

# Appendix

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**Appendix Table S1** Demographic and clinical characteristics of 61 LUAD patients and relative mRNA expression of ADARB1, CELF2, QKI and ZFP36 in 61 paired LUAD tissues

| Case | Age<br>(yrs) | TNM    | Metastasis <sup>§</sup> | ADARB1<br>(T/N) <sup>†</sup> | CELF2<br>(T/N) <sup>†</sup> | QKI<br>(T/N) <sup>†</sup> | ZFP36<br>(T/N) <sup>†</sup> |
|------|--------------|--------|-------------------------|------------------------------|-----------------------------|---------------------------|-----------------------------|
| 1    | 54           | T1N0M0 | No                      | 0.2146                       | 0.5141                      | 0.4323                    | 0.2832                      |
| 2    | 65           | T3N2M0 | Yes                     | 2.8679                       | 0.1207                      | 0.4061                    | 0.4506                      |
| 3    | 73           | T1N0M0 | No                      | 0.4005                       | 0.2073                      | 0.8011                    | 0.1507                      |
| 4    | 57           | T2N1M0 | Yes                     | 0.9266                       | 0.2553                      | 0.5548                    | 0.4475                      |
| 5    | 65           | T2N1M0 | Yes                     | 0.8645                       | 0.5141                      | 0.6507                    | 1.0140                      |
| 6    | 62           | T1N0M0 | No                      | 0.0480                       | 0.4033                      | 0.6417                    | 0.1518                      |
| 7    | 67           | T4N0M0 | No                      | 0.2832                       | 0.0791                      | 0.5285                    | 0.0002                      |
| 8    | 65           | T1N0M0 | No                      | 0.1096                       | 3.6050                      | 1.0643                    | 0.1377                      |
| 9    | 35           | T2N2M0 | Yes                     | 0.1406                       | 0.2793                      | 0.3737                    | 0.2131                      |
| 10   | 77           | T1N2M0 | Yes                     | 0.9931                       | 0.2624                      | 0.2349                    | 1.1019                      |
| 11   | 69           | T2N2M0 | Yes                     | 0.0013                       | 0.2432                      | 0.1708                    | 0.0146                      |
| 12   | 72           | T2N0M0 | No                      | 0.5434                       | 2.5315                      | 0.8467                    | 0.8889                      |
| 13   | 58           | T3N0M0 | No                      | 1.6245                       | 0.1908                      | 1.0353                    | 0.2553                      |
| 14   | 87           | T2N0M0 | No                      | 0.8526                       | 0.1487                      | 0.2253                    | 0.0994                      |
| 15   | 53           | T1N0M0 | No                      | 23.1029                      | 0.0390                      | 0.6643                    | 34.7755                     |
| 16   | 62           | T1N1M0 | Yes                     | 0.1497                       | 0.4147                      | 0.0733                    | 0.0409                      |
| 17   | 57           | T2N1M0 | Yes                     | 0.3439                       | 0.3487                      | 0.4475                    | 0.2382                      |
| 18   | 54           | T1N0M0 | No                      | 0.1661                       | 0.6285                      | 0.5471                    | 0.4033                      |
| 19   | 72           | T2N0M0 | No                      | 13.2691                      | 0.1818                      | 0.2736                    | 6.0210                      |
| 20   | 32           | T1N1M1 | Yes                     | 29.8571                      | 0.3439                      | 0.0480                    | 0.5783                      |
| 21   | 71           | T1N0M0 | No                      | 1.1647                       | 0.2932                      | 1.0943                    | 1.2658                      |
| 22   | 66           | T2N0M0 | No                      | 20.8215                      | 1.0792                      | 0.0825                    | 1.3104                      |
| 23   | 60           | T2N0M0 | No                      | 0.7526                       | 0.1058                      | 0.3737                    | 0.1487                      |
| 24   | 62           | T2N2M0 | Yes                     | 2.6208                       | 2.9282                      | 0.4033                    | 0.4147                      |
| 25   | 59           | T4N2M0 | Yes                     | 0.7900                       | 0.2333                      | 1.1019                    | 0.5322                      |
| 26   | 49           | T2N1M0 | Yes                     | 0.5704                       | 0.1684                      | 0.5141                    | 0.8011                      |
| 27   | 59           | T2N2M0 | Yes                     | 6.6807                       | 0.2872                      | 0.0780                    | 5.3517                      |
| 28   | 67           | T2N0M0 | No                      | 0.0182                       | 0.7371                      | 0.7738                    | 0.0836                      |
| 29   | 40           | T1N1M0 | Yes                     | 0.4863                       | 0.3253                      | 1.0792                    | 0.1672                      |
| 30   | 52           | T2N0M0 | No                      | 0.2432                       | 0.1856                      | 0.8236                    | 0.1058                      |
| 31   | 52           | T2N0M0 | No                      | 44.9422                      | 0.0718                      | 0.6029                    | 20.2521                     |
| 32   | 65           | T1N0M0 | No                      | 0.5586                       | 0.3923                      | 0.8011                    | 0.7684                      |
| 33   | 63           | T1N1M0 | Yes                     | 0.0017                       | 0.0954                      | 0.2365                    | 0.0188                      |
| 34   | 71           | T2N0M0 | No                      | 0.1436                       | 0.8586                      | 1.1173                    | 1.0867                      |
| 35   | 58           | T1N0M1 | Yes                     | 0.2073                       | 0.1768                      | 0.1908                    | 0.2774                      |
| 36   | 48           | T2N0M0 | No                      | 0.2588                       | 0.7220                      | 0.8236                    | 0.6417                      |
| 37   | 65           | T1N0M0 | No                      | 0.0183                       | 0.2588                      | 0.0625                    | 0.2679                      |
| 38   | 66           | T1N0M1 | Yes                     | 0.2755                       | 0.2285                      | 0.6417                    | 1.2658                      |
| 39   | 55           | T2N2M0 | Yes                     | 0.5824                       | 0.2852                      | 0.8179                    | 0.2606                      |
| 40   | 67           | T3N0M0 | No                      | 0.0445                       | 0.5510                      | 0.6643                    | 0.0967                      |

