



Supplementary Table S1. Relationship between clinicopathological characteristics of patients and CD45⁺ CK⁺ cell count. Individual count of double positive cells and the sum of CD45⁺ CK⁺ CTCs and double positive cells are shown.

Variable	Patients n (%)	Cell count n=37; 100.0%)			
		CD45 ⁺ CK ⁺ cells		CTCs and CD45 ⁺ CK ⁺ cells	
		Median (IQR)	p	Median (IQR)	p
Age (years)					
- <65	18 (48.6%)	27.0 (16.-90.5)	0.796	58.3 (37.5-186.3)	0.574
- ≥65	19 (51.4%)	30.0 (15.0-54.0)		68.0 (44.0-116.0)	
Sex (male)	34 (91.9%)	29.0 (17.5-60.3)	0.242	68.0 (44.8-138.3)	0.559
Etiology					
- Hepatitis C (yes)	14(37.8%)	31.0 (15.5-134.0)	0.364	57.0 (44.8-398.5)	0.616
- Hepatitis B (yes)	5 (13.5%)	48.0 (18.5-76.0)	0.437	116.0 (50.0-138.5)	0.625
- Alcohol (yes)	27 (73.0%)	26.0 (18.0-58.0)	0.932	68.0 (44.0-139.0)	0.918
- NAFLD (yes)	4 (10.8%)	16.0 (4.0-85.0)	0.240	52.0 (26.3-224.8)	0.509
Child-Pugh score					
- A	32 (86.5%)	29.0 (16.5-57.0)	0.706	68.0 (44.3-138.0)	0.982
- B	5 (13.5%)	23.0 (9.0-121.0)		46.0 (27.0-1017.5)	
MELD score					
- <9	14 (37.8%)	28.5 (16.0-61.8)	0.900	57.0 (43.03-138.3)	0.802
- ≥9	23 (62.2%)	28.0 (15.0-60.0)		68.0 (37.0-151.0)	
BCLC stage					
- 0-A	26 (70.3%)	30.0 (15.8-76.0)	0.572	69.0 (43.3-143.3)	0.702
- B-D	11 (29.7%)	25.0 (18.0-48.0)		64.0 (34.0-138.0)	
Portal Hypertension (yes)	31 (83.8%)	28.0 (16.0-60.0)	0.695	68.0 (44.0-139.0)	0.821
Number of nodules					
- Single nodule	18 (48.6%)	24.5 (15.5-48.3)	0.638	68.0 (37.8-141.3)	0.761
- Multinodular	19 (51.4%)	32.0 (16.0-67.0)		64.0 (44.0-139.0)	
Main nodule diameter (cm)					
- <3	17 (45.9%)	54.0 (21.0-101.5)	0.024	116.0 (48.5-272.5)	0.038
- ≥3	20 (54.1%)	22.5 (14.5-32.0)		47.0 (36.3-73.3)	
Total tumor diameter (cm)					
- <5	24 (64.9%)	29.0 (16.5-71.5)	0.316	69.0 (45.3-151.5)	0.408
- ≥5	13 (35.1%)	25.0 (13.5-51.0)		53.0 (33.0-138.5)	
Number of treated nodules					
- Single nodule	22 (59.5%)	24.0 (16.0-48.3)	0.536	66.0 (43.3-141.3)	0.901
- >1 nodule	15 (40.5%)	36.0 (15.0-67.0)		107.0 (34.0-139.0)	
AFP (ng/ml)					
- Normal (<9)	17 (45.9%)	32.0 (15.0-66.5)	0.779	70.0 (37.0-153.5)	0.499
- Abnormal (≥9)	18 (48.6%)	26.5 (15.8-55.0)		58.5 (44.8-120.0)	
- missing	2 (5.4%)				

AST (U/L)					
- Normal (<35)	18 (48.6%)	25.5 (14.0-61.8)		66.0 (35.5-152.3)	
- Abnormal (≥ 35)	19 (51.4%)	32.0 (16.0-58.0)	0.638	68.0 (44.0-132.0)	0.939
ALT (U/L)					
- Normal (<27)	19 (51.4%)	25.0 (18.0-48.0)		53.0 (36.0-138.0)	
- Abnormal (≥ 27)	18 (48.6%)	37.0 (15.8-76.0)	0.475	72.5 (46.5-143.3)	0.386
GGT (U/L)					
- Normal (<75)	17 (45.9%)	25.0 (17.0-35.0)		50.0 (35.5-144.5)	
- Abnormal (≥ 75)	20 (54.1%)	40.5 (15.3-65.3)	0.532	91.0 (45.5-138.8)	0.385
Tumor vascularity					
- Hypervascularity	23 (62.2%)	30.0 (18.0-67.0)		75.0 (47.0-156.0)	
- Medium/Hypo-vascularity	14 (37.8%)	23.0 (13.8-50.5)	0.372	46.5 (31.5-119.3)	0.060