

**Supplementary table 2: The clinical characteristics of these eligible patients**

sampleID	age_at_initial_pathologic_diagnosis	weight	gender
TCGA-DD-AACX-01	66	53	MALE
TCGA-DD-AAD5-01	54	70	MALE
TCGA-DD-AADG-01	70	61	MALE
TCGA-DD-AADR-01	58	75	MALE
TCGA-DD-AAED-01	51	69	MALE
TCGA-UB-A7MC-01	59	78	MALE
TCGA-2Y-A9H4-01	68	61	MALE
TCGA-DD-AACW-01	43	65	MALE
TCGA-DD-AAD3-01	43	77	MALE
TCGA-DD-AADL-01	58	53	MALE
TCGA-DD-AADM-01	58	55	MALE
TCGA-DD-AADN-01	59	62	MALE
TCGA-DD-AADO-01	55	58	MALE
TCGA-DD-AADQ-01	59	64	MALE
TCGA-DD-AADV-01	50	64	MALE
TCGA-DD-AAE3-01	50	73	MALE
TCGA-DD-AAE7-01	72	74	MALE
TCGA-DD-AAE9-01	69	63	MALE
TCGA-DD-AAEA-01	65	66	MALE
TCGA-DD-AAEB-01	60	75	MALE
TCGA-2Y-A9GT-01	51	122	MALE
TCGA-2Y-A9H0-01	49	89	MALE
TCGA-08-A75V-01	54	92	MALE
TCGA-K7-A6G5-01	66	80	MALE
TCGA-DD-A116-01	68	73	MALE
TCGA-DD-A1EA-01	68	94	MALE
TCGA-DD-A1EH-01	23	70	MALE
TCGA-DD-A1EL-01	23	54	MALE
TCGA-DD-AACA-01	65	70	MALE
TCGA-DD-AACE-01	62	62	MALE
TCGA-DD-AACN-01	32	70	MALE
TCGA-DD-AACO-01	40	43	MALE
TCGA-DD-AACQ-01	50	64	MALE
TCGA-DD-AACY-01	61	62	MALE
TCGA-DD-AADO-01	73	54	FEMALE
TCGA-DD-AAD6-01	66	93	MALE
TCGA-DD-AADW-01	48	49	MALE
TCGA-DD-AAE4-01	49	62	FEMALE
TCGA-DD-AAEE-01	55	58	MALE
TCGA-DD-AAEI-01	72	79	MALE
TCGA-DD-AAVX-01	38	65	MALE
TCGA-G3-A25Y-01	52	57	FEMALE
TCGA-G3-A3CH-01	53	74	MALE
TCGA-G3-AAV1-01	51	99	MALE
TCGA-QA-A7B7-01	48	108	MALE
TCGA-XR-A8TF-01	74	57	MALE
TCGA-DD-AAVP-01	48	62	MALE
TCGA-DD-AAVQ-01	38	72	MALE
TCGA-DD-AAVU-01	46	88	MALE
TCGA-BC-A10W-01	50	71	MALE
TCGA-BW-A5NP-01	26		FEMALE
TCGA-CC-A9FU-01	52	48	FEMALE

TCGA-DD-A119-01	40	58 MALE
TCGA-DD-A1EI-01	46	69 MALE
TCGA-DD-AAC8-01	72	57 MALE
TCGA-DD-AAC9-01	51	81 MALE
TCGA-DD-AACB-01	74	72 FEMALE
TCGA-DD-AACC-01	61	61 MALE
TCGA-DD-AACD-01	48	66 MALE
TCGA-DD-AACG-01	52	65 MALE
TCGA-DD-AACH-01	69	53 MALE
TCGA-DD-AACK-01	70	68 MALE
TCGA-DD-AACS-01	39	80 MALE
TCGA-DD-AACT-01	69	62 FEMALE
TCGA-DD-AACU-01	59	67 MALE
TCGA-DD-AAD2-01	66	52 MALE
TCGA-DD-AADA-01	66	59 FEMALE
TCGA-DD-AADB-01	51	68 MALE
TCGA-DD-AADC-01	53	81 MALE
TCGA-DD-AADD-01	51	68 MALE
TCGA-DD-AADF-01	64	55 FEMALE
TCGA-DD-AADI-01	43	64 FEMALE
TCGA-DD-AADK-01	68	51 FEMALE
TCGA-DD-AADP-01	45	67 MALE
TCGA-DD-AADY-01	55	55 FEMALE
TCGA-DD-AAEO-01	45	56 FEMALE
TCGA-DD-AAE1-01	52	62 MALE
TCGA-DD-AAE2-01	51	82 MALE
TCGA-DD-AAEK-01	51	64 MALE
TCGA-DD-AAVR-01	44	69 MALE
TCGA-DD-AAVS-01	56	72 MALE
TCGA-DD-AAVV-01	56	71 MALE
TCGA-DD-AAVW-01	35	62 MALE
TCGA-DD-AAVZ-01	38	62 MALE
TCGA-DD-AAW0-01	54	75 MALE
TCGA-G3-A25U-01	63	47 FEMALE
TCGA-G3-A25X-01	73	65 MALE
TCGA-G3-A25Z-01	58	69 MALE
TCGA-G3-A3CK-01	61	67 MALE
TCGA-G3-AAV0-01	58	58 MALE
TCGA-G3-AAV4-01	83	56 FEMALE
TCGA-G3-AAV7-01	38	58 MALE
TCGA-RC-A7S9-01	47	58 FEMALE
TCGA-RC-A7SB-01	53	61 MALE
TCGA-RC-A7SH-01	42	68 MALE
TCGA-UB-A7ME-01	51	75 MALE
TCGA-ZP-A9CZ-01	72	73 MALE
TCGA-5C-AAPD-01	61	69 MALE
TCGA-XR-A8TC-01	43	52 FEMALE
TCGA-DD-AACA-02	65	70 MALE
TCGA-DD-AAD1-01	51	44 FEMALE
TCGA-DD-AAD8-01	73	57 FEMALE
TCGA-UB-A7MF-01	56	95 MALE
TCGA-G3-AAUZ-01	48	77 MALE
TCGA-DD-A4NQ-01	60	75 MALE