|    |    |        |     |         |        |        |        |
|----|----|--------|-----|---------|--------|--------|--------|
| 41 | 73 | T1N0M0 | No  | 0.4090  | 0.4147 | 0.7120 | 2.3457 |
| 42 | 72 | T2N0M0 | No  | 0.1550  | 0.3345 | 0.5586 | 2.3784 |
| 43 | 71 | T2N0M0 | No  | 0.4796  | 0.4569 | 0.7526 | 0.5743 |
| 44 | 57 | T2N0M0 | No  | 0.4353  | 0.2222 | 0.2774 | 0.8586 |
| 45 | 64 | T4N2M1 | Yes | 0.1436  | 0.1174 | 0.2003 | 0.3015 |
| 46 | 68 | T1N1M0 | Yes | 0.0915  | 0.2045 | 0.0988 | 1.0425 |
| 47 | 56 | T2N2M0 | Yes | 7.4643  | 0.2059 | 0.4204 | 0.7526 |
| 48 | 65 | T2N0M0 | No  | 0.6736  | 0.8179 | 0.5864 | 0.5359 |
| 49 | 69 | T2N0M0 | No  | 0.4005  | 0.2088 | 0.7631 | 0.6461 |
| 50 | 42 | T2N0M0 | No  | 0.6830  | 0.4601 | 0.3789 | 0.1989 |
| 51 | 69 | T2N0M1 | Yes | 0.8706  | 0.7320 | 0.1103 | 0.8526 |
| 52 | 68 | T2N0M0 | No  | 0.3487  | 0.9526 | 0.7900 | 0.1571 |
| 53 | 71 | T2N0M0 | No  | 0.7955  | 0.2755 | 0.7526 | 0.1387 |
| 54 | 65 | T1N2M0 | Yes | 0.4730  | 0.0296 | 0.0310 | 0.2643 |
| 55 | 60 | T1N2M0 | Yes | 0.1340  | 0.1719 | 0.3737 | 0.1142 |
| 56 | 60 | T2N0M0 | No  | 1.0140  | 0.9794 | 2.0139 | 1.1892 |
| 57 | 70 | T4N0M1 | Yes | 1.5476  | 0.3078 | 0.4293 | 0.3763 |
| 58 | 64 | T1N0M0 | No  | 13.1775 | 1.5157 | 0.6329 | 1.2834 |
| 59 | 60 | T4N0M1 | Yes | 1.6586  | 0.5783 | 0.9526 | 4.3469 |
| 60 | 65 | T2N1M0 | Yes | 0.8467  | 0.9727 | 0.4931 | 0.1649 |
| 61 | 70 | T4N1M1 | Yes | 39.9466 | 9.5798 | 0.2932 | 6.3643 |

\* LUAD, lung adenocarcinoma.

§ Metastasis, local lymph node metastasis or distant organ metastasis.

† T, LUAD tissues; N, matched paracarcinoma tissues.

**Appendix Table S2** Association between various clinicopathological features and the expression of KLF6, QKI-5 and TGFβR1 mRNA in 61 paired LUAD tissues

