

Supplementary Table 4. Characteristics of HCC patients with PJA1 genetic alterations.

Type of PJA1 alteration	Gender	Age	Race	Etiology	Grade	Tumor resection	Stage	Vital status	Overall survival (Month)
mRNA level increased*	Female	61	Asian	Missing	G1	RX	IIIC	Dead	2.86
	Male	44	Asian	Missing	G2	RX	II	Dead	3.19
	Male	35	Asian	None	G1	RX	IIIA	Dead	4.24
	Male	71	Asian	Missing	G2	RX	IIIA	Dead	3.35
	Male	69	White	Alcohol	G2	R1	Missing	Dead	27.5
	Male	42	Block or african american	HCV	G3	R0	II	Dead	37.75
	Male	23	Block or african american	Hepatitis B	G3	R0	II	Dead	13.63
	Male	50	Asian	None	G3	Missing	IIIA	Dead	3.32
	Male	45	Asian	Alcohol	G3	R0	IIIA	Dead	9.86
	Male	73	White	Alcohol	G2	Missing	IIIA	Alive	11.93
	Male	47	Asian	Missing	G2	R0	II	Alive	29.89
	Male	54	Asian	Alcohol	G3	R0	IIIA	Alive	13.11
	Male	56	Asian	Alcohol	G3	R0	II	Alive	12.55
	Female	39	Asian	None	G3	R0	IIIA	Dead	11.3
	Male	68	White	HCV	G3	R0	IIIA	Dead	13.53
	Male	51	White	HCV	G2	R0	Missing	Dead	25.13
	Male	49	White	Alcohol and HBV and HCV	G1	R0	IIIA	Alive	120.73
	Male	68	Block or african	Alcohol and HBV	G2	R0	I	Alive	47.7
Male	61	Asian	HBV	G1	R0	II	Alive	0.66	
mRNA level decreased*	Male	65	White	Alcohol	G2	R0	IIIB	Alive	22.04
	Female	52	Asian	HBV	G2	R0	IIIA	Alive	Missing
	Male	69	Asian	None	G2	R0	I	Alive	53.65
Missense mutation (E401G)	Female	46	White	HCV	G2	R0	I	Dead	19.58
Truncating mutation (D276*)	Male	80	White	Alcohol	G2	R0	Missing	Dead	5.03

*: Cutoff, z-Scores threshold ± 2.0 .