

Supplementary Table 1 Regression analysis of HNF4α and WNT5a expression with types of gastric carcinomas according to WHO.

| WHO | Grade | β | SD | Wald χ^2 | P | OR | 95%CI OR |
|-----------------|-------|---------|-------|---------------|-------|-------|--------------|
| Tubular | | -0.808 | 0.259 | 9.756 | 0.002 | | |
| | + | 0.602 | 1.086 | 0.307 | 0.579 | 1.826 | 0.217~15.335 |
| HNF4α | ++ | -1.205 | 0.890 | 1.835 | 0.176 | 0.300 | 0.052~1.713 |
| | +++ | - | - | - | - | - | - |
| | + | -0.142 | 1.349 | 0.011 | 0.916 | 0.868 | 0.062~12.207 |
| WNT5a | ++ | 1.143 | 0.550 | 4.310 | 0.038 | 3.135 | 1.066~9.221 |
| | +++ | - | - | - | - | - | - |
| Mucinous | | -0.319 | 0.220 | 2.111 | 0.146 | | |
| | + | 0.028 | 1.086 | 0.001 | 0.979 | 1.029 | 0.123~8.636 |
| HNF4α | ++ | 0.331 | 0.578 | 0.327 | 0.567 | 1.392 | 0.448~4.320 |
| | +++ | - | - | - | - | - | - |
| | + | 0.582 | 1.224 | 0.226 | 0.634 | 1.790 | 0.163~19.716 |
| WNT5a | ++ | 0.712 | 0.495 | 2.067 | 0.151 | 2.038 | 0.772~5.380 |
| | +++ | - | - | - | - | - | - |

Supplementary Table 2 Correlation of HNF4α and WNT5a expression with clinicopathological parameters in gastric cancer patients.

| Groups | n | HNF4α | P | WNT5a | P |
|---------------------------|-----|--------------|-------|--------------|------|
| | | positive (%) | | positive (%) | |
| Gender | | | | | |
| Male | 101 | 91.09 | | 94.1 | |
| Female | 57 | 92.98 | 0.909 | 94.7 | 1.00 |
| | | | | 0 | |
| Age (years old) | | | | | |
| ≤60 | 97 | 90.72 | | 92.8 | |
| >60 | 61 | 93.44 | 0.545 | 96.7 | 0.49 |
| | | | | 2 | |
| Differentiation | | | | | |
| Low | 97 | 90.72 | | 94.9 | |
| Moderate | 52 | 98.08 | | 94.2 | |
| High | 9 | 66.67 | 0.042 | 88.9 | 0.80 |
| | | | | 0 | |
| Invasion depth (T) | | | | | |
| T ₁ | 26 | 92.31 | | 92.3 | |
| T ₂ | 20 | 100.0 | | 100.0 | |
| T ₃ | 39 | 92.31 | | 97.4 | |
| T ₄ | 73 | 89.04 | 0.468 | 91.8 | 0.39 |
| | | | | 5 | |
| Lymph node | | | | | |

| metastasis (N) | | | | | |
|------------------------|-----|-------|-------|-------|------|
| N ₀ | 65 | 90.77 | | 90.8 | |
| N ₁ | 16 | 93.75 | | 96.8 | |
| N ₂ | 32 | 96.88 | | 100.0 | |
| N ₃ | 45 | 88.89 | 0.622 | 95.6 | 0.31 |
| | | | | 0 | |
| Distant metastasis (M) | | | | | |
| M ₀ | 126 | 92.06 | | 93.7 | |
| M ₁ | 32 | 90.63 | 1.00 | 96.9 | 0.78 |
| | | | | 3 | |
| TNM stage | | | | | |
| I | 28 | 92.85 | | 92.9 | |
| II | 38 | 89.47 | | 92.1 | |
| III | 74 | 93.24 | | 96.0 | |
| IV | 18 | 88.89 | 0.869 | 94.4 | 0.84 |
| | | | | 4 | |

Supplementary Table 3 Correlation of β -catenin expression with clinicopathological parameters in gastric cancer patients.

| Groups | n | β -catenin expression | | Positive (%) | P |
|---------------------------|-----|-----------------------------|----------|--------------|-------|
| | | Negative | Positive | | |
| Gender | | | | | |
| Male | 101 | 26 | 75 | 74.3 | |
| Female | 57 | 18 | 37 | 64.9 | 0.354 |
| Age (years old) | | | | | |
| ≤ 60 | 97 | 29 | 68 | 70.1 | |
| > 60 | 61 | 15 | 46 | 75.4 | 0.466 |
| Differentiation | | | | | |
| Low | 97 | 27 | 70 | 72.2 | |
| Moderate | 52 | 15 | 37 | 71.2 | |
| High | 9 | 2 | 7 | 77.8 | 0.917 |
| Invasion depth (T) | | | | | |
| T ₁ | 26 | 10 | 16 | 61.5 | |
| T ₂ | 20 | 5 | 15 | 75.0 | |
| T ₃ | 39 | 13 | 26 | 66.7 | |
| T ₄ | 73 | 16 | 57 | 78.0 | 0.334 |
| Lymph node metastasis (N) | | | | | |
| N ₀ | 65 | 19 | 46 | 70.8 | |
| N ₁ | 16 | 2 | 14 | 87.5 | |
| N ₂ | 32 | 12 | 20 | 62.5 | |
| N ₃ | 45 | 11 | 34 | 75.6 | 0.298 |

Distant metastasis (M)

| | | | | | |
|----------------|-----|----|----|------|-------|
| M ₀ | 126 | 31 | 95 | 75.4 | |
| M ₁ | 32 | 13 | 19 | 59.4 | 0.071 |
| TNM stage | | | | | |
| I | 28 | 8 | 20 | 71.4 | |
| II | 38 | 9 | 29 | 76.3 | |
| III | 74 | 25 | 49 | 65.3 | |
| IV | 18 | 2 | 16 | 88.9 | 0.247 |

$n = 447$, $r = 0.11$ (pearson), $p.value= 0.03$