| Feature                     | n  | KLF6 mRNA (T/N) <sup>†</sup> | QKI-5 mRNA (T/N) <sup>†</sup> | TGFβR1 mRNA (T/N) <sup>†</sup> |
|-----------------------------|----|------------------------------|-------------------------------|--------------------------------|
| Gender                      |    |                              |                               |                                |
| Male                        | 31 | 0.557 ± 0.111                | 0.553 ± 0.068                 | 2.082 ± 0.239                  |
| Female                      | 30 | 0.977 ± 0.266                | 0.805 ± 0.101                 | 1.858 ± 0.205                  |
| <i>P</i> value <sup>Ψ</sup> |    | 0.145                        | 0.041                         | 0.481                          |
| Age                         |    |                              |                               |                                |
| <65                         | 30 | 0.515 ± 0.111                | 0.630 ± 0.089                 | 2.291 ± 0.273                  |
| ≥65                         | 31 | 1.005 ± 0.256                | 0.722 ± 0.088                 | 1.663 ± 0.144                  |
| <i>P</i> value <sup>Ψ</sup> |    | 0.088                        | 0.467                         | 0.045                          |
| Clinical stage              |    |                              |                               |                                |
| I                           | 28 | 1.186 ± 0.280                | 0.780 ± 0.102                 | 1.641 ± 0.176                  |
| II                          | 13 | 0.261 ± 0.063                | 0.635 ± 0.140                 | 2.294 ± 0.430                  |
| III&IV                      | 20 | 0.499 ± 0.127                | 0.559 ± 0.082                 | 2.226 ± 0.293                  |
| <i>P</i> value <sup>¶</sup> |    | 0.002                        | 0.403                         | 0.208                          |
| Metastasis <sup>§</sup>     |    |                              |                               |                                |
| No                          | 33 | 1.035 ± 0.245                | 0.795 ± 0.098                 | 1.624 ± 0.155                  |
| Yes                         | 28 | 0.444 ± 0.095                | 0.537 ± 0.062                 | 2.382 ± 0.273                  |
| <i>P</i> value <sup>Ψ</sup> |    | 0.039                        | 0.037                         | 0.015                          |

<sup>†</sup> T, LUAD tissues; N, matched paracarcinoma tissues. Data are shown as the mean ± SE.

<sup>Ψ</sup> Unpaired *t* test (two-tailed) for 2 groups.

<sup>¶</sup> Kruskal-Wallis test for ≥ 3 groups.

<sup>§</sup> Metastasis, local lymph node metastasis or distant organ metastasis.

**Appendix Table S3** Demographic and clinical characteristics of 61 LUAD patients and relative expression of KLF6, QKI-5 and TGFβR1 mRNA in 61 paired LUAD tissues \*

| Case | Age<br>(yrs) | TNM    | Metastasis <sup>§</sup> | KLF6 mRNA<br>(T/N) <sup>†</sup> | QKI-5 mRNA<br>(T/N) <sup>†</sup> | TGFβR1 mRNA<br>(T/N) <sup>†</sup> |
|------|--------------|--------|-------------------------|---------------------------------|----------------------------------|-----------------------------------|
| 1    | 54           | T1N0M0 | No                      | 0.3585                          | 0.4293                           | 1.6472                            |
| 2    | 65           | T3N2M0 | Yes                     | 0.5625                          | 0.4931                           | 1.6702                            |
| 3    | 73           | T1N0M0 | No                      | 0.2517                          | 0.8293                           | 1.0210                            |
| 4    | 57           | T2N1M0 | Yes                     | 0.1550                          | 0.7071                           | 0.7579                            |
| 5    | 65           | T2N1M0 | Yes                     | 0.9138                          | 0.6329                           | 1.2658                            |
| 6    | 62           | T1N0M0 | No                      | 0.1487                          | 0.1134                           | 3.9449                            |
| 7    | 67           | T4N0M0 | No                      | 0.2088                          | 1.0353                           | 1.0943                            |
| 8    | 65           | T1N0M0 | No                      | 1.4275                          | 0.9659                           | 1.1975                            |
| 9    | 35           | T2N2M0 | Yes                     | 0.0393                          | 0.3299                           | 1.4948                            |
| 10   | 77           | T1N2M0 | Yes                     | 1.8532                          | 0.8409                           | 1.0570                            |
| 11   | 69           | T2N2M0 | Yes                     | 0.4830                          | 0.6690                           | 1.3104                            |
| 12   | 72           | T2N0M0 | No                      | 2.1288                          | 0.8827                           | 1.0718                            |
| 13   | 58           | T3N0M0 | No                      | 0.1456                          | 1.0867                           | 0.5359                            |
| 14   | 87           | T2N0M0 | No                      | 0.0474                          | 0.1022                           | 1.7532                            |
| 15   | 53           | T1N0M0 | No                      | 1.7170                          | 0.5824                           | 1.3851                            |
| 16   | 62           | T1N1M0 | Yes                     | 0.0333                          | 0.1191                           | 3.4822                            |
| 17   | 57           | T2N1M0 | Yes                     | 0.2088                          | 0.2813                           | 3.9449                            |
| 18   | 54           | T1N0M0 | No                      | 0.3463                          | 0.4147                           | 1.6935                            |
| 19   | 72           | T2N0M0 | No                      | 1.9274                          | 0.2553                           | 0.7423                            |
| 20   | 32           | T1N1M1 | Yes                     | 0.3463                          | 0.3763                           | 1.6586                            |
| 21   | 71           | T1N0M0 | No                      | 3.8371                          | 0.6417                           | 1.8277                            |
| 22   | 66           | T2N0M0 | No                      | 1.1120                          | 0.0359                           | 2.2038                            |
| 23   | 60           | T2N0M0 | No                      | 0.0896                          | 0.0202                           | 4.2575                            |
| 24   | 62           | T2N2M0 | Yes                     | 1.9862                          | 0.8526                           | 2.2346                            |
| 25   | 59           | T4N2M0 | Yes                     | 0.2300                          | 1.0718                           | 1.1487                            |
| 26   | 49           | T2N1M0 | Yes                     | 0.1330                          | 0.3869                           | 6.1475                            |
| 27   | 59           | T2N2M0 | Yes                     | 0.4897                          | 0.6156                           | 5.0281                            |
| 28   | 67           | T2N0M0 | No                      | 1.1039                          | 1.1408                           | 0.9266                            |
| 29   | 40           | T1N1M0 | Yes                     | 0.3660                          | 0.6417                           | 2.6208                            |
| 30   | 52           | T2N0M0 | No                      | 0.1792                          | 0.4475                           | 0.9395                            |
| 31   | 52           | T2N0M0 | No                      | 0.5702                          | 0.9862                           | 2.1140                            |
| 32   | 65           | T1N0M0 | No                      | 1.7532                          | 0.9138                           | 1.1487                            |
| 33   | 63           | T1N1M0 | Yes                     | 0.3536                          | 0.6690                           | 2.6945                            |
| 34   | 71           | T2N0M0 | No                      | 0.4698                          | 1.6245                           | 0.2793                            |
| 35   | 58           | T1N0M1 | Yes                     | 0.3035                          | 0.1303                           | 4.2281                            |
| 36   | 48           | T2N0M0 | No                      | 0.5212                          | 2.2974                           | 1.2924                            |
| 37   | 65           | T1N0M0 | No                      | 0.1267                          | 0.1111                           | 3.1167                            |
| 38   | 66           | T1N0M1 | Yes                     | 0.4293                          | 0.4147                           | 3.8637                            |
| 39   | 55           | T2N2M0 | Yes                     | 0.1978                          | 0.3610                           | 1.2226                            |
| 40   | 67           | T3N0M0 | No                      | 0.2382                          | 1.9588                           | 1.8661                            |

