Supplementary Material

# Supplementary Data

**Supplementary Table 1 Selected 5 lncRNA-miRNA-mRNA gene pairs to construct ceRNA network.**

|  |  |  |  |
| --- | --- | --- | --- |
| GENE1 | GENE2 | p-value | R |
| ENSG00000227220 | hsa-miR-141-5p | 0.025466 | -0.13856 |
| ENSG00000233821 | hsa-miR-30e-5p | 0.039459 | -0.12781 |
| ENSG00000266411 | hsa-miR-30e-5p | 0.039956 | -0.12749 |
| ENSG00000230333 | hsa-miR-19b-1-5p | 0.043484 | -0.12532 |
| ENSG00000234323 | hsa-miR-19b-1-5p | 0.049989 | -0.12169 |
| ENSG00000227220 | CHN2 | 5.71E-08 | 0.327583 |
| ENSG00000233821 | CHN2 | 1.48E-07 | 0.317735 |
| ENSG00000230333 | CHN2 | 0.000158 | 0.231335 |
| ENSG00000234323 | CHN2 | 0.005944 | 0.169528 |
| ENSG00000266411 | CHN2 | 0.007912 | 0.163751 |
| hsa-miR-29a-5p | CHN2 | 0.01672 | -0.14829 |
| hsa-miR-141-5p | CHN2 | 0.018541 | -0.14595 |
| hsa-miR-19b-1-5p | CHN2 | 0.019654 | -0.14462 |
| hsa-miR-30e-5p | CHN2 | 0.036716 | -0.12963 |

**Supplementary Table 2 Survival-related lncRNAs, miRNAs, or mRNAs of the differentially expressed genes based on the mRNAsi score grouping identified by univariate Cox PHR.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | HR | HR.95L | HR.95H | p-value |
| ENSG00000259645 | 1.000077 | 1.000041 | 1.000113 | 2.24E-05 |
| ENSG00000275850 | 1.000369 | 1.000188 | 1.00055 | 6.45E-05 |
| ENSG00000260859 | 1.000045 | 1.000022 | 1.000068 | 0.000132 |
| ENSG00000227068 | 1.000078 | 1.000036 | 1.00012 | 0.000288 |
| ENSG00000250107 | 1.000051 | 1.000021 | 1.000082 | 0.000816 |
| ENSG00000233117 | 1.000051 | 1.000021 | 1.000081 | 0.000989 |
| ENSG00000205037 | 1.000051 | 1.00002 | 1.000083 | 0.001358 |
| ENSG00000249706 | 1.000089 | 1.000034 | 1.000144 | 0.001578 |
| ENSG00000244953 | 1.000089 | 1.000033 | 1.000145 | 0.001701 |
| ENSG00000233858 | 1.000058 | 1.000022 | 1.000095 | 0.001894 |
| ENSG00000227744 | 1.000342 | 1.000124 | 1.000561 | 0.002165 |
| ENSG00000260868 | 1.000174 | 1.000062 | 1.000287 | 0.002383 |
| ENSG00000278621 | 1.00002 | 1.000007 | 1.000032 | 0.002547 |
| ENSG00000272975 | 1.000225 | 1.000078 | 1.000371 | 0.002593 |
| ENSG00000223930 | 1.000174 | 1.000059 | 1.00029 | 0.003044 |
| ZFHX4-AS1 | 1.000008 | 1.000003 | 1.000013 | 0.003241 |
| ENSG00000256025 | 1.000199 | 1.000066 | 1.000332 | 0.003377 |
| ENSG00000253702 | 1.000057 | 1.000019 | 1.000095 | 0.003465 |
| ENSG00000280241 | 1.000128 | 1.000041 | 1.000215 | 0.003819 |
| ENSG00000261193 | 1.000051 | 1.000016 | 1.000085 | 0.003819 |
| ENSG00000242902 | 1.000076 | 1.000023 | 1.00013 | 0.005012 |
| ENSG00000271811 | 1.00002 | 1.000006 | 1.000035 | 0.006281 |
| ENSG00000250748 | 1.000259 | 1.000071 | 1.000447 | 0.006823 |
| ENSG00000232192 | 1.000025 | 1.000007 | 1.000043 | 0.006834 |
| ENSG00000279338 | 1.000041 | 1.000011 | 1.00007 | 0.007019 |
| hsa-miR-133a-3p | 0.980295 | 0.966007 | 0.994795 | 0.007894 |
| ENSG00000225706 | 1.000023 | 1.000006 | 1.00004 | 0.008357 |
| ENSG00000224743 | 1.000244 | 1.000063 | 1.000426 | 0.008358 |
| ENSG00000260166 | 1.00002 | 1.000005 | 1.000035 | 0.011081 |
| ENSG00000236841 | 1.000094 | 1.00002 | 1.000168 | 0.012543 |
| DNM3OS | 1.000003 | 1.000001 | 1.000005 | 0.012857 |
| ENSG00000261742 | 1.000022 | 1.000004 | 1.000039 | 0.014122 |
| ENSG00000230435 | 1.000086 | 1.000017 | 1.000155 | 0.01459 |
| ENSG00000259367 | 1.000043 | 1.000008 | 1.000077 | 0.015084 |
| hsa-miR-6788-3p | 1.105356 | 1.018818 | 1.199244 | 0.016033 |
| ENSG00000264345 | 1.000067 | 1.000012 | 1.000122 | 0.016217 |
| ENSG00000255400 | 1.000097 | 1.000018 | 1.000176 | 0.01627 |
| ENSG00000256197 | 1.000206 | 1.000037 | 1.000375 | 0.016645 |
| ENSG00000249035 | 1.000073 | 1.000013 | 1.000132 | 0.016983 |
| ENSG00000224116 | 1.000151 | 1.000026 | 1.000276 | 0.018115 |
| ENSG00000180139 | 1.000007 | 1.000001 | 1.000013 | 0.020589 |
| ENSG00000264514 | 1.000113 | 1.000017 | 1.000209 | 0.02064 |
| ENSG00000246695 | 1.000001 | 1 | 1.000001 | 0.022091 |
| ENSG00000222032 | 1.000015 | 1.000002 | 1.000028 | 0.025529 |
| ENSG00000279877 | 1.000069 | 1.000008 | 1.000129 | 0.025863 |
| ENSG00000225807 | 1.000092 | 1.00001 | 1.000174 | 0.027609 |
| ENSG00000245688 | 1.000071 | 1.000007 | 1.000134 | 0.029826 |
| ENSG00000230333 | 1.000069 | 1.000006 | 1.000131 | 0.030999 |
| ENSG00000236651 | 1.000037 | 1.000003 | 1.000071 | 0.031176 |
| ENSG00000250041 | 1.000047 | 1.000004 | 1.000089 | 0.031524 |
| ENSG00000274654 | 1.00018 | 1.000015 | 1.000345 | 0.032453 |
| ENSG00000231131 | 1.000175 | 1.000013 | 1.000336 | 0.034356 |
| ENSG00000234754 | 0.99956 | 0.999146 | 0.999974 | 0.037211 |
| ENSG00000251185 | 1.000007 | 1 | 1.000014 | 0.037789 |
| ENSG00000273112 | 1.000124 | 1.000007 | 1.000241 | 0.038285 |
| ENSG00000253456 | 1.000077 | 1.000004 | 1.000149 | 0.038395 |
| ENSG00000229108 | 1.000005 | 1 | 1.00001 | 0.039187 |
| ENSG00000236385 | 1.000024 | 1.000001 | 1.000046 | 0.040806 |
| ENSG00000251637 | 0.99992 | 0.999842 | 0.999999 | 0.04648 |
| ENSG00000230601 | 0.999891 | 0.999784 | 0.999999 | 0.047461 |

