Supplementary Table S1. Clinical features of 20 HCC patients for Affymetrix genechip analysis

Variable	All patients (n = 20)	IL28B TT genotype (n = 10)	IL28B TG/GG genotype (n = 10)	*p* value
Sex (male:female)	15:5	4:6	1:9	N.S.
Age (years)	65.5 (47–78)	70 (47–78)	60 (49–75)	N.S.
Platelet count ($\times 10^4/mm^3$)	11.1 (6.2–20.2)	11 (6.2–20.2)	12.9 (7.8–17.8)	N.S.
ALT (IU/L)	38.5 (15–150)	38 (20–116)	39 (15–150)	N.S.
γGTP (IU/L)	36.5 (17–399)	41 (17–120)	33.5 (23–399)	N.S.
Alubumin (g/dL)	4.2 (3.1–4.8)	4.2 (3.4–4.8)	4.1 (3.1–4.6)	N.S.
Prothrombin activity (%)	86.5 (58–115)	86.5 (64–100)	86.5 (58–115)	N.S.
Total bilirubin (mg/dL)	0.7 (0.2–1.5)	0.75 (0.6–1.5)	0.7 (0.2–1.4)	N.S.
Cirrhosis (yes:no)	12:8	7:3	5:5	N.S.
History of IFN therapy (yes:no)	9:11	4:6	5:5	N.S.
Child-Pugh class (A:B)	19:1	9:1	10:0	N.S.
Tumor no. (1:2:3)	16:1:3	9:1:0	7:0:3	N.S.
Tumor size (mm)	31.5 (14–62)	34 (14–62)	28.5 (17–38)	N.S.
AFP (ng/mL)	16.5 (<10–5507)	10 (<10–3490)	39 (<10–5507)	N.S.
DCP (AU/L)	51.5 (<10–19360)	48.5 (<10–188)	304 (<10–19360)	N.S.

Data shown as medians (range)

ALT, alkaline phosphatase; γGTP, gamma-glutamyl transpeptidase; IFN, interferon; AFP, alpha-fetoprotein; DCP, des-gamma-carboxy prothrombin.

N.S., not significant

Supplementary Table S2. The list of Probe ID of genes for hierarchical clustering

A) Interferon stimulated genes (ISG)	
Gene symbol	Affymetrix Probe Set ID
HERC6	219352_at
PLSCR1	202446_s_at
DDX60L	228152_s_at
SP110	209762_x_at
DDX58	218943_s_at
TRIM69	1568592_at
NMI	203964_at
TDRD7	213361_at
IFITM1	214022_s_at
OAS1	202869_at
IFIT2	217502_at
RTP4	219684_at
MX1	202086_at
IFI44L	204439_at
OAS2	204972_at
ISG15	205483_s_at
RSAD2	213797_at
CMPK2	226702_at
EPSTI1	227609_at
IFI44	214453_s_at
USP18	219211_at
SAMD9	228531_at
HERC5	219863_at
ARP9	223220_s_at
IFIH1	219209_at
NT5C3	223298_s_at
PNPT1	225291_at
OAS3	218400_at

B) Immune response related genes	
Gene symbol	Affymetrix Probe Set ID
ZAP70	214032_at
IL27RA	205926_at
SEMA3C	203789_s_at
CX3CL1	203687_at
SECTM1	213716_s_at
LTF	202018_s_at
CTSC	201487_at
FCGR1A	216951_at
PSMB10	202659_at
ARHGDIB	201288_at
CCL5	204655_at
GZMA	205488_at
CD74	1567627_at
IL2RG	204116_at
FYB	205285_s_at
AIM2	206513_at
FCN1	205237_at
NCF4	205147_x_at
FCGR3B	204007_at
CTSS	202902_s_at
CCR1	205099_s_at
CD86	205686_s_at
LY86	205859_at
TLR8	220832_at
CMKLR1	207652_s_at
IGSF6	206420_at
TLR7	220146_at
CXCL13	205242_at
PTGER4	204896_s_at
TRAT1	217147_s_at
CRTAM	206914_at
CD22	220674_at
CCL21	204606_at
CCL19	210072_at
MS4A1	228599_at
CHST4	220446_s_at
CCL4	204103_at
CIITA	205101_at
LCP2	205270_s_at
CD28	206545_at
LAX1	207734_at
CST7	210140_at
CTSW	214450_at
FCGRT	218831_s_at
TAPBP	210294_at
IL32	203828_s_at
IL1R2	205403_at
PRELID1	224232_s_at
GBP2	202748_at
CTLA4	221331_x_at
IL2RA	206341_at
IL12B	207901_at

Supplementary Table S3. Differentially expressed gene sets classified with Gene Ontology in HCC tissues of *IL28B* TG/GG genotype ($p < 0.001$)