tients.

neoplasms_histologic_grade	pathologic_M	pathologic_N
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	MX	NO
G2	MX	NO
G3	M0	NO
G2	M0	NO
G4	M0	NO
G3	M0	NO
G4	MX	NX
G3	M0	NO
G3	M0	NO
G3	M0	NO
G2	M0	NO
G2	M0	NO
G3	M0	NO
G3	M0	NO
G2	M0	NO
G2	MX	NX
G1	M0	NO
G2	MX	NX
G2	MX	NO
G3	M0	NO
G2	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G3	M0	NO
G2	M0	NO
G3	M0	NO
G3	M0	NO
G1	M0	NO
G4	M0	NO
G2	M0	NO
G2	M0	NO
G3	M0	NO
G2	M0	NO
G3	M0	NO
G2	MX	NX
G1	MX	NX
G1	M0	NO
G2	M0	NO
G2	M0	NO
G3	MX	NX
G3	M1	NO
G2	M0	NO

G3	M1	NO
G2	MO	NO
G3	MO	NO
G2	MO	NO
G3	MO	NO
G2	MO	NO
G4	MO	NO
G4	MO	NO
G3	MO	NO
G2	MO	NO
G3	MO	NO
G2	MO	NO
G3	MO	NO
G2	MO	NO
G3	MO	NO
G4	MO	NO
G3	MO	NO
G4	MO	NO
G4	MO	NO
G3	MO	NO
G3	MO	NO
G3	MO	NO
G2	MO	NO
G4	MO	NO
G3	MO	NO
G3	MO	NO
G3	MO	NO
G2	MO	NO
G2	MO	NO
G3	MO	NO
G2	MO	NO
G2	MO	NO
G3	MO	NO
G3	MO	NO
G2	MO	NO
G2	MO	NO
G2	MO	NO
G1	MO	NO
G2	MO	NO
G3	MO	NO
G2	MO	NO
G3	MO	NO
G2	MX	NX
G1	MX	NX
G1	MO	NO
G2	MX	NX
G3	MO	NO
G4	MO	NO
G2	MO	NO
G2	MX	NX
G2	MO	NO
G3	MO	NO

pathologic_T	pathologic_stage	child_pugh_classification_grade
T2	Stage II	A
T1	Stage I	A
T3a	Stage IIIA	A
T1	Stage I	A
T1	Stage I	A
T3a	Stage IIIA	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	C
T3	Stage IIIA	
T1	Stage I	A
T1	Stage I	
T3	Stage IIIA	A
T2	Stage II	A
T3	Stage III	B
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T3a	Stage IIIA	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T3a	Stage IIIA	A
T4	Stage IIIC	B
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T4		
T2	Stage IV	
T3a	Stage IIIA	