|    |    |        |     |        |        |        |
|----|----|--------|-----|--------|--------|--------|
| 41 | 73 | T1N0M0 | No  | 7.2158 | 1.4949 | 1.7777 |
| 42 | 72 | T2N0M0 | No  | 0.5905 | 0.8645 | 2.3784 |
| 43 | 71 | T2N0M0 | No  | 1.7777 | 0.9593 | 0.7631 |
| 44 | 57 | T2N0M0 | No  | 0.2852 | 0.7684 | 2.4623 |
| 45 | 64 | T4N2M1 | Yes | 0.1476 | 0.0638 | 3.8637 |
| 46 | 68 | T1N1M0 | Yes | 0.3686 | 0.4204 | 1.4044 |
| 47 | 56 | T2N2M0 | Yes | 1.3947 | 0.2973 | 3.5560 |
| 48 | 65 | T2N0M0 | No  | 0.3078 | 0.2176 | 2.3950 |
| 49 | 69 | T2N0M0 | No  | 0.3415 | 0.1708 | 1.7777 |
| 50 | 42 | T2N0M0 | No  | 0.4763 | 0.9202 | 1.0425 |
| 51 | 69 | T2N0M1 | Yes | 0.2826 | 0.2176 | 3.2944 |
| 52 | 68 | T2N0M0 | No  | 0.3816 | 0.9727 | 1.7291 |
| 53 | 71 | T2N0M0 | No  | 0.3439 | 1.2658 | 1.0210 |
| 54 | 65 | T1N2M0 | Yes | 0.0158 | 0.0199 | 2.2038 |
| 55 | 60 | T1N2M0 | Yes | 0.2176 | 1.0570 | 0.4234 |
| 56 | 60 | T2N0M0 | No  | 1.3195 | 1.4540 | 1.0644 |
| 57 | 70 | T4N0M1 | Yes | 0.4538 | 0.9461 | 2.4284 |
| 58 | 64 | T1N0M0 | No  | 2.3950 | 0.2755 | 1.1096 |
| 59 | 60 | T4N0M1 | Yes | 0.2793 | 1.1487 | 0.7270 |
| 60 | 65 | T2N1M0 | Yes | 0.1174 | 1.0281 | 0.9593 |
| 61 | 70 | T4N1M1 | Yes | 0.0718 | 0.2432 | 2.0139 |

\* LUAD, lung adenocarcinoma.

§ Metastasis, local lymph node metastasis or distant organ metastasis.

† T, LUAD tissues; N, matched paracarcinoma tissues.

