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Supplemental Information

Immune-Related lncRNA to Construct

Novel Signature and Predict the Immune

Landscape of Human Hepatocellular Carcinoma

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Figure S1. The representative results of the evaluation of tumor infiltrating immune cells with risk assessment model.

Table S1. A total of 808 immune-related lncRNAs were identified by co-expression analysis (submitted as a separate Excel file).

Table S2. The detail values of univariate and multivariate cox regression analysis.

id	Univariate analysis			Multivariate analysis		
	HR	95% CI	P	HR	95% CI	P
age	1.01	0.99 ~1.03	0.211	1.00	0.99 ~1.02	0.846
gender	0.84	0.56 ~1.27	0.415	0.82	0.53 ~1.25	0.353
grade	1.11	0.85 ~1.45	0.458	1.28	0.95 ~1.73	0.109
BMI	1.00	0.97 ~1.03	0.920	1.01	0.98 ~1.04	0.487
stage	1.72	1.39 ~2.13	0.000	0.86	0.37 ~1.99	0.724
T	1.69	1.38 ~2.07	0.000	1.84	0.83 ~4.08	0.136
M	1.18	0.93 ~1.49	0.165	1.29	0.94 ~1.75	0.114
N	1.13	0.90 ~1.42	0.290	1.07	0.78 ~1.46	0.683
riskScore	1.08	1.06 ~1.09	0.000	1.07	1.06 ~1.09	0.000

Table S3. The p value of comparing tumour infiltrating immune cells and risk score.

gene	pVal	gene	pVal
Macrophage_EPIC	0.0000	Myeloid dendritic cell resting_CIBERSORT-ABS	0.1448
Hematopoietic stem cell_XCELL	0.0000	B cell plasma_CIBERSORT-ABS	0.1491
T cell CD4+ Th2_XCELL	0.0000	B cell_TIMER	0.1576
stroma score_XCELL	0.0000	T cell CD4+ central memory_XCELL	0.1594
Macrophage M0_CIBERSORT	0.0000	Myeloid dendritic cell activated_CIBERSORT-ABS	0.1645
Macrophage M0_CIBERSORT-ABS	0.0000	Myeloid dendritic cell activated_CIBERSORT	0.1653
uncharacterized cell_EPIC	0.0000	B cell_XCELL	0.1784
Endothelial cell_XCELL	0.0000	NK cell_XCELL	0.1878
Granulocyte-monocyte progenitor_XCELL	0.0000	Endothelial cell_MCPCOUNTER	0.1943
Common lymphoid progenitor_XCELL	0.0000	T cell CD4+ naive_XCELL	0.2013
T cell CD8+ naive_XCELL	0.0001	Myeloid dendritic cell resting_CIBERSORT	0.2080
microenvironment score_XCELL	0.0002	B cell plasma_CIBERSORT	0.2159
Monocyte_QUANTISEQ	0.0002	cytotoxicity score_MCPCOUNTER	0.2217
Monocyte_MCPCOUNTER	0.0006	T cell CD4+ (non-regulatory)_QUANTISEQ	0.2225
Macrophage_Monocyte_MCPCOUNTER	0.0006	Cancer associated fibroblast_XCELL	0.2226
Neutrophil_TIMER	0.0006	Macrophage M2_CIBERSORT	0.2282
T cell CD8+ central memory_XCELL	0.0006	Macrophage M1_XCELL	0.2295
Macrophage M1_QUANTISEQ	0.0009	T cell CD4+ naive_CIBERSORT	0.2385
Macrophage_TIMER	0.0009	T cell CD4+ naive_CIBERSORT-ABS	0.2418
Cancer associated fibroblast_EPIC	0.0017	Myeloid dendritic cell_MCPCOUNTER	0.2433
T cell CD4+_TIMER	0.0018	Mast cell_XCELL	0.2638
Myeloid dendritic cell_TIMER	0.0022	T cell CD8+_QUANTISEQ	0.2886
T cell CD8+_CIBERSORT	0.0026	T cell follicular helper_CIBERSORT	0.2923
Common myeloid progenitor_XCELL	0.0036	NK cell activated_CIBERSORT	0.2931
Monocyte_CIBERSORT	0.0050	Neutrophil_XCELL	0.2948
T cell CD4+ memory_XCELL	0.0091	Class-switched memory B cell_XCELL	0.3058
Mast cell resting_CIBERSORT-ABS	0.0092	B cell naive_XCELL	0.3126
Mast cell resting_CIBERSORT	0.0109	B cell_EPIC	0.3144
Mast cell activated_CIBERSORT	0.0109	T cell CD4+ Th1_XCELL	0.3271
Neutrophil_CIBERSORT-ABS	0.0110	Myeloid dendritic cell_QUANTISEQ	0.3822
T cell regulatory (Tregs)_CIBERSORT-ABS	0.0130	B cell naive_CIBERSORT	0.4136
Neutrophil_CIBERSORT	0.0149	T cell CD8+_MCPCOUNTER	0.4202
Mast cell activated_CIBERSORT-ABS	0.0155	Macrophage M2_QUANTISEQ	0.4722
Macrophage M2_XCELL	0.0161	T cell CD8+ effector memory_XCELL	0.4723
T cell CD4+ memory resting_CIBERSORT	0.0182	NK cell activated_CIBERSORT-ABS	0.4736
B cell plasma_XCELL	0.0263	T cell regulatory (Tregs)_XCELL	0.4944
Plasmacytoid dendritic cell_XCELL	0.0279	Macrophage M1_CIBERSORT	0.4969
T cell CD4+ effector memory_XCELL	0.0281	Macrophage M1_CIBERSORT-ABS	0.5200
T cell CD8+_XCELL	0.0292	Myeloid dendritic cell_XCELL	0.5488
T cell regulatory (Tregs)_CIBERSORT	0.0313	T cell CD4+_EPIC	0.5665

