

Supplementary Materials Table 1. Sequences of the primers (human HOTAIR: NR\_003716; mouse HOTAIR: NR\_047528)

|           |                                 |
|-----------|---------------------------------|
| hHOTAIR-F | 5' -AAATATGGCGGCGTCTACACGGAA-3' |
| hHOTAIR-R | 5' -TCCAGAACCCTCTGACATTTGCCT-3' |
| mHOTAIR-F | 5' -TCCAGATGGAAGGAACTCCAGACA-3' |
| mHOTAIR-R | 5' -ATAGATGTGCGTGGTCAGATCGCT-3' |

Supplementary Materials Table 2. Clinical characteristics of the recruited patients. A fold change of HOTAIR and Col-1 was presented as ratios of the expression in cancer tissues over their corresponding non cancer tissues. M: male; F: female; Adeno: adenocarcinoma; Squamous: squamous carcinoma; Y: yes; N: no; CA: cancer; NC: non cancer.

| ID # | Age | Gender | Smoking history | Pathology | TNM staging | HOTAIR (CA/NC) | Col-1 (CA/NC) |
|------|-----|--------|-----------------|-----------|-------------|----------------|---------------|
| 1    | 47  | M      | Y               | Adeno     | T2N1M0      | 0.6            | 26.9          |
| 2    | 55  | F      | N               | Adeno     | T1N2M0      | 0.8            | 2.2           |
| 3    | 61  | M      | N               | Adeno     | T2N1M0      | 0.8            | 2.9           |
| 4    | 62  | M      | N               | Adeno     | T2N2M0      | 0.9            | 8.5           |
| 5    | 47  | M      | Y               | Squamous  | T2N1M0      | 0.9            | 3.7           |
| 6    | 73  | F      | N               | Squamous  | T1N0M0      | 0.9            | 14.9          |
| 7    | 59  | M      | N               | Squamous  | T2N0M0      | 1.2            | 10.8          |
| 8    | 61  | M      | Y               | Adeno     | T1N0M0      | 1.3            | 22.9          |
| 9    | 48  | M      | Y               | Adeno     | T1N0M0      | 1.3            | 36.5          |
| 10   | 55  | M      | Y               | Adeno     | T1N2M0      | 1.3            | 6.5           |
| 11   | 63  | F      | N               | Adeno     | T2N1M0      | 1.4            | 1.9           |
| 12   | 56  | M      | N               | Adeno     | T2N2M0      | 1.4            | 10.4          |
| 13   | 49  | F      | N               | Squamous  | T2N0M0      | 1.5            | 38.3          |
| 14   | 62  | M      | N               | Squamous  | T2N0M0      | 1.6            | 2.4           |
| 15   | 60  | M      | Y               | Squamous  | T2N0M0      | 2.1            | 8.1           |
| 16   | 62  | F      | N               | Adeno     | T2N0M0      | 2.2            | 106.9         |
| 17   | 51  | M      | Y               | Squamous  | T2N0M0      | 3.1            | 0.9           |
| 18   | 71  | M      | Y               | Squamous  | T2N0M0      | 3.4            | 3.5           |
| 19   | 47  | M      | Y               | Adeno     | T2N1M0      | 3.5            | 58.0          |
| 20   | 56  | F      | N               | Adeno     | T1N2M0      | 6.7            | 6.4           |
| 21   | 38  | M      | Y               | Adeno     | T2N2M0      | 9.5            | 4.4           |
| 22   | 54  | F      | N               | Adeno     | T1N0M0      | 10.5           | 17.2          |
| 23   | 78  | F      | N               | Squamous  | T2N0M0      | 10.7           | 6.7           |
| 24   | 60  | M      | N               | Adeno     | T2N2M0      | 11.9           | 15.8          |
| 25   | 62  | M      | N               | Adeno     | T2N2M0      | 17.4           | 7.6           |
| 26   | 44  | M      | Y               | Squamous  | T2N0M0      | 28.4           | 11.5          |

Supplementary Materials Table 3. Scanning of the human HOTAIR promoter.

| Trasnscription Factor                  | Start | End |
|--|-------|-----|
| AP1:Leucine Zipper:MA0099              | 881   | 887 |
| Ar:Hormone-nuclear Receptor:MA0007     | 229   | 208 |
| ELK4:Ets:MA0076                        | 881   | 873 |
| En1:Homeo:MA0027                       | 757   | 747 |
| ESR2:Hormone-nuclear Receptor:MA0258   | 734   | 717 |
| Evi1:BetaBetaAlpha-zinc finger:MA0029  | 837   | 850 |
| FEV:Ets:MA0156                         | 502   | 509 |
| Foxd3:Forkhead:MA0041                  | 925   | 914 |
| Foxd3:Forkhead:MA0041                  | 929   | 918 |
| Foxd3:Forkhead:MA0041                  | 949   | 960 |
| FOXF2:Forkhead:MA0030                  | 169   | 156 |
| FOXF2:Forkhead:MA0030                  | 905   | 918 |
| FOXF2:Forkhead:MA0030                  | 911   | 924 |
| FOXI1:Forkhead:MA0042                  | 818   | 807 |
| FOXL1:Forkhead:MA0033                  | 90    | 83  |
| FOXL1:Forkhead:MA0033                  | 439   | 432 |
| Foxq1:Forkhead:MA0040                  | 762   | 772 |
| Foxq1:Forkhead:MA0040                  | 818   | 808 |
| GABPA:Ets:MA0062                       | 228   | 218 |
| GABPA:Ets:MA0062                       | 393   | 383 |
| Gata1:GATA:MA0035                      | 168   | 158 |
| GATA3:GATA:MA0037                      | 401   | 406 |
| Gfi:BetaBetaAlpha-zinc finger:MA0038   | 407   | 398 |
| Hand1::Tcfe2a:Helix-Loop-Helix:MA0092  | 571   | 562 |
| Hand1::Tcfe2a:Helix-Loop-Helix:MA0092  | 907   | 898 |
| HLF:Leucine Zipper:MA0043              | 879   | 890 |
| Hltf:GATA:MA0109                       | 587   | 596 |
| INSM1:BetaBetaAlpha-zinc finger:MA0155 | 194   | 183 |
| INSM1:BetaBetaAlpha-zinc finger:MA0155 | 947   | 936 |
| IRF1:IRF:MA0050                        | 77    | 66  |
| IRF1:IRF:MA0050                        | 559   | 548 |
| IRF1:IRF:MA0050                        | 886   | 897 |
| IRF2:IRF:MA0051                        | 78    | 61  |
| IRF2:IRF:MA0051                        | 478   | 461 |
| IRF2:IRF:MA0051                        | 560   | 543 |
| IRF2:IRF:MA0051                        | 832   | 849 |
| IRF2:IRF:MA0051                        | 909   | 926 |
| Klf4:BetaBetaAlpha-zinc finger:MA0039  | 194   | 185 |
| Klf4:BetaBetaAlpha-zinc finger:MA0039  | 385   | 376 |
| Klf4:BetaBetaAlpha-zinc finger:MA0039  | 596   | 605 |
| Lhx3:Homeo:MA0135                      | 827   | 815 |
| Mafb:Leucine Zipper:MA0117             | 761   | 754 |