**Appendix Table S4** Sequences for construction of luciferase reporter plasmids

| Fragments                                        | Sequence, 5' – 3'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TGFβR1<br>3' UTR-Wild type<br>(2058-2557, 500bp) | CTTGATTCAGACTTTGAATGTACTGTTCTATAGTTTTTCAGGATCTTAAAACTAACACTTATAAACT<br>CTTATCTTGAGTCTAAAAATGACCTCATATAGTAGTGAGGAACATAATTCATGCAATTGTATTTTGT<br>ATACTATTATTGTTCTTTCACCTATTTCAGAACATTACATGCCTTCAAAATGGGATTGTACTATACCAG<br>TAAGTGCCACTTCTGTGTCTTTCTAATGGAAATGAGTAGAATTGCTGAAAGTCTCTATGTTAAACC<br>TATAGTGTTTGAATTCAAAAAGCTTATTTATCTGGGTAACCCAAACTTTTTCTGTTTTGTTTTGGAA<br>GGGTTTTTGTGGTATGTCATTTGGTATTCTATTCTGAAAATGCCTTTCCTACCAAAATGTGCTTAA<br>GCCACTAAAGAAATGAAGTGGCATTAAATTAGTAAATTATTAGCATGGTCATGTTTGAATATTCTCAC<br>ATCAAGCTTTTGCATTTTAATTGTGT                    |
| TGFβR1<br>3' UTR-Mut1                            | CTTGATTCAGACTTTGAATGTACTGTTCTATAGTTTTTCAGGATCTTAAAT <b>TCGACC</b> ACTTATAAACT<br>CTTATCTTGAGTCTAAAAATGACCTCATATAGTAGTGAGGAACATAATTCATGCAATTGTATTTTGT<br>ATACTATTATTGTTCTTTCACCTATTTCAGAACATTACATGCCTTCAAAATGGGATTGTACTATACCAG<br>TAAGTGCCACTTCTGTGTCTTTCTAATGGAAATGAGTAGAATTGCTGAAAGTCTCTATGTTAAACC<br>TATAGTGTTTGAATTCAAAAAGCTTATTTATCTGGGTAACCCAAACTTTTTCTGTTTTGTTTTGGAA<br>GGGTTTTTGTGGTATGTCATTTGGTATTCTATTCTGAAAATGCCTTTCCTACCAAAATGTGCTTAA<br>GCCACTAAAGAAATGAAGTGGCATTAAATTAGTAAATTATTAGCATGGTCATGTTTGAATATTCTCAC<br>ATCAAGCTTTTGCATTTTAATTGTGT          |
| TGFβR1<br>3' UTR-Mut2                            | CTTGATTCAGACTTTGAATGTACTGTTCTATAGTTTTTCAGGATCTTAAAACTAACACTTATAAACTCT<br>TATCTTGAGTCTAAAAATGACCTCATATAGTAGTGAGGAACATAATTCATGCAATTGTATTTTGTATACT<br>ATTATGTTCTTTCACCTATTTCAGAACATTACATGCCTTCAAAATGGGATTGTACTATACCAGTAAGTGC<br>CACTTCTGTGTCTTTCTAATGGAAATGAGTAGAATTGCTGAAAGTCTCTATGTTAAACCTATAGTGTT<br>TGAATTCAAAAAGCTTATTTATCTGGGTAACCCAAACTTTTTCTGTTTTGTTTTGGAAGGGTTTTGT<br>GGTATGTCATTTGGTATTCTATTCTGAAAATGCCTTTCCTACCAAAATGTGCTTAAGCCACTAAAGA<br>AATGAAGTGGC <b>TCGACT</b> TAGTAAATTATTAGCATGGTCATGTTTGAATATTCTCACATCAAGCTTTTGC<br>ATTTTAATTGTGT              |
| TGFβR1<br>3' UTR-Mut1*2                          | CTTGATTCAGACTTTGAATGTACTGTTCTATAGTTTTTCAGGATCTTAAAT <b>TCGACC</b> ACTTATAAACTC<br>TTATCTTGAGTCTAAAAATGACCTCATATAGTAGTGAGGAACATAATTCATGCAATTGTATTTTGTATAC<br>TATTATTGTTCTTTCACCTATTTCAGAACATTACATGCCTTCAAAATGGGATTGTACTATACCAGTAAGTG<br>CCACTTCTGTGTCTTTCTAATGGAAATGAGTAGAATTGCTGAAAGTCTCTATGTTAAACCTATAGTGTT<br>TTGAATTCAAAAAGCTTATTTATCTGGGTAACCCAAACTTTTTCTGTTTTGTTTTGGAAGGGTTTTTG<br>TGGTATGTCATTTGGTATTCTATTCTGAAAATGCCTTTCCTACCAAAATGTGCTTAAGCCACTAAAG<br>AAATGAAGTGGC <b>TCGACT</b> TAGTAAATTATTAGCATGGTCATGTTTGAATATTCTCACATCAAGCTTTTG<br>CATTTTAATTGTGT |

