

Supplementary Table 1. Clinical and pathological characteristics of 365 HCC patients.

| Parameters | Variables | N | % |
|-------------|--------------|-----|-------|
| VETC | positive | 87 | 23.84 |
| | negative | 278 | 76.16 |
| LMR | ≤ 7.75 | 345 | 94.52 |
| | > 7.75 | 20 | 5.48 |
| PLR | ≤ 40 | 131 | 35.89 |
| | > 40 | 234 | 64.11 |
| Neutrophils | ≤ 7 | 345 | 94.52 |
| | > 7 | 20 | 5.48 |
| GPR | ≤ 0.17 | 80 | 21.92 |
| | > 0.17 | 285 | 78.08 |
| AAR | ≤ 0.86 | 156 | 42.74 |
| | > 0.86 | 209 | 57.26 |
| ALRI | ≤ 29.75 | 266 | 72.88 |
| | > 29.75 | 99 | 27.12 |
| ANRI | ≤ 12.43 | 234 | 64.11 |
| | > 12.43 | 131 | 35.89 |
| APRI | ≤ 0.21 | 184 | 50.41 |
| | > 0.21 | 181 | 49.59 |
| BLRI | ≤ 21.73 | 183 | 50.14 |
| | > 21.73 | 182 | 49.86 |

| | | | |
|-----------------|----------|-----|-------|
| SII | ≤545.6 | 269 | 73.7 |
| | >545.6 | 96 | 23.6 |
| SIRI | ≤0.64 | 110 | 30.14 |
| | >0.64 | 255 | 69.86 |
| ALT | ≤40 | 186 | 50.96 |
| | >40 | 179 | 49.04 |
| AST | ≤45 | 255 | 69.86 |
| | >45 | 110 | 30.14 |
| TB | ≤17.1 | 290 | 79.45 |
| | >17.1 | 75 | 20.55 |
| PT | ≤13.5 | 351 | 96.16 |
| | >13.5 | 14 | 3.84 |
| Gender | female | 46 | 12.6 |
| | male | 319 | 87.4 |
| HBV infection | negative | 43 | 11.78 |
| | positive | 322 | 88.22 |
| Splenomegaly | negative | 303 | 83.01 |
| | positive | 62 | 16.99 |
| Liver cirrhosis | negative | 586 | 78.36 |
| | positive | 79 | 21.64 |
| Tumor number | solitary | 317 | 86.85 |
| | multiple | 48 | 13.15 |
| Ascites | negative | 361 | 98.9 |

| | | | |
|--------------------|------------|------------------|-------|
| | positive | 4 | 1.1 |
| Tumor envelope | complete | 241 | 66.03 |
| | incomplete | 124 | 33.97 |
| Age | | 50.58±11.22 | |
| AFP(ln) | | 4.71±3.28 | |
| Tumor diameter(ln) | | 1.55(1.13, 1.92) | |

VETC: Vessels that encapsulate tumor cluster; LMR: lymphocyte to monocyte ratio; PLR: platelet-lymphocyte ratio; GPR: γ -glutamyl transpeptidase to platelet ratio; AAR: AST to ALT ratio; ALRI: AST to lymphocyte ratio index; ANRI: AST to neutrophil ratio index; APRI: AST to platelet ratio index; BLRI: ALT to lymphocyte ratio index; SII: systemic immune-inflammation index; SIRI: systemic inflammation response index.