The clinicopathologic data of HCC patients in Guangxi cohort from the First Affiliated Hospital of Guangxi Medical University. HCC, Hepatocellular carcinoma.

No.	Gender	Age (year)	serum AFP level	Tumor Size (cm)	BCLC stage	CNLC stage	Histologic Grade	PVTT
1	male	≥60	<400	<5	B	IIa	-	No
2	female	<60	<400	≥5	C	IIIa	I-II	Yes
3	male	<60	<400	<5	A	Ia	I-II	No
4	male	≥60	≥400	<5	A	Ia	III-IV	No
5	male	≥60	<400	<5	B	IIa	I-II	No
6	male	<60	<400	<5	A	Ia	I-II	No
7	female	≥60	<400	<5	A	Ia	I-II	No
8	male	<60	<400	≥5	B	Ib	I-II	No
9	male	<60	<400	<5	A	Ia	I-II	No
10	male	<60	≥400	<5	A	Ib	I-II	No
11	male	≥60	<400	<5	A	Ia	-	No
12	male	<60	<400	<5	A	Ia	I-II	No
13	male	<60	<400	≥5	B	Ib	I-II	No
14	male	≥60	<400	<5	A	Ia	I-II	No
15	male	≥60	<400	<5	A	Ia	III-IV	No
16	male	<60	≥400	<5	A	Ia	III-IV	No
17	male	≥60	≥400	<5	A	Ia	I-II	No
18	male	≥60	<400	<5	A	Ia	I-II	No
19	male	<60	<400	≥5	B	Ib	I-II	No
20	male	<60	<400	<5	C	IIIa	-	Yes
21	male	<60	<400	<5	A	Ia	I-II	No
22	male	≥60	<400	<5	A	Ia	I-II	No
23	male	<60	≥400	<5	A	Ia	III-IV	No
24	male	<60	<400	≥5	B	Ib	III-IV	No
25	male	<60	≥400	<5	A	Ia	I-II	No
26	female	<60	≥400	≥5	B	Ib	III-IV	No
27	male	≥60	≥400	≥5	B	Ib	III-IV	No
28	male	<60	≥400	≥5	B	Ib	III-IV	No
29	male	≥60	<400	≥5	A	Ib	I-II	No
30	male	<60	≥400	≥5	C	IIIa	I-II	Yes
31	male	≥60	<400	≥5	B	Ib	III-IV	No
32	male	≥60	<400	<5	A	Ia	III-IV	No
33	male	≥60	<400	<5	A	IIa	I-II	No
34	male	<60	<400	<5	A	Ia	I-II	No
35	male	≥60	<400	<5	A	Ia	I-II	No
36	male	≥60	<400	≥5	C	IIIa	I-II	Yes
37	male	≥60	≥400	≥5	B	Ib	III-IV	No
38	male	<60	≥400	≥5	B	IIa	III-IV	No
39	female	<60	≥400	≥5	B	Ib	I-II	No
40	male	<60	≥400	≥5	B	Ib	I-II	No
41	male	<60	<400	≥5	B	Ib	I-II	No

No.	Gender	Age (years)	serum AFP level	Tumor Size (cm)	BCLC stage	CNLC stage	Histologic Grade	PVTT
42	female	≥60	≥400	≥5	B	Ib	I-II	No
43	male	<60	<400	≥5	C	IIIa	III-IV	Yes
44	male	≥60	<400	≥5	C	IIIa	I-II	Yes
45	male	≥60	<400	<5	A	Ia	III-IV	No
46	female	≥60	<400	≥5	B	IIa	I-II	No
47	male	<60	≥400	<5	A	Ib	III-IV	No
48	male	<60	≥400	<5	A	Ia	III-IV	No
49	male	≥60	≥400	≥5	B	Ib	III-IV	No
50	male	<60	≥400	≥5	C	IIIa	III-IV	Yes

AFP, alpha fetoprotein (ng/ml); BCLC, Barcelona Clinic Liver Cancer; CNLC, China Liver Cancer Staging; PVTT, Portal Vein Tumor Thrombus.

Supplementary Table 2. The significantly differential expression levels of immune-related checkpoints in high- and low-*RAD51API* expression subgroups. *RAD51API*, *RAD51* associated protein 1.

Genes	logFC	Ave Expr ^a	t ^b	B ^c	adj. <i>P</i> -value ^d
<i>RAD51API</i>	2.32	1.58	16.64	98.57	1.24E-46
<i>CD40</i>	2.89	7.31	5.07	4.70	6.11E-06
<i>TNFRSF4</i>	0.83	1.97	4.73	3.11	2.37E-05
<i>PDCD1</i>	1.44	1.19	4.58	2.45	3.69E-05
<i>LGALS9</i>	2.80	5.29	4.55	2.30	3.69E-05
<i>TNFRSF14</i>	2.09	8.88	4.15	0.64	0.000139
<i>LAG3</i>	1.09	1.62	3.71	-1.01	0.000603
<i>TNFRSF18</i>	0.90	1.23	3.50	-1.75	0.001215
<i>CD27</i>	1.15	1.65	3.41	-2.05	0.001553
<i>IDO1</i>	0.88	1.13	3.16	-2.85	0.003441
<i>CD44</i>	2.66	5.52	2.87	-3.71	0.007378
<i>HAVCR2</i>	0.93	1.95	2.49	-4.73	0.019592
<i>CD48</i>	0.90	2.20	2.34	-5.09	0.028132

^a Average gene expression; ^b t value of T test after adjustment; ^c The logarithm of standard deviation value after bayes adjustment; ^d The adjusted *P*-value.