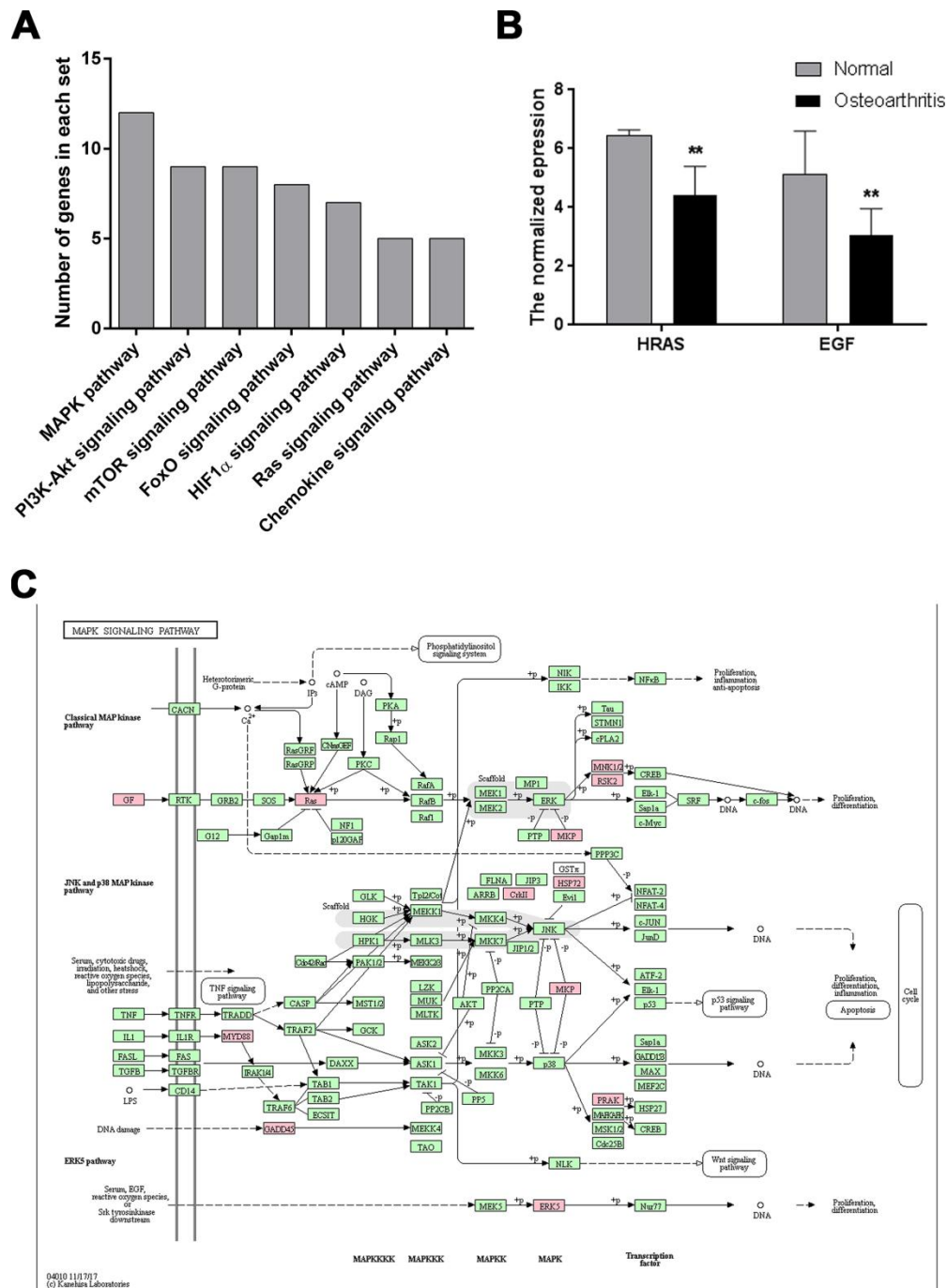
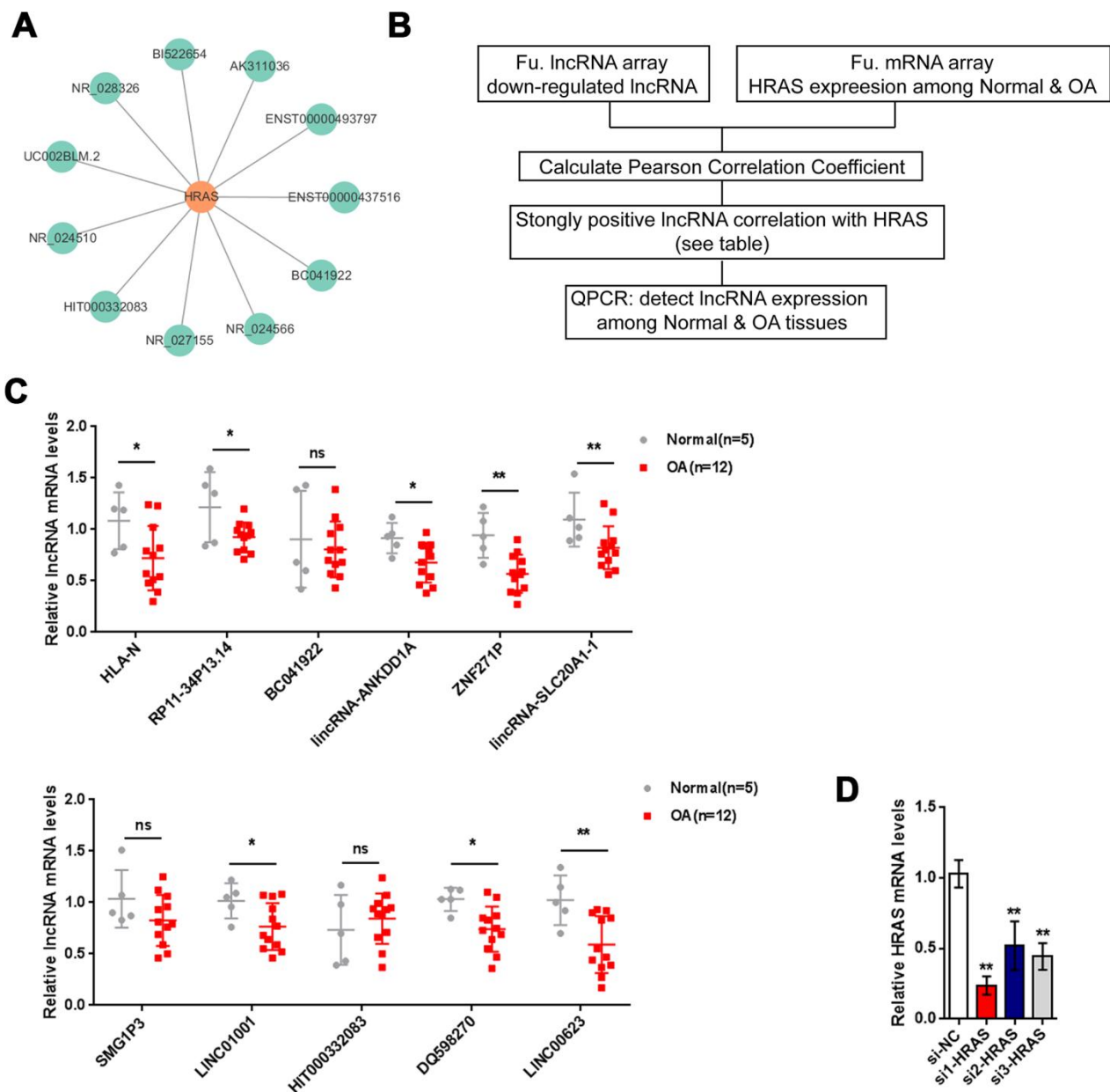


