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**An integrated analysis of the competing endogenous RNA network associated of prognosis of stage I lung adenocarcinoma**

Yuan Xu1,2\*, Guofu Lin1,2,4 \*, Yifei Liu3\*, Xianbin Lin5\*, Hai Lin1,2,4, Zhifeng Guo1,2,4, Yingxuan Xu1,2,4, Qinhui Lin1,2, Shaohua Chen6, Jiansheng Yang5, Yiming Zeng1,2

1.Department of Respiratory Pulmonary and Critical Care Medicine, The Second Affiliated Hospital of Fujian Medical University, Quanzhou, Fujian province, 362000, China

2.Respiratory Medicine Center of Fujian Province, Quanzhou, Fujian province, 362000, China

3.Clinical Center for Molecular Diagnosis and Therapy, The Second Affiliated Hospital of Fujian Medical University, Quanzhou, Fujian province, 362000, China

4.The Second Clinical College, Fujian Medical University, Fuzhou, Fujian province, 350004, China

5.Department of thoracic surgery, The Second Affiliated Hospital of Fujian Medical University, Quanzhou, Fujian province, 362000, China

6.Department of Pathology, The Second Affiliated Hospital of Fujian Medical University, Quanzhou, Fujian province, 362000, China

\* Those authors contributed equally to this work.

**Correspondence to**:Prof. Yiming Zeng, The Second Affiliated Hospital of Fujian Medical University, Department of Respiratory Pulmonary and Critical Care Medicine, Quanzhou, Fujian, China; FujianRespiratory Medicine Center, Quanzhou, Fujian 350004, China. Tel: 86-595-22791001 **zeng\_yiming @fjmu.edu.cn**

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| **Table S1**. Top 20 DEmRNAs identified between tumor and adjacent normal tissues in stage I LUAD patients |
| **Transcript\_ID** | **Gene Symbol** | **Normal** | **Tumor** | **Log2 Fold Change** | ***P* value** |
| ENST00000366518 | *KIF26B* | 0 | 8.654592175 | 8.654592175 | 3.18E-15 |
| ENST00000360804 | *SPP1* | 1.320555931 | 8.835276043 | 7.514720112 | 0.020145025 |
| ENST00000261187 | *SLC16A7* | 0.82421325 | 8.2987751 | 7.474561849 | 2.76E-17 |
| ENST00000512690 | *RPS3A* | 0 | 7.292023165 | 7.292023165 | 0.037093927 |
| ENST00000222271 | *COMP* | 0.350903824 | 7.468774449 | 7.117870625 | 6.18E-12 |
| ENST00000616821 | *HIP1* | 0 | 6.740645236 | 6.740645236 | 6.60E-44 |
| ENST00000304749 | *CST1* | 0.218430196 | 6.734197789 | 6.515767593 | 1.48E-17 |
| ENST00000393664 | *ETV4* | 0.65789736 | 7.150091332 | 6.492193971 | 0.002070202 |
| ENST00000403444 | *CEACAM1* | 2.265297755 | 8.593524293 | 6.328226538 | 0.000448709 |
| ENST00000614399 | *MUC3A* | 0.190539439 | 6.414480653 | 6.223941214 | 1.16E-23 |
| ENST00000589620 | *FUT3* | 0 | 6.223727251 | 6.223727251 | 7.03E-25 |
| ENST00000296695 | *SPINK1* | 1.005817309 | 7.075748308 | 6.069930998 | 5.32E-13 |
| ENST00000406696 | *HS6ST2* | 0 | 6.004575254 | 6.004575254 | 2.49E-08 |
| ENST00000355153 | *ITGB2* | 0 | 5.865750235 | 5.865750235 | 3.75E-11 |
| ENST00000398292 | *GGT5* | 2.115405239 | 7.698799642 | 5.583394403 | 0.018506869 |
| ENST00000351270 | *HABP2* | 2.698763657 | 8.256956396 | 5.558192739 | 2.44E-13 |
| ENST00000542321 | *RGMA* | 1.795660395 | 7.32502676 | 5.529366365 | 0.005210264 |
| ENST00000357639 | *ENPP3* | 1.988295986 | 7.497581251 | 5.509285265 | 0.009093016 |
| ENST00000523206 | *INTS8* | 5.576337519 | 0 | -5.576337519 | 2.03E-08 |
| ENST00000307765 | *RXFP1* | 7.586207045 | 1.173590046 | -6.412616999 | 0.001788919 |