| Fragments                                        | Sequence, 5' – 3'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QKI-5<br>promoter-Wild type<br>(-400-200, 600bp) | <p>TTCCAGCCTCTCAGCAAATCACGAACACCGAAAGAAGCCACGGCGGCGACGGGAGGGGCGTCGCG<br/> CGTGCTTCCCTCGGCGACAAAGCGGGAGCCGGGCGCGCCGGCCGAGGGCGCCCGGCGCAGAGTCC<br/> CGCAGAGGCGGACGCCGCGGCACGCGCCTCGAAAAGCCTCAAACCTTTATCCTCGGCTCTCCCGC<br/> CCACCTCCGCCCCGCAGCCAAGACCCGCGCCGTGGCGGGCCCCGACGGCCAAGGAAAGCCCACCAG<br/> CCCTCCGCACCGTGGGCGACGGGCCAAGACCCGGCCCTAAACGGCCAGACCCAGCCCCTAGTCGG<br/> CTGCCGCCCCCGCCCCACGCAGGCGCGCTCCGGGGCCCTCCCCCTCCCCACCGCGCGCTCGCGGGG<br/> CCCGACGGGGGCGGAGCGACCCTCGGAAGGGGCGTGGCGACCGGGCTCGACGCGCGCACGCGCT<br/> CTGGAGCCCCACGGCTACGTGTCGGGGCCACGTGATGCCACCCCGAAAGTCCCCCGTGAAGCAAC<br/> AGGACGTAAAAAAAATTTCTTCTGCGGGGTGGATAAGAGGTTCTGAAAAAACTATAGTAAC<br/> GGGAGGCGAGGCGG</p>                     |
| QKI-5<br>promoter-Mutant 1                       | <p>TTCCAGCCTCTCAGCAAATCACGAACACCGAAAGAAGCCACGGCGGCGACGGGA<b>CCCCGACGG</b><br/> <b>CCGTGCTTCCCTCGGCGACAAAGCGGGAGCCGGGCGCGCCGGCCGAGGGCGCCCGGCGCAGAGTC</b><br/> CCGCAGAGGCGGACGCCGCGGCACGCGCCTCGAAAAGCCTCAAACCTTTATCCTCGGCTCTCCCGC<br/> CCCACCTCCGCCCCGCAGCCAAGACCCGCGCCGTGGCGGGCCCCGACGGCCAAGGAAAGCCCACCA<br/> GCCCTCCGCACCGTGGGCGACGGGCCAAGACCCGGCCCTAAACGGCCAGACCCAGCCCCTAGTCG<br/> GCTGCCGCCCCCGCCCCACGCAGGCGCGCTCCGGGGCCCTCCCCCTCCCCACCGCGCGCTCGCGGG<br/> GCCCCACGGGGGCGGAGCGACCCTCGGAAGGGGCGTGGCGACCGGGCTCGACGCGCGCACGCGC<br/> TCTGGAGCCCCACGGCTACGTGTCGGGGCCACGTGATGCCACCCCGAAAGTCCCCCGTGAAGCAA<br/> CAGGACGTAAAAAAAATTTCTTCTGCGGGGTGGATAAGAGGTTCTGAAAAAACTATAGTAA<br/> CGGGAGGCGAGGCGG</p>       |
| QKI-5<br>promoter-Mutant 2                       | <p>TTCCAGCCTCTCAGCAAATCACGAACACCGAAAGAAGCCACGGCGGCGACGGGAGGGGCGTCGCG<br/> CGTGCTTCCCTCGGCGACAAAGCGGGAGCCGGGCGCGCCGGCCGAGGGCGCCCGGCGCAGAGTCC<br/> CGCAGAGGCGGACGCCGCGGCACGCGCCTCGAAAAGCCTCAAACCTTTATCCTCGGCTCTCCCGC<br/> CCACCTCCGCCCCGCAGCCAAGACCCGCGCCGTGGCGGGCCCCGACGGCCAAGGAAAGCCCACCAG<br/> CCCTCCGCACCGTGGGCGACGGGCCAAGACCCGGCCCTAAACGGCCAGACCCAGCCCCTAGTCGG<br/> CTGCCGCCCCCGCCCCACGCAGGCGCGCTCCGGGGCCCTCCCCCTCCCCACCGCGCGCTCGCGGGG<br/> CCCGACGGGGGCGGAGCGACCCTCGGAA<b>CCCCGACGGC</b>ACCGGGCTCGACGCGCGCACGCGCT<br/> CTGGAGCCCCACGGCTACGTGTCGGGGCCACGTGATGCCACCCCGAAAGTCCCCCGTGAAGCAAC<br/> AGGACGTAAAAAAAATTTCTTCTGCGGGGTGGATAAGAGGTTCTGAAAAAACTATAGTAACG<br/> GGAGGCGAGGCGG</p>               |
| QKI-5<br>promoter-Mutant 1*2                     | <p>TTCCAGCCTCTCAGCAAATCACGAACACCGAAAGAAGCCACGGCGGCGACGGGA<b>CCCCGACGG</b><br/> <b>CCGTGCTTCCCTCGGCGACAAAGCGGGAGCCGGGCGCGCCGGCCGAGGGCGCCCGGCGCAGAGTC</b><br/> CCGCAGAGGCGGACGCCGCGGCACGCGCCTCGAAAAGCCTCAAACCTTTATCCTCGGCTCTCCCGC<br/> CCCACCTCCGCCCCGCAGCCAAGACCCGCGCCGTGGCGGGCCCCGACGGCCAAGGAAAGCCCACCA<br/> GCCCTCCGCACCGTGGGCGACGGGCCAAGACCCGGCCCTAAACGGCCAGACCCAGCCCCTAGTCG<br/> GCTGCCGCCCCCGCCCCACGCAGGCGCGCTCCGGGGCCCTCCCCCTCCCCACCGCGCGCTCGCGGG<br/> GCCCCACGGGGGCGGAGCGACCCTCGGAA<b>CCCCGACGGC</b>ACCGGGCTCGACGCGCGCACGCGC<br/> TCTGGAGCCCCACGGCTACGTGTCGGGGCCACGTGATGCCACCCCGAAAGTCCCCCGTGAAGCAAC<br/> AGGACGTAAAAAAAATTTCTTCTGCGGGGTGGATAAGAGGTTCTGAAAAAACTATAGTAACG<br/> GGAGGCGAGGCGG</p> |