**Supplementary Table 3 Parameters used to construct of the risk score model.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | co-ef | HR | HR.95L | HR.95H | p-value |
| ENSG00000230601 | -0.00014 | 0.999862 | 0.999745 | 0.999979 | 0.020361 |
| ENSG00000275850 | 0.000213 | 1.000213 | 1.000008 | 1.000418 | 0.042159 |
| ENSG00000225807 | 0.000174 | 1.000174 | 1.000081 | 1.000267 | 0.000251 |
| ENSG00000234754 | -0.00052 | 0.999479 | 0.999002 | 0.999957 | 0.032678 |
| ENSG00000259645 | 5.66E-05 | 1.000057 | 1.000013 | 1.000101 | 0.011555 |
| ENSG00000227068 | 4.27E-05 | 1.000043 | 0.999988 | 1.000097 | 0.12701 |
| ENSG00000249706 | 4.85E-05 | 1.000048 | 0.999983 | 1.000114 | 0.144437 |
| hsa-miR-133a-3p` | -0.02221 | 0.978036 | 0.961076 | 0.995295 | 0.012831 |
| hsa-miR-6788-3p` | 0.099624 | 1.104755 | 1.0093 | 1.209238 | 0.030715 |

**Supplementary Table 4 Results of pearson correlation analysis between mRNAsi and certain kinds of tumor infiltrating immune cells.**

|  |  |  |  |
| --- | --- | --- | --- |
| Immune cells | mRNAsi | P | R |
| Plasma cells | mRNAsi | 0.014472 | 0.202715 |
| T cells follicular helper | mRNAsi | 3.85E-04 | 0.29096 |
| Macrophages M2 | mRNAsi | 1.18E-04 | -0.31437 |
| Dendritic cells resting | mRNAsi | 0.016473 | -0.19889 |
| Dendritic cells activated | mRNAsi | 0.002774 | 0.246729 |
| Mast cells resting | mRNAsi | 0.011208 | -0.21008 |