|   |            |            |
|---|------------|------------|
| MEF2A:MADS:MA0052                           | 452        | 461        |
| MEF2A:MADS:MA0052                           | 690        | 699        |
| MIZF:BetaBetaAlpha-zinc finger:MA0131       | 711        | 702        |
| MIZF:BetaBetaAlpha-zinc finger:MA0131       | 752        | 761        |
| Myb:Myb:MA0100                              | 564        | 571        |
| <b>MYC::MAX:Helix-Loop-Helix:MA0059</b>     | <b>494</b> | <b>484</b> |
| <b>MYC::MAX:Helix-Loop-Helix:MA0059</b>     | <b>728</b> | <b>738</b> |
| <b>Mycn:Helix-Loop-Helix:MA0104</b>         | <b>4</b>   | <b>13</b>  |
| <b>Mycn:Helix-Loop-Helix:MA0104</b>         | <b>729</b> | <b>738</b> |
| MZF1_1-4:BetaBetaAlpha-zinc finger:MA0056   | 277        | 272        |
| MZF1_1-4:BetaBetaAlpha-zinc finger:MA0056   | 340        | 345        |
| NF-kappaB:Rel:MA0061                        | 183        | 174        |
| NF-kappaB:Rel:MA0061                        | 601        | 610        |
| NFATC2:Rel:MA0152                           | 837        | 831        |
| NKX3-1:Homeo:MA0124                         | 135        | 129        |
| NR1H2::RXRA:Hormone-nuclear Receptor:MA0115 | 264        | 248        |
| NR3C1:Hormone-nuclear Receptor:MA0113       | 596        | 579        |
| Pax2:Homeo:MA0067                           | 106        | 113        |
| Pax4:Homeo:MA0068                           | 876        | 847        |
| Pax4:Homeo:MA0068                           | 877        | 848        |
| Pax4:Homeo:MA0068                           | 912        | 941        |
| Pax4:Homeo:MA0068                           | 913        | 942        |
| PBX1:Homeo:MA0070                           | 818        | 829        |
| Pdx1:Homeo:MA0132                           | 59         | 54         |
| PLAG1:BetaBetaAlpha-zinc finger:MA0163      | 371        | 358        |
| PLAG1:BetaBetaAlpha-zinc finger:MA0163      | 381        | 368        |
| PPARG::RXRA:Hormone-nuclear Receptor:MA0065 | 264        | 250        |
| PPARG:Hormone-nuclear Receptor:MA0066       | 328        | 309        |
| REL:Rel:MA0101                              | 140        | 149        |
| REST:BetaBetaAlpha-zinc finger:MA0138       | 164        | 184        |
| RORA_1:Hormone-nuclear Receptor:MA0071      | 146        | 155        |
| RREB1:BetaBetaAlpha-zinc finger:MA0073      | 367        | 386        |
| RREB1:BetaBetaAlpha-zinc finger:MA0073      | 907        | 926        |
| RUNX1:Runt:MA0002                           | 152        | 162        |
| RUNX1:Runt:MA0002                           | 646        | 636        |
| RXRA::VDR:Hormone-nuclear Receptor:MA0074   | 864        | 878        |
| SOX10:High Mobility Group:MA0442            | 890        | 885        |
| SPIB:Ets:MA0081                             | 394        | 388        |
| SRF:MADS:MA0083                             | 439        | 450        |
| SRY:High Mobility Group:MA0084              | 910        | 918        |
| SRY:High Mobility Group:MA0084              | 916        | 924        |
| STAT1:Stat:MA0137                           | 435        | 449        |
| TBP:TATA-binding:MA0108                     | 441        | 455        |

|                                       |     |     |
|---------------------------------------|-----|-----|
| TBP:TATA-binding:MA0108               | 748 | 734 |
| Tcfcp2l1 :CP2:MA0145                  | 182 | 195 |
| USF1:Helix-Loop-Helix:MA0093          | 11  | 5   |
| USF1:Helix-Loop-Helix:MA0093          | 6   | 12  |
| ZEB1:BetaBetaAlpha-zinc finger:MA0103 | 882 | 877 |

Supplementary Materials Figure 1. Construction of HOTAIR-Luc