**Appendix Table S5** Primers used for qRT-PCR, plasmid construction, RIP, and ChIP

| Primers<br>for qRT-PCR | Sequence, 5' – 3'             |
|------------------------|-------------------------------|
| ADARB1-F               | CGCGCCTTTGTTTGTCATGTC         |
| ADARB1-R               | GGAAACTGAACGAAAGACCTCAA       |
| CELF2-F                | GCGTTCAGCGGCATTCAAC           |
| CELF2-R                | AGAGAGAGGGTTTGCATTGGT         |
| QKI-F                  | CTGATGCTGTGGGACCTATTG         |
| QKI-R                  | GTTGTTTGGCTGTAAGTCCTCT        |
| ZFP36-F                | GACTGAGCTATGTCGGACCTT         |
| ZFP36-R                | GAGTTCCGTCTTGTATTG            |
| QKI-5-F                | AATCCTTGAGTATCCTATTGAACCTAGT  |
| QKI-5-R                | GCATATCGTGCCTTCGAACTTT        |
| QKI-6-F                | AGCTACATCAATCCTTGAGTATCCTATTG |
| QKI-6-R                | TAGCCTTTCGTTGGGAAAGC          |
| QKI-7-F                | GCTACATCAATCCTTGAGTATCCTATTG  |
| QKI-7-R                | CAGGCATGACTGGCATTTC           |
| TGFβ1-F                | GAGGAAAGTGGCGGGGAG            |
| TGFβ1-R                | CCAACCAGAGCTGAGTCCAAGTA       |
| β-actin-F              | CACAGAGCCTCGCCTTTGCC          |
| β-actin-R              | CATGCCGAGCCGTTGTCG            |
| E-cadherin-F           | CGAGAGCTACACGTTCACGG          |
| E-cadherin-R           | GGGTGTCGAGGGAAAAATAGG         |
| N-cadherin-F           | AGCCAACCTTAAGTGAAGAGT         |
| N-cadherin-R           | GGCAAGTTGATTGGAGGGATG         |
| PAI-1-F                | AGTGGACTTTTCAGAGGTGGA         |
| PAI-1-R                | GCCGTTGAAGTAGAGGGCATT         |
| Slug-F                 | TGTGACAAGGAATATGTGAGCC        |
| Slug-R                 | TGAGCCCTCAGATTTGACCTG         |
| Snail-F                | TCGGAAGCCTAACTACAGCGA         |
| Snail-R                | AGATGAGCATTGGCAGCGAG          |
| EGR1-F                 | GGTCAGTGGCCTAGTGAGC           |
| EGR1-R                 | GTGCCGCTGAGTAAATGGGA          |
| ETV4-F                 | CAGTGCCTTTACTCCAGTGCC         |
| ETV4-R                 | CTCAGGAAATTCCGTTGCTCT         |
| FLI1-F                 | CCAACGAGAGGAGAGTCATCG         |
| FLI1-R                 | TTCCGTGTTGTAGAGGGTGGT         |
| GATA2-F                | CAGCAAGGCTCGTTCCTGTT          |
| GATA2-R                | GGCTTGATGAGTGGTCGGT           |
| KLF2-F                 | CTACACCAAGAGTTCGCATCTG        |
| KLF2-R                 | CCGTGTGCTTTCGGTAGTG           |
| KLF6-F                 | GGCAACAGACCTGCCTAGAG          |