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| **Table S2**. Top 20 DEmiRNAs identified between tumor and adjacent normal tissues in stage I LUAD patients |
| **miRNA** | **Normal** | **Tumor** | **Log2 FoldChange** | ***P* value** |
| *hsa-miR-1269b* | 0.1 | 5.7 | 5.832890014 | 2.28E-15 |
| *hsa-miR-196a-5p* | 1.6 | 26.7 | 4.060695932 | 1.65E-18 |
| *hsa-miR-6510-3p* | 0.2 | 3 | 3.906890596 | 3.92E-09 |
| *hsa-miR-509-3p* | 0.2 | 3 | 3.906890596 | 2.02E-08 |
| *hsa-miR-508-5p* | 0.1 | 1.3 | 3.700439718 | 0.000282765 |
| *hsa-miR-183-3p* | 0.1 | 1.2 | 3.584962501 | 2.34E-05 |
| *1\_2920* | 0.2 | 2.3 | 3.523561956 | 5.47E-07 |
| *hsa-miR-509-3-5p* | 2.7 | 30.7 | 3.507207343 | 3.29E-13 |
| *hsa-miR-514a-5p* | 0.2 | 2.1 | 3.392317423 | 1.40E-05 |
| *hsa-miR-31-3p* | 0.2 | 2 | 3.321928095 | 5.29E-05 |
| *10\_16692* | 0.4 | 3.7 | 3.209453366 | 1.23E-06 |
| *hsa-miR-4697-3p* | 0.2 | 1.8 | 3.169925001 | 1.42E-05 |
| *hsa-miR-509-5p* | 0.1 | 0.9 | 3.169925001 | 0.000880139 |
| *hsa-miR-891a-5p* | 0.1 | 0.8 | 3 | 0.000504201 |
| *14\_22599* | 10.2 | 1.3 | -2.971985624 | 4.55E-08 |
| *hsa-miR-518a-3p* | 0.8 | 0.1 | -3 | 0.005572009 |
| *18\_26720* | 0.9 | 0.1 | -3.169925001 | 0.000216652 |
| *11\_19396* | 0.9 | 0.1 | -3.169925001 | 0.000787025 |
| *22\_31161* | 1.3 | 0.1 | -3.700439718 | 6.62E-06 |
| *hsa-miR-1973* | 2.2 | 0.1 | -4.459431619 | 3.70E-06 |

