

Supplementary Information

Table S1 Overall survival in patients with sarcomatoid HCC

| Case No. | Sex | Age (years) | Overall survival (months) |
|------------------|-----------|-------------|---------------------------|
| 1 | M | 46 | 3 |
| 2 | M | 69 | 12 |
| 3 | F | 37 | 1.5 |
| 4 | M | 59 | 2.5 |
| 5 | M | 71 | 5 |
| 6 | M | 48 | 14 |
| 7 | F | 53 | 16 |
| 8 | M | 65 | 2 |
| 9 | M | 42 | 4 |
| 10 | M | 61 | 8 |
| Ratios or median | F:M = 2:8 | 56 (37-71) | 4.5 (1.5-16) |

**Table S2 List of antibodies and suppliers
used for immunohistochemistry (IHC) or immunofluorescence (IF)**

| Antibody | Isotype | Suppliers | Cat. No | Application |
|-----------------|----------------|--------------------------|----------------|--------------------|
| MST4 | Rabbit IgG | Abcam | ab52491 | WB、IHC、IF |
| Ki67 | Rabbit IgG | Thermo Fisher SCIENTIFIC | PA5-19462 | IHC |
| CK8/18(CAM5.2) | Mouse IgG | BD Biosciences | 349205 | IHC |
| E-cadherin | Mouse IgG | Santa Cruz | sc-21791 | IHC |
| Vimentin | Mouse IgG | Santa Cruz | sc-6260 | IHC |
| Snail1 | Goat IgG | Abcam | ab53519 | WB、IHC、IF |
| E-cadherin | Mouse IgG | BD Biosciences | 610182 | WB、IF |
| N-cadherin | Mouse IgG | BD Biosciences | 610920 | WB、IF |
| Vimentin | Mouse IgG | BD Biosciences | 562337 | WB、IF |
| Fibronectin | Mouse IgG | BD Biosciences | 610077 | WB、IF |
| p-AKT(S473) | Rabbit IgG | CST | 4060S | WB、IHC |

Table S3 List of antibodies and suppliers used for immunoblotting

| Antibody | Isotype | Suppliers | Cat. No | Application |
|------------------|----------------|---------------------------------|----------------|--------------------|
| MST4 | Rabbit IgG | Abcam | ab52491 | WB、IHC、IF |
| Snail1 | Goat IgG | Abcam | ab53519 | WB、IHC、IF |
| Snail1 | Rabbit | Cell Signaling Technology (CST) | 3879S | WB |
| E-cadherin | Mouse IgG | BD Biosciences | 610182 | WB、IF |
| N-cadherin | Mouse IgG | BD Biosciences | 610920 | WB、IF |
| Vimentin | Mouse IgG | BD Biosciences | 562337 | WB、IF |
| Fibronectin | Mouse IgG | BD Biosciences | 610077 | WB、IF |
| E-cadherin | Rabbit IgG | Proteintech | 20874-1-AP | WB、IF |
| N-cadherin | Rabbit IgG | Proteintech | 22018-1-AP | WB、IF |
| Vimentin | Rabbit IgG | Proteintech | 10366-1-AP | WB、IF |
| Fibronectin | Rabbit IgG | Proteintech | 15613-1-AP | WB、IF |
| p-Akt (S473) | Rabbit IgG | CST | 4060S | WB、IHC |
| Akt (pan) | Rabbit IgG | CST | 4685S | WB |
| p-GSK-3-beta(S9) | Rabbit IgG | CST | 9323S | WB |
| GSK-3-beta | Rabbit IgG | CST | 9315S | WB |
| GAPGH | Rabbit IgG | Proteintech | 10494-1-AP | WB |