|          |                         |
|----------|-------------------------|
| KLF6-R   | CTCCCGAGCCAGAATGATTTT   |
| NR4A1-F  | ATGCCCTGTATCCAAGCCC     |
| NR4A1-R  | GTGTAGCCGTCCATGAAGGT    |
| SOX4-F   | GACCTGCTCGACCTGAACC     |
| SOX4-R   | CCGGGCTCGAAGTTAAAATCC   |
| TBX3-F   | GGACCTCTGATGAGTCCTCCA   |
| TBX3-R   | TCGCTGGGACATAAATCTTTGAG |
| TFAP2A-F | AGGTCAATCTCCCTACACGAG   |
| TFAP2A-R | GGAGTAAGGATCTTGCGACTGG  |

| Primers<br>for plasmid construction | Sequence, 5' – 3'                               |
|-------------------------------------|-------------------------------------------------|
| QKI-5-CDS-F                         | GAGGATCCCCGGGTACCGGTCGCCACCATGGTCGGGGAAATGGAAAC |
| QKI-5-CDS-R                         | TCCTTGTTAGTCCATACCGTTGCCGGTGGCGGCTCGGTCTG       |

| Primers<br>for RIP | Sequence, 5' – 3'       |
|--------------------|-------------------------|
| TGF $\beta$ R1-F   | CCTTTCTCCTACCAAAATGTGCT |
| TGF $\beta$ R1-R   | AAGCATCTAGAGTGCCACTTG   |
| GAPDH-F            | TTCCAGGAGCGAGATCCCT     |
| GAPDH-R            | CACCCATGACGAACATGGG     |

| Primers<br>for ChIP | Sequence, 5' – 3'         |
|---------------------|---------------------------|
| QKI-5 (-392_-206)-F | TCTCAGCAAATCACGAACACCG    |
| QKI-5 (-392_-206)-R | GCGGGAGAGCCGAGGATAAGAGTTT |
| QKI-5 (-93_+76)-F   | AGACCCAGCCCCTAGTCGGCTGC   |
| QKI-5 (-93_+76)-R   | ACGTAGCCGTGGGGCTCCAGA     |

F, forward; R, reverse; CDS, coding sequence.

**Appendix Table S6** Sequences of shRNAs and siRNAs used in this study

| shRNAs              | Sequence, 5' – 3'                                               |
|---------------------|-----------------------------------------------------------------|
| sh-NC               | CCGGTTCTCCGAACGTGTACGTTTCTCGAGAAACGTGACACGTTCCGGAGA<br>ATTTTGG  |
| sh-QKI-5-1          | CCGGGAACAGAGCAGAAATCAAATTCTCGAGAATTGATTCTGCTCTGTTC<br>TTTTTG    |
| sh-QKI-5-2          | CCGGCTATTAACCCACAGCATTATTCTCGAGAATAATGCTGTGGGTAAATAGT<br>TTTTTG |
| sh-TGF $\beta$ R1-1 | CCGGCCGTGAGGCAGAGATTTATTTCTCGAGAAATAAATCTCTGCCTCACGG<br>TTTTTG  |
| sh-TGF $\beta$ R1-2 | CCGGCCATTGATATTGCTCCAAATTCTCGAGAATTTGGAGCAATATCAATGGT<br>TTTTTG |

shRNAs: short-hairpin RNAs

| siRNAs      | Sequence, 5' – 3'      |
|-------------|------------------------|
| si-NC       | UUCUCCGAACGUGUCACGUTT  |
| si-EGR1-1   | CCAUGGACAACUACCCUAATT  |
| si-EGR1-2   | GCCUAGUGAGCAUGACCAATT  |
| si-ETV4-1   | GCGUUGUCCUGAGAAAUUTT   |
| si-ETV4-2   | CCUUUACUCCAGUGCCUAUTT  |
| si-FLI1-1   | GCGACGACCAGUCCCUCUUTT  |
| si-FLI1-2   | GCGUUAGCAAAUGCAGCAATT  |
| si-GATA2-1  | CACUGACGGAGAGCAUGAATT  |
| si-GATA2-2  | ACUACAGCAGCGGACUCUUTT  |
| si-KLF2-1   | GCACCGACGACGACCUCAATT  |
| si-KLF2-2   | GCAUCUGAAGGCGCAUCUGTT  |
| si-KLF6-1   | GGAAGAUCUGUGGACCAAATT  |
| si-KLF6-2   | GCCAGGUGACAAGGGAAAUUTT |
| si-NR4A1-1  | GACAAGUGCACAGUAUAAATT  |
| si-NR4A1-2  | CCUGUAUCCAAGCCCAAUATT  |
| si-SOX4-1   | ACCAACAAUGCCGAGAACATT  |
| si-SOX4-2   | GCGACAAGAUGCCUUUCAUTT  |
| si-TBX3-1   | CCUGGAGGCUAAAGAACUUTT  |
| si-TBX3-2   | GCCUCCACUGUAGGGACAUTT  |
| si-TFAP2A-1 | GGGUAUUAACAUCCCAGAUUTT |
| si-TFAP2A-2 | GGAGACGUAAAGCUGCCAATT  |

siRNAs: small interfering RNAs.