SUPPLEMENTARY FIGURES

Supplementary Figures



Supplementary Figure 1. The suppression of MAPK pathway in the osteoarthritis cartilage tissue. (A) Total of 566 significant down-regulated genes in osteoarthritis tissues were annotated and enriched in KEGG (Kyoto Encyclopedia of Genes and Genomes) pathway and the major altered cellular signaling pathways including MAPK, PI3K/AKT and mTOR pathway were shown. The number of genes in each set was also shown. (B) The relative expression of representative down-regulated MAPK pathway genes including HRAS(RAS) (Harvey rat sarcoma viral oncogene homolog) and EGF (Epidermal growth factor) were shown. (C) The altered crucial genes in MAPK the pathway (hsa04010).



Supplementary Figure 2. Screening of lncRNAs related to HRAS. (A) a total of 11 lncRNAs were strongly positively correlated with HRAS, and LINC00623 was the most relevant one. (B) A schematic diagram showing the screening of lncRNAs correlated to HRAS. (C) A small sample size verification was performed to detect the expression of these lncRNAs in normal and OA tissues. (D) HRAS knockdown in OA chondrocytes was conducted by the transfection of si1-HRAS, si2-HRAS, or si3-HRAS; the transfection efficiency was verified by real-time PCR. * $P < 0.05$, ** $P < 0.01$.