T3a	Stage IV	A
T1	Stage I	B
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T3a	Stage IIIA	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T2	Stage II	A
T1	Stage I	A
T2	Stage II	B
T2	Stage II	A
T1	Stage I	B
T1		A
T2	Stage II	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T1	Stage I	A
T3a	Stage IIIA	A
T1	Stage I	A
T2	Stage II	A

cancer_status	adjacent_hepatic_tissue_inflammation_extent_type
WITH TUMOR	Mild
WITH TUMOR	Mild
TUMOR FREE	Mild
TUMOR FREE	Mild
WITH TUMOR	Mild
WITH TUMOR	Mild
TUMOR FREE	
TUMOR FREE	
TUMOR FREE	Mild
TUMOR FREE	
TUMOR FREE	
TUMOR FREE	
TUMOR FREE	
TUMOR FREE	None
TUMOR FREE	None
TUMOR FREE	Severe
TUMOR FREE	Mild
TUMOR FREE	
TUMOR FREE	
WITH TUMOR	None
TUMOR FREE	None
TUMOR FREE	Mild
TUMOR FREE	
TUMOR FREE	
WITH TUMOR	Mild
WITH TUMOR	None
WITH TUMOR	Mild
WITH TUMOR	Mild
TUMOR FREE	Mild
WITH TUMOR	
WITH TUMOR	Mild
WITH TUMOR	Mild
WITH TUMOR	
TUMOR FREE	None
TUMOR FREE	None
WITH TUMOR	None
WITH TUMOR	None
WITH TUMOR	Severe
WITH TUMOR	Mild
WITH TUMOR	Severe
WITH TUMOR	Severe
WITH TUMOR	Mild
TUMOR FREE	None
TUMOR FREE	Severe
TUMOR FREE	Severe
TUMOR FREE	Mild
WITH TUMOR	
WITH TUMOR	Mild
TUMOR FREE	

	None
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	Mild
WITH TUMOR	Mild
WITH TUMOR	Mild
WITH TUMOR	Mild
TUMOR FREE	Mild
TUMOR FREE	None
TUMOR FREE	
TUMOR FREE	Mild
TUMOR FREE	
TUMOR FREE	Mild
TUMOR FREE	
WITH TUMOR	
TUMOR FREE	
TUMOR FREE	
TUMOR FREE	
TUMOR FREE	None
TUMOR FREE	
TUMOR FREE	None
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	None
TUMOR FREE	None
TUMOR FREE	None
TUMOR FREE	None
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	None
TUMOR FREE	
TUMOR FREE	Mild
TUMOR FREE	Mild
TUMOR FREE	None
WITH TUMOR	None
TUMOR FREE	Mild
TUMOR FREE	
TUMOR FREE	None
WITH TUMOR	Mild
WITH TUMOR	Mild
WITH TUMOR	
TUMOR FREE	Mild
WITH TUMOR	
TUMOR FREE	Severe
WITH TUMOR	Mild



platelet_result_count	prothrombin_time_result_value	albumin_result_specified_value
179	0.9	4.2
349	1.2	3.7
170	1	4.2
75	1.1	4.4
211	1.1	4
200	0.9	3.9
223	11	4.6
137	1.1	4
181	1	3.9
204	0.9	3.5
126	1	4.1
176	1.1	3.5
180	1	4.5
163	1.1	4.4
187	1	3.8
180	1.1	4.7
188	1	4.7
138	1.1	4.1
255	1	4.5
270	1	4.1
187	9.8	3.7
207	12.2	2
211	9.1	3.8
157	1	4.1
209	10.2	3.3
212	10.4	4.7
153	10.8	4.4
136	0.9	3.7
175	0.9	4.4
185	1	3.9
88	1	3.7
157	1	4.2
114	1.1	3.1
86	1	3.4
185	1	2.7
102	1	4.3
113	1.1	4
221	1	4.7
161	1.1	3.6
186	1	3.9
166	1.1	0.4
142	1.2	0.3
115	1.2	3.2
218	11.5	4.2
194000	1.1	3.9
189	1	4.3
128	1.2	3
166	1	4.6
401	0.9	2.8

572	1	3.9
148	10.9	5.1
177	0.9	4.3
149	0.9	4.2
179	0.8	4.1
208	1	3.9
268	6.9	3.9
196	0.9	3.6
290	0.9	4.3
98	0.9	4.6
223	1	4.3
213	1	4.4
166	0.9	4.4
172	1	3.5
173	1.1	4.1
180	1	4.5
212	1.2	3.8
299	1.1	4.1
174	1.2	3.5
141	1.1	3.8
197	1	4.4
102	1.1	3.7
159	1.3	3.5
226	0.9	4.8
102	0.9	4.1
238	1	4.4
202	1	4.1
174	1	3.6
281	1.1	3
244	1.1	4.6
212	1	4.6
98	1.2	3.8
183	1	4.6
113	1	0.3
102	1	0.4
115	1	0.4
143	1	0.2
193	0.9	4.2
79	1.2	2.7
179	1	4
178000	1.1	4.3
196000	1	4.8
225	1	4.1
181	1	4.2
	11.5	4.4
318000	1	3.9
136	0.9	3.7
157	0.9	4.5
130	1.1	4.3
130	1	3.6
214	1	3.8
283	10.1	4.4