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| **Table S3**. Top 20 DElncRNAs identified between tumor and adjacent normal tissues in stage I LUAD patients |
| **Transcript\_ID** | **Normal** | **Tumor** | **Log2 FoldChange** | ***P* value** |
| *MSTRG.21547.11* | 1.461945401 | 7.335074859 | 5.873129458 | 1.61E-10 |
| *MSTRG.21547.12* | 0.670834747 | 6.401268947 | 5.7304342 | 3.83E-08 |
| *MSTRG.21102.2* | 0 | 5.66306219 | 5.66306219 | 7.61E-08 |
| *MSTRG.19902.1* | 1.633206958 | 6.766937436 | 5.133730479 | 3.29E-08 |
| *MSTRG.22930.1* | 0.212638956 | 5.203134195 | 4.990495239 | 1.01E-11 |
| *MSTRG.22930.2* | 1.357712976 | 6.305162386 | 4.94744941 | 3.75E-06 |
| *MSTRG.17733.2* | 1.764799454 | 6.563233146 | 4.798433693 | 8.50E-05 |
| *MSTRG.14655.4* | 1.698819362 | 6.470141899 | 4.771322538 | 0.000224038 |
| *MSTRG.14626.8* | 0.348765576 | 5.106770045 | 4.758004468 | 3.88E-06 |
| *MSTRG.23939.1* | 0.793969427 | 5.392062653 | 4.598093226 | 2.28E-12 |
| *MSTRG.14654.4* | 2.032638869 | 6.617754019 | 4.58511515 | 2.86E-09 |
| *MSTRG.14628.2* | 4.512240474 | 8.994073946 | 4.481833472 | 3.13E-08 |
| *MSTRG.14821.1* | 0 | 4.321875515 | 4.321875515 | 5.08E-06 |
| *MSTRG.14654.3* | 0.358079304 | 4.514449814 | 4.15637051 | 0.044889169 |
| *MSTRG.14645.1* | 0.375991228 | 4.52714931 | 4.151158082 | 2.41E-08 |
| *ENST00000417884* | 0.588448586 | 4.704513937 | 4.116065351 | 9.48E-05 |
| *MSTRG.13095.5* | 1.443599697 | 5.534473078 | 4.090873381 | 6.63E-05 |
| *MSTRG.21549.2* | 2.292124404 | 6.362519157 | 4.070394754 | 1.48E-08 |
| *MSTRG.14655.3* | 2.966288702 | 7.027367018 | 4.061078316 | 4.44E-08 |
| *MSTRG.21549.1* | 0.561168075 | 4.620042607 | 4.058874531 | 0.000230074 |

