Supplementary Table S1. General characteristics of 107 patients with esophageal squamous cell carcinoma

|  |  |
| --- | --- |
| Variables | Patient Numbers (%) |
| Age(years) |  |
| ＜60 | 53(50%) |
| ≥60 | 53(50%) |
| Gender |  |
| Male | 87(82.1%) |
| Female | 19(17.9%) |
| Grade |  |
| Higher | 22(20.8%) |
| Middle | 58(54.7%) |
| Lower | 26(24.5%) |
| Tumor stage |  |
| Ⅰ | 23(21.7%) |
| Ⅱ | 36(34.0%) |
| Ⅲ | 41(38.7%) |
| Ⅳ | 6(5.7%) |
| Lymph node metastasis |  |
| Yes | 50(47.2%) |
| No | 56(52.8%) |

Supplementary Table S2. Primer sequences for detection genes

|  |  |  |  |
| --- | --- | --- | --- |
| Gene | | Primer Sequence | length（bp） |
| FTO | F | 5’-GCTGCTTATTTCGGGACCTG-3’ | 84 bp |
| R | 5’-AGCCTGGATTACCAATGAGGA-3’ |
| ALKBH5 | F | 5’-ATGCACCCCGGTTGGAAAC-3’ | 250 bp |
| R | 5’-GACTTGCGCCAGTAGTTCTCA-3’ |
| CD44 | F | 5’-CTGCCGCTTTGCAGGTGTA-3’ | 109 bp |
| R | 5’-CATTGTGGGCAAGGTGCTATT-3’ |
| CD90 | F | 5’-ATCGCTCTCCTGCTAACAGTC-3’ | 135 bp |
| R | 5’-CTCGTACTGGATGGGTGAACT-3’ |
| CD133 | F | 5’-AGTCGGAAACTGGCAGATAGC-3’ | 99 bp |
| R | 5’-GGTAGTGTTGTACTGGGCCAAT-3’ |
| CD271 | F | 5’-CCGTTGGATTACACGGTCCAC-3’ | 239 bp |
| R | 5’-TGAAGGCTATGTAGGCCACAA-3’ |
| OCT4 | F | 5’-CCCCTGGTGCCGTGAAG-3’ | 97 bp |
| R | 5’-GCAAATTGCTCGAGTTCTTTCTG-3’ |
| Bmi1 | F | 5’-CCACCTGATGTGTGTGCTTTG-3’ | 162 bp |
| R | 5’-TTCAGTAGTGGTCTGGTCTTGT-3’ |
| SOX2 | F | 5’-TGGACAGTTACGCGCACAT-3’ | 215 bp |
| R | 5’-CGAGTAGGACATGCTGTAGGT-3’ |
| SOX9 | F | 5’-AGCGAACGCACATCAAGAC-3’ | 85 bp |
| R | 5’-CTGTAGGCGATCTGTTGGGG-3’ |
| Nanog | F | 5’-CAAAGGCAAACAACCCACTT-3’ | 158 bp |
| R | 5’-TCTGCTGGAGGCTGAGGTAT-3’ |
| KLF4 | F | 5’-CCCACATGAAGCGACTTCCC-3’ | 170 bp |
| R | 5’-CAGGTCCAGGAGATCGTTGAA-3’ |
| Nestin | F | 5’-CAACAGCGACGGAGGTCTC-3’ | 164 bp |
| R | 5’-GCCTCTACGCTCTCTTCTTTGA-3’ |
| YTHDF1 | F | 5’-ACCTGTCCAGCTATTACCCG-3’ | 99 bp |
| R | 5’-TGGTGAGGTATGGAATCGGAG-3’ |
| HSD17B11 | F | 5’-TGCACATTTCTGGACTACAAAGG-3’ | 176 bp |
| R | 5’-CAGCCAGTTCATCTGTCAAAGT-3’ |
| GAPDH | F | 5’-GCACCGTCAAGGCTGAGAAC-3’ | 138 bp |
| R | 5’-TGGTGAAGACGCCAGTGGA-3’ |

Note: F: upstream primer, R: downstream primer.

Supplementary Table S3. The relationship between general characteristics and FTO expression level in ESCC patients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | High  （n=43） | Low  （n=63） | *x2***/***t***/**Z | *P* |
| Age Grouping |  |  |  |  |
| ＜60 | 22 (51.2) | 31 (49.2) | 0.039b | 0.843 |
| ≥60 | 21 (48.8) | 32 (50.8) |
| Age(years) | 60.12±10.946 | 59.68±9.858 | 0.213a | 0.832 |
| Gender |  |  |  |  |
| Male | 37(86.0) | 50(79.4) | 0.775 | 0.379 |
| Female | 6(14.0) | 13(20.6) |
| Grade |  |  |  |  |
| Higher | 10(23.3) | 12(19.0) | 4.378 | 0.112 |
| Middle | 27(62.8) | 31(49.2) |
| Lower | 6(14.0) | 20(31.7) |
| Tumor stage |  |  |  |  |
| Ⅰ+Ⅱ | 21(48.8) | 38(60.3) | 1.365 | 0.243 |
| Ⅲ+Ⅳ | 22(51.2) | 25(39.7) |
| Lymph node metastasis |  |  |  |  |
| Yes | 26(60.5) | 24(38.1) | 5.132 | 0.023† |
| No | 17(39.5) | 39(61.9) |
| Tumor sizes | 3.71±1.46 | 3.92±1.40 | 0.732a | 0.466 |

a*t* test.

b2 test.

†Statistical differences.

Supplementary Table S4**.** Univariate and multivariate analyses of overall survival in ESCC patients

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | Univariate Analysis | | |  | Multivariate Analysis | | |
| *β* | HR (95% CI) | *P* |  | *β* | HR (95% CI) | *P* |
| Age(years) | 0.033 | 1.034(1.008-1.061) | 0.011† |  | 0.029 | 1.029(1.005-1.055) | 0.019† |
| Gender | -0.094 | 0.910(0.472-1.753) | 0.778 |  |  |  |  |
| Grade | 0.246 | 1.279(0.859-1.904) | 0.226 |  |  |  |  |
| Tumor stage | 0.513 | 1.671(1.220-2.288) | 0.001† |  | 0.485 | 1.624(1.088-2.424) | 0.018† |
| Lymph node metastasis | 0.675 | 1.963(1.170-3.293) | 0.011† |  |  |  |  |
| Tumor sizes | -0.016 | 0.984(0.829-1.169) | 0.856 |  |  |  |  |
| FTO expression | 0.193 | 1.213(1.117-1.316) | <0.001† |  | 0.191 | 1.210(1.111-1.318) | <0.001† |

†Statistical differences.