# *Supplementary Material*

1. Supplementary Figures