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| **Table S4.** Top 20 ceRNA network constructed in 10 stage I LUAD patients  |
| **ceRNA\_id** | **mRNA\_id** | **Gene\_ID** | **Symbol** | **Num\_of\_miRNA****in\_ceRNA** | **Num\_of\_miRNA****in\_mRNA** | **Num\_of\_miRNA****in\_ceRNA &mRNA** | **Shared\_miRNAs** | **PPC** | **PPC\_*P* value** |
| MSTRG.7694.1 | ENST00000331343 | ENSG00000186866 | *POFUT2* | 29 | 259 | 3 | hsa-miR-1226-3p, hsa-miR-210-5p, | 0.98983 | 5.55E-17 |
| hsa-miR-331-3p |
| MSTRG.7693.2 | ENST00000398174 | ENSG00000101294 | *HM13* | 18 | 207 | 2 | hsa-miR-141-5p, hsa-miR-216a-3p | 0.988227 | 2.22E-16 |
| MSTRG.7694.1 | ENST00000398174 | ENSG00000101294 | *HM13* | 29 | 207 | 2 | hsa-miR-1226-3p, hsa-miR-216a-3p | 0.985769 | 1.11E-15 |
| MSTRG.10260.1 | ENST00000331343 | ENSG00000186866 | *POFUT2* | 61 | 259 | 6 | hsa-miR-1226-3p, hsa-miR-210-5p, | 0.985469 | 1.33E-15 |
| hsa-miR-331-3p, hsa-miR-4758-3p,  |
| hsa-miR-6815-5p, hsa-miR-92b-5p |
| MSTRG.7694.1 | ENST00000621161 | ENSG00000131242 | *RAB11FIP4* | 29 | 385 | 6 | hsa-miR-1226-3p, hsa-miR-216a-3p,  | 0.983657 | 3.66E-15 |
| hsa-miR-331-3p, hsa-miR-486-3p,  |
| hsa-miR-508-5p, hsa-miR-5698 |
| MSTRG.7693.2 | ENST00000621161 | ENSG00000131242 | *RAB11FIP4* | 18 | 385 | 3 | hsa-miR-216a-3p, hsa-miR-508-5p,  | 0.982108 | 8.38E-15 |
| hsa-miR-5698 |
| MSTRG.10260.1 | ENST00000398174 | ENSG00000101294 | *HM13* | 61 | 207 | 5 | hsa-miR-1226-3p, hsa-miR-216a-3p,  | 0.979249 | 3.15E-14 |
| hsa-miR-4446-3p, hsa-miR-4532, h |
| sa-miR-6815-5p |
| MSTRG.10261.1 | ENST00000331343 | ENSG00000186866 | *POFUT2* | 18 | 259 | 3 | hsa-miR-210-5p, hsa-miR-331-3p,  | 0.976773 | 8.59E-14 |
| hsa-miR-449b-3p |
| MSTRG.10260.1 | ENST00000621161 | ENSG00000131242 | *RAB11FIP4* | 61 | 385 | 9 | hsa-miR-1226-3p, hsa-miR-216a-3p,  | 0.975704 | 1.28E-13 |
| hsa-miR-331-3p, hsa-miR-4281,  |
| hsa-miR-4446-3p, hsa-miR-4758-3p, |
| hsa-miR-486-3p, hsa-miR-508-5p,  |
| hsa-miR-5698 |
| MSTRG.11201.2 | ENST00000379090 | ENSG00000196391 | *ZNF774* | 6 | 238 | 1 | hsa-miR-508-5p | 0.97121 | 5.81E-13 |
| MSTRG.5402.1 | ENST00000339824 | ENSG00000171435 | *KSR2* | 17 | 662 | 4 | hsa-miR-216a-3p, hsa-miR-4446-3p, | 0.970925 | 6.35E-13 |
| hsa-miR-486-5p, hsa-miR-508-5p |
| MSTRG.8730.1 | ENST00000621161 | ENSG00000131242 | *RAB11FIP4* | 23 | 385 | 1 | hsa-miR-508-5p | 0.969991 | 8.40E-13 |
| MSTRG.8730.1 | ENST00000331343 | ENSG00000186866 | *POFUT2* | 23 | 259 | 2 | hsa-miR-210-5p, hsa-miR-6815-5p | 0.969473 | 9.79E-13 |
| MSTRG.8730.1 | ENST00000398174 | ENSG00000101294 | *HM13* | 23 | 207 | 2 | hsa-miR-4532, hsa-miR-6815-5p | 0.967387 | 1.76E-12 |
| MSTRG.26440.2 | ENST00000331343 | ENSG00000186866 | *POFUT2* | 99 | 259 | 6 | hsa-miR-1226-3p, hsa-miR-210-5p,  | 0.967336 | 1.79E-12 |
| hsa-miR-331-3p, hsa-miR-449b-3p,  |
| hsa-miR-4758-3p, hsa-miR-6815-5p |
| MSTRG.10260.1 | ENST00000269391 | ENSG00000141576 | *RNF157* | 61 | 236 | 7 | hsa-miR-296-3p, hsa-miR-331-3p,  | 0.965277 | 3.07E-12 |
| hsa-miR-4284, |
| hsa-miR-449a, hsa-miR-4634,  |
| hsa-miR-4758-3p, |
| hsa-miR-508-5p |
| MSTRG.11201.2 | ENST00000621161 | ENSG00000131242 | *RAB11FIP4* | 6 | 385 | 1 | hsa-miR-508-5p | 0.965149 | 3.17E-12 |
| MSTRG.10260.1 | ENST00000339824 | ENSG00000171435 | *KSR2* | 61 | 662 | 11 | hsa-miR-210-5p, hsa-miR-216a-3p, | 0.964964 | 3.33E-12 |
| hsa-miR-331-3p,hsa-miR-345-5p,  |
| hsa-miR-4443, hsa-miR-4446-3p, |
| hsa-miR-4758-3p, hsa-miR-508-5p,  |
| hsa-miR-5698,hsa-miR-654-5p,  |
| hsa-miR-6882-5p |
| MSTRG.10261.1 | ENST00000339824 | ENSG00000171435 | *KSR2* | 18 | 662 | 3 | hsa-miR-210-5p, hsa-miR-331-3p,  | 0.964507 | 3.73E-12 |
| hsa-miR-449b-3p |
| MSTRG.10261.1 | ENST00000621161 | ENSG00000131242 | *RAB11FIP4* | 18 | 385 | 1 | hsa-miR-331-3p | 0.963417 | 4.88E-12 |

