

Supplemental Table 1. Correlation between ZIP4 positive density cell and clinicopathologic characteristics

| Characteristics | ZIP4 positive cell density of cells (%) | | <i>P</i> |
|-----------------------|---|------------|----------|
| | Low(n=20) | High(n=40) | |
| Age(years) | | | 1.000 |
| <50 | 9(45%) | 18(45%) | |
| ≥50 | 11(55%) | 22(55%) | |
| Sex | | | 1.000 |
| Male | 19 | 39 | |
| Female | 1 | 1 | |
| Tumor size(cm) | | | 0.022 |
| <5 | 11(55%) | 10(25%) | |
| ≥5 | 9(45%) | 30(75%) | |
| Tumor number | / | | 0.041 |
| Single | 13(65%) | 14(35%) | |
| Multiple | 7(35%) | 24(65%) | |
| Distant metastasis | | | 0.530 |
| Yes | 0(0%) | 3(7.5%) | |
| No | 20(100%) | 37(92.5%) | |
| Tumor recurrence | | | 0.033 |
| Yes | 3(15%) | 17(42.5%) | |
| No | 17(85%) | 23(57.5%) | |
| Tumor differentiation | | | 0.714 |
| I | 10(50%) | 22(55%) | |
| II-III | 10(50%) | 18(45%) | |
| Liver cirrhosis | | | 0.903 |
| Yes | 16(80%) | 34(85%) | |
| No | 4(20%) | 6(15%) | |
| History of hepatitis | | | 0.502 |
| Yes | 16(80%) | 36(90%) | |
| No | 4(20%) | 4(10%) | |
| HBsAg | | / | 1.000 |
| Negative | 15(75%) | 30(75%) | |
| Positive | 5(25%) | 10(25%) | |
| AFP level(ng/mL) | | | 0.791 |
| ≤400 | 15(75%) | 28(70%) | |
| >400 | 4(20%) | 11(27.5%) | |
| AFP level(ng/mL) | | | 0.588 |
| ≤20 | 5(25%) | 13(32.5%) | |
| >20 | 14(70%) | 26(65%) | |
| γ GT level | | | 0.829 |
| Normal | 5(25%) | 9(22.5%) | |
| Abnormal | 15(75%) | 31(77.5%) | |

| | | | |
|------------------|---------|-----------|-------|
| CEA level | | | 1.000 |
| Normal | 16(80%) | 34(85%) | |
| Abnormal | 2(10%) | 4(10%) | |
| CHE level | | | 0.713 |
| Normal | 8(40%) | 18(45%) | |
| Abnormal | 12(60%) | 22(55%) | |
| Ascites | | | 0.022 |
| Yes | 5(25%) | 1(2.5%) | |
| no | 15(75%) | 39(97.5%) | |
| TBIL level | | | 0.550 |
| Normal | 5(25%) | 13(32.5%) | |
| Abnormal | 15(75%) | 27(67.5%) | |
| ALB level | | | 0.273 |
| Normal | 8(40%) | 22(55%) | |
| Abnormal | 12(60%) | 18(45%) | |
| PT time | | | 0.197 |
| Normal | 9(45%) | 25(62.5%) | |
| Abnormal | 11(55%) | 15(37.5%) | |
| INR level | | | 1.000 |
| Normal | 7(35%) | 14(35%) | |
| Abnormal | 13(65%) | 26(65%) | |
| Serum creatinine | | | 0.713 |
| Normal | 8(40%) | 18(45%) | |
| Abnormal | 12(60%) | 22(55%) | |
| ALT level | | | 0.043 |
| Normal | 9(45%) | 8(20%) | |
| Abnormal | 11(55%) | 32(80%) | |
| DBIL level | | | 0.846 |
| Normal | 7(35%) | 13(32.5%) | |
| Abnormal | 13(65%) | 27(67.5%) | |
| TNM stage | | | 0.044 |
| I+II | 13(65%) | 15(37.5%) | |
| III+IV | 7(35%) | 25(62.5%) | |
| CTP | | | 0.042 |
| A | 12(60%) | 13(32.5%) | |
| B/C | 8(40%) | 27(67.5%) | |

Abbreviation: ALT: alanine aminotransferase; CTP Child–Turcotte–Pugh scores. AFP: alpha fetoprotein; γ GT: γ - glutamyl transferase; CEA: carcinoembryonic antigen; CHE: cholinesterase; TBIL: total bilirubin; ALB: Serum albumin; PT: prothrombintime; INR: International Normalized Ratio; ALT: alanine aminotransferase; DBIL: bilirubin

direct.

Chi-square tests for all other analyses.