NK cell_MCPCOUNTER	0.0331	B cell naive_CIBERSORT-ABS	0.6310
T cell NK_XCELL	0.0333	Monocyte_XCELL	0.6611
T cell regulatory (Tregs)_QUANTISEQ	0.0375	T cell gamma delta_CIBERSORT	0.7033
Macrophage M2_CIBERSORT-ABS	0.0388	T cell gamma delta_CIBERSORT-ABS	0.7143
Eosinophil_XCELL	0.0398	Eosinophil_CIBERSORT	0.7445
Neutrophil_QUANTISEQ	0.0424	Eosinophil_CIBERSORT-ABS	0.7475
Endothelial cell_EPIC	0.0455	T cell CD4+ memory resting_CIBERSORT-ABS	0.7831
T cell CD4+ memory activated_CIBERSORT-ABS	0.0460	B cell memory_CIBERSORT	0.7858
T cell CD8+_TIMER	0.0471	NK cell resting_CIBERSORT	0.7866
T cell CD4+ memory activated_CIBERSORT	0.0502	Macrophage_XCELL	0.7871
Neutrophil_MCPCOUNTER	0.0521	Myeloid dendritic cell activated_XCELL	0.7963
T cell follicular helper_CIBERSORT-ABS	0.0681	B cell memory_XCELL	0.7972
Monocyte_CIBERSORT-ABS	0.0910	B cell memory_CIBERSORT-ABS	0.7988
T cell_MCPCOUNTER	0.0946	NK cell resting_CIBERSORT-ABS	0.8092
T cell CD8+_CIBERSORT-ABS	0.1098	immune score_XCELL	0.8620
B cell_QUANTISEQ	0.1197	T cell CD8+_EPIC	0.9047
NK cell_QUANTISEQ	0.1210	T cell gamma delta_XCELL	0.9296
T cell CD4+ (non-regulatory)_XCELL	0.1241	NK cell_EPIC	0.9377
uncharacterized cell_QUANTISEQ	0.1294	B cell_MCPCOUNTER	0.9477
Cancer associated fibroblast_MCPCOUNTER	0.1307		

Table S4. The detail comparison results of correlation ship between tumour infiltrating immune cells and risk score.

symbol	type	correlation	pValue
B cell memory_CIBERSORT	CIBERSORT	0.1407	0.0071
Macrophage M0_CIBERSORT	CIBERSORT	0.1894	0.0003
T cell CD4+ memory resting_CIBERSORT	CIBERSORT	-0.1336	0.0106
Macrophage M0_CIBERSORT-ABS	CIBERSORT-ABS	0.1791	0.0006
Macrophage M2_CIBERSORT-ABS	CIBERSORT-ABS	0.1665	0.0014
Mast cell resting_CIBERSORT-ABS	CIBERSORT-ABS	0.1037	0.0476
NK cell activated_CIBERSORT-ABS	CIBERSORT-ABS	0.1220	0.0197
T cell follicular helper_CIBERSORT-ABS	CIBERSORT-ABS	0.1390	0.0078
T cell gamma delta_CIBERSORT-ABS	CIBERSORT-ABS	0.1253	0.0166
T cell regulatory (Tregs)_CIBERSORT-ABS	CIBERSORT-ABS	0.1038	0.0474
Macrophage_EPIC	EPIC	-0.2435	0.0000
uncharacterized cell_EPIC	EPIC	0.2512	0.0000
Macrophage_Monocyte_MCPCOUNTER	MCPCOUNTER	0.2504	0.0000
Monocyte_MCPCOUNTER	MCPCOUNTER	0.2504	0.0000
Myeloid dendritic cell_MCPCOUNTER	MCPCOUNTER	0.1739	0.0009
T cell CD8+_MCPCOUNTER	MCPCOUNTER	0.1242	0.0176
Macrophage M1_QUANTISEQ	QUANTISEQ	0.2009	0.0001
Macrophage M2_QUANTISEQ	QUANTISEQ	0.1177	0.0245
NK cell_QUANTISEQ	QUANTISEQ	-0.1073	0.0404
T cell CD8+_QUANTISEQ	QUANTISEQ	0.1132	0.0307
uncharacterized cell_QUANTISEQ	QUANTISEQ	-0.1116	0.0331
Macrophage_TIMER	TIMER	0.2517	0.0000
Myeloid dendritic cell_TIMER	TIMER	0.1790	0.0006
Neutrophil_TIMER	TIMER	0.1954	0.0002
Cancer associated fibroblast_XCELL	XCELL	-0.1034	0.0484
Common lymphoid progenitor_XCELL	XCELL	0.1763	0.0007
Endothelial cell_XCELL	XCELL	-0.1553	0.0029
Granulocyte-monocyte progenitor_XCELL	XCELL	-0.1139	0.0295
Hematopoietic stem cell_XCELL	XCELL	-0.2158	0.0000
Macrophage M1_XCELL	XCELL	0.1413	0.0069
Macrophage_XCELL	XCELL	0.1130	0.0309
Monocyte_XCELL	XCELL	0.1296	0.0132
stroma score_XCELL	XCELL	-0.1921	0.0002
T cell CD4+ Th2_XCELL	XCELL	0.3608	0.0000

Table S5. The p value of comparing chemotherapeutics sensitivity and risk score.

Drug	p-value
Doxorubicin	0.026
Vinblastine	0.0043
Mitomycin.C	1.40E-09
Cisplatin	3.60E-05
Sorafenib	0.24