fetoprotein_outcome_value	fibrosis_ishak_score	relative_family_cancer_history
	3 3,4 - Fibrous Speta	NO
	73 3,4 - Fibrous Speta	NO
	2256 3,4 - Fibrous Speta	NO
	3 6 - Established Cirrhosis	NO
	2405 1,2 - Portal Fibrosis	NO
	126 1,2 - Portal Fibrosis	NO
	11	YES
	1726	NO
	1,2 - Portal Fibrosis	NO
	14	YES
	112	NO
	151367	NO
	176037	NO
	7	NO
	11 6 - Established Cirrhosis	NO
	2 1,2 - Portal Fibrosis	NO
	1 3,4 - Fibrous Speta	NO
	3 1,2 - Portal Fibrosis	NO
	2 1,2 - Portal Fibrosis	NO
	1	NO
	17	YES
	7598	
	7 6 - Established Cirrhosis	YES
	24 3,4 - Fibrous Speta	NO
	3 1,2 - Portal Fibrosis	YES
	94340 3,4 - Fibrous Speta	YES
	5 0 - No Fibrosis	NO
	7 6 - Established Cirrhosis	NO
	2 6 - Established Cirrhosis	NO
	699	NO
	5 6 - Established Cirrhosis	NO
	7	NO
	290 3,4 - Fibrous Speta	NO
	4	NO
		NO
	250 6 - Established Cirrhosis	NO
	7 6 - Established Cirrhosis	NO
	3 6 - Established Cirrhosis	NO
	24 6 - Established Cirrhosis	NO
	1 6 - Established Cirrhosis	YES
	35 3,4 - Fibrous Speta	NO
	41 6 - Established Cirrhosis	NO
	8 6 - Established Cirrhosis	
	1751 0 - No Fibrosis	NO
	39 3,4 - Fibrous Speta	NO
	2 6 - Established Cirrhosis	YES
	1456 6 - Established Cirrhosis	NO
	2 3,4 - Fibrous Speta	NO
	79	YES
	143684 3,4 - Fibrous Speta	
		NO

1836 0 - No Fibrosis	YES
24 6 - Established Cirrhosis	NO
1 1,2 - Portal Fibrosis	NO
5 6 - Established Cirrhosis	NO
1902 6 - Established Cirrhosis	NO
24 6 - Established Cirrhosis	NO
2 1,2 - Portal Fibrosis	YES
11718 6 - Established Cirrhosis	NO
7 6 - Established Cirrhosis	NO
5 6 - Established Cirrhosis	NO
1	NO
4	NO
22	NO
25 1,2 - Portal Fibrosis	NO
8698	NO
419	NO
36	NO
9804	NO
725	NO
27	NO
236 6 - Established Cirrhosis	NO
9	NO
9 6 - Established Cirrhosis	NO
8751 3,4 - Fibrous Speta	NO
2693 6 - Established Cirrhosis	NO
41 6 - Established Cirrhosis	NO
5166 6 - Established Cirrhosis	NO
36 6 - Established Cirrhosis	YES
50149 3,4 - Fibrous Speta	NO
7 3,4 - Fibrous Speta	NO
927 6 - Established Cirrhosis	NO
945 6 - Established Cirrhosis	YES
3 3,4 - Fibrous Speta	YES
10 0 - No Fibrosis	NO
11 1,2 - Portal Fibrosis	NO
44 5 - Nodular Formation and LI	YES
3 6 - Established Cirrhosis	YES
4 0 - No Fibrosis	
4 3,4 - Fibrous Speta	YES
3 5 - Nodular Formation and	Incomplete Cirrhosis
10 6 - Established Cirrhosis	
3 0 - No Fibrosis	
2466 3,4 - Fibrous Speta	
1388 1,2 - Portal Fibrosis	NO
8 3,4 - Fibrous Speta	YES
	NO
47 6 - Established Cirrhosis	NO
7 6 - Established Cirrhosis	NO
451	NO
4 1,2 - Portal Fibrosis	NO
2505 6 - Established Cirrhosis	YES
3 1,2 - Portal Fibrosis	
141	YES

vascular infiltration

- None
- None
- None
- None
- None
- Micro
- None
- None
- None
- Micro
- None
- Micro
- Micro
- None
- None
- None
- None
- None
- None
- None
- None
- None

- None
- None

- Micro
- Macro
- None
- None
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- None
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- None
- None
- None
- None
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- None
- None
- None
- Micro
- None
- None
- Micro
- Micro
- None
- None
- None
- Micro

- Micro

[illegible]