### Supplementary Table 1. Enrichment analysis of KEGG pathway.

| Category          | Pathway name                        | Count | Proportion % | Enrichment P-Value |
|-------------------|-------------------------------------|-------|--------------|--------------------|
| KEGG_PATHWAY      | MAPK pathway                        | 12    | 3.8          | 2.50E-04           |
| KEGG_PATHWAY      | PI3K-Akt signaling pathway          | 9     | 2.9          | 5.60E-04           |
| KEGG_PATHWAY      | mTOR signaling pathway              | 9     | 1.9          | 1.30E-03           |
| KEGG_PATHWAY      | FoxO signaling pathway              | 8     | 2.4          | 2.00E-03           |
| KEGG_PATHWAY      | HIF-1 signaling pathway             | 7     | 1.2          | 2.90E-02           |
| KEGG_PATHWAY      | Ras signaling pathway               | 5     | 1            | 3.20E-02           |
| KEGG_PATHWAY      | Chemokine signaling pathway         | 7     | 1.7          | 3.30E-02           |

### Supplementary Table 2. LncRNAs correlated to HRAS.

| LncRNA            | Ensemble                | Correlation efficient |
|-------------------|-------------------------|-----------------------|
| ENST00000437516   | HLA-N                   | 0.901205548           |
| ENST00000493797   | RP11-34P13.14           | 0.905231127           |
| BC041922          |                         | 0.90593243            |
| AK311036          | lincRNA-ANKDD1A         | 0.910861733           |
| NR_024566         | ZNF271P                 | 0.921351673           |
| BI522654          | lincRNA-SLC20A1-1       | 0.922856812           |
| NR_027155         | LOC100271836(SMG1P3)    | 0.927245685           |
| NR_028326         | LOC100133161(LINC01001) | 0.93014676            |
| HIT000332083      |                         | 0.938368285           |
| uc002blm.2        | DQ598270                | 0.943346258           |
| NR_024510         | LOC728855(LINC00623)    | 0.953859386           |