Gene set name	Z score	*p*-value
Immune system process	-5.061704462	4.16E-07
Cellular defense response	-4.758636333	1.95E-06
Morphogenesis of an epithelium	-3.841568689	0.000122251
T cell activation	-3.786068036	0.00015305
Locomotory behavior	-3.665308511	0.000247041
Regulation of T cell activation	-3.644238912	0.000268184
T cell proliferation	-3.595929386	0.000323235
Regulation of T cell proliferation	-3.587277691	0.000334148
Cell proliferation	-3.536554986	0.000405382
Cytokine and chemokine mediated signaling pathway	-3.463535652	0.000533126
Positive regulation of T cell proliferation	-3.417834282	0.000631215
Leukocyte activation	-3.403132498	0.00066618
Lymphocyte activation	-3.394307987	0.000688023
Mitotic cell cycle	-3.388508432	0.000702739
Regulation of apoptosis	-3.358628985	0.000783302
Immune response	-3.328845827	0.000872067
Regulation of programmed cell death	-3.324614535	0.000885409
Epithelial cell differentiation	-3.302070425	0.00095974
Regulation of lymphocyte activation	-3.294808682	0.000984887

Supplementary Table S4. Comparison of tumor infiltrate lymphocyte between *IL28B* TT and TG/GG genotypes

Variable	IL28B TT genotype (n=20)	IL28 TG/GG genotype (n=12)	*p* value
Score of intratumoral lymphocyte infiltration			
CD4 positive	0.825	1.291	0.118
CD8 positive	1.175	1.750	0.047

Supplementary Table S5. Cox regression analysis and relative frequency of variables inclusion with p-value <0.05 (in 1000 bootstrap samples) for early HCC recurrence (≦1year).

	Univariate			Multivariate			
Variables	HR	95%CI	*P*	HR	95%CI	*P*	Frequency (%)
IL28B allele: TT vs TG/GG	2.351	1.189 - 6.747	0.019	2.351	1.189 - 6.747	0.019	82.5
DCP (AU/l): >40 vs ≤40	1.362	0.828 - 2.863	0.173				37.5
ALT (IU/l): >40 vs ≤40	0.833	0.697 - 2.444	0.405				32
Tumor number: solitary vs 2-3	0.651	0.397 - 1.590	0.515				29.5
History of IFN therapy: yes vs no	1.127	0.768 - 2.658	0.260				26
γGTP (IU/l): >50 vs ≤50	0.535	0.631 - 2.237	0.593				23
AFP (ng/ml): >20 vs ≤20	0.804	0.694 - 2.400	0.421				22.5
Child-Pugh class : A vs B	0.752	0.620 - 2.922	0.452				20.5
Age: per 1 year	0.951	0.981 - 1.056	0.342				19
Tumor size (mm): >20 vs ≤20	0.403	0.601 - 2.164	0.687				16.5
Platelet count ($\times 10^4/mm^3$): >10 vs ≤10	0.006	0.537 - 1.857	0.995				16
Therapy: RFA vs resection	0.305	0.481 - 2.727	0.760				15
Period of therapy: 2000-05 vs 2006-11	0.900	0.372 - 1.442	0.368				15
Sex: male vs female	0.299	0.581 - 2.092	0.765				14.5

Supplementary Table S6. Cox regression analysis and relative frequency of variables inclusion with p-value <0.05 (in 1000 bootstrap samples) for late HCC recurrence (1year<).

Variables	Univariate			Multivariate			
	HR	95%CI	*P*	HR	95%CI	*P*	Frequency (%)
Tumor size (mm): >20 vs ≤20	1.327	0.859 - 2.203	0.184	1.879	0.980 - 2.420	0.060	59.3
IL28B allele: TT vs TG/GG	1.587	0.914 - 2.354	0.113	1.717	1.033 - 2.684	0.086	57.3
Tumor number: solitary vs 2-3	1.931	0.993 - 2.585	0.054	1.976	0.998 - 2.674	0.048	53.8
Therapy: RFA vs resection	1.256	0.801 - 2.758	0.209				49.8
AFP (ng/ml): >20 vs ≤20	1.486	0.897 - 2.211	0.137				44.8
Period of therapy: 2000-05 vs 2006-11	1.021	0.804 - 1.996	0.307				44.6
Age: per 1 year	0.075	0.976 - 1.027	0.940				38.3
Platelet count ($\times 10^4/mm^3$): >10 vs ≤10	0.142	0.618 - 1.516	0.887				38.1
Sex: male vs female	0.090	0.636 - 1.643	0.928				37.1
γGTP (IU/l): >50 vs ≤50	1.079	0.816 - 2.013	0.281				34.5
Child-Pugh class : A vs B	0.581	0.702 - 1.920	0.561				27.1
DCP (AU/l): >40 vs ≤40	0.875	0.770 - 1.981	0.381				20.2
History of IFN therapy: yes vs no	0.121	0.615 - 1.536	0.904				19.5
ALT (IU/l): >40 vs ≤40	0.273	0.577 - 1.516	0.785				18.9