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| **Table S5.** Hub lncRNAs predicted by WGCNA using TCGA dataset |
| **lncRNAs** | **Modules in WGCNA** |
| *LINC00639* | MEgrey60 |
| *LA16c-329F2.1* | MEgrey60 |
| *LINC01117* | MEgrey60 |
| *RP11-595B24.2* | MEred |
| *C2orf48* | MEred |
| *CTD-2576D5.4* | MEred |
| *RP11-339B21.10* | MEred |
| *RP11-363N22.2* | MEred |
| *RP11-486M23.1* | MEroyalblue |
| *RP4-676L2.1* | MEroyalblue |
| *RP11-390B4.3* | MEroyalblue |
| *RP11-548P2.2* | MElightgreen |
| *CTD-2349P21.9* | MElightgreen |
| *LINC01468* | MEdarkgreen |
| *LINC00592* | MEdarkgreen |
| *RP11-215P8.4* | MEdarkgreen |
| *HID1-AS1* | BLACK |
| *RP11-251M1.1* | BLACK |
| *FENDRR* | BLACK |
| *RP11-371A19.2* | BLACK |
| *RP1-18D14.7* | BLACK |
| *RP11-286H15.1* | BLACK |
| *CASC2* | YELLOW |
| *RP11-193M21.1* | YELLOW |
| *AC013264.2* | YELLOW |
| *CTC-441N14.1* | YELLOW |
| *RP11-295M3.4* | YELLOW |
| *CTC-441N14.2* | YELLOW |
| *LINC01552* | YELLOW |
| *RP11-268F1.3* | YELLOW |
| *CTD-2531D15.4* | YELLOW |
| *RP11-23J9.4* | YELLOW |
| *VWA8-AS1* | YELLOW |
| *SRGAP3-AS2* | YELLOW |
| *RP11-424M24.5* | YELLOW |
| *C11orf97* | YELLOW |
| *RP11-356K23.1* | YELLOW |
| *RP5-978I12.1* | YELLOW |
| *AC008278.2* | YELLOW |
| *RP4-547N15.3* | YELLOW |
| *RP4-539M6.14* | YELLOW |
| *RP11-196E1.3* | YELLOW |
| *CTB-51J22.1* | YELLOW |
| *RP4-666F24.3* | YELLOW |
| *RP11-122M14.1* | YELLOW |
| *CTD-2562J15.6* | YELLOW |
| *RP11-30O15.1* | YELLOW |
| *HHATL-AS1* | YELLOW |
| *RP11-275I14.4* | YELLOW |
| *ARMC2-AS1* | YELLOW |
| *RP11-503N18.4* | YELLOW |
| *CTD-2544H17.1* | YELLOW |
| *RP11-60L3.1* | YELLOW |
| *RP11-428C19.5* | YELLOW |
| *RP11-57H12.3* | YELLOW |
| *RP11-161H23.9* | YELLOW |
| *LINC01513* | YELLOW |
| *RP11-60L3.6* | YELLOW |
| *AC093159.1* | YELLOW |
| *RP11-356K23.2* | YELLOW |
| *CTD-2126E3.3* | YELLOW |
| *AQP4-AS1* | YELLOW |
| *UMODL1-AS1* | YELLOW |
| *RP11-128M1.1* | YELLOW |
| *AC104809.2* | YELLOW |
| *RP11-428C19.4* | YELLOW |
| *FLJ26850* | YELLOW |
| *LINC01267* | YELLOW |
| *LINC01571* | YELLOW |
| *SMC2-AS1* | YELLOW |
| *CTD-2105E13.15* | YELLOW |
| *RP11-368I7.4* | YELLOW |
| *RP11-647F2.2* | YELLOW |
| *AC011899.10* | YELLOW |
| *AC195454.1* | YELLOW |
| *RP11-568A7.3* | YELLOW |
| *TTLL10-AS1* | YELLOW |
| *RP11-368I7.6* | YELLOW |
| *RP11-394B2.6* | YELLOW |
| *UCKL1-AS1* | YELLOW |
| *RP11-473M20.11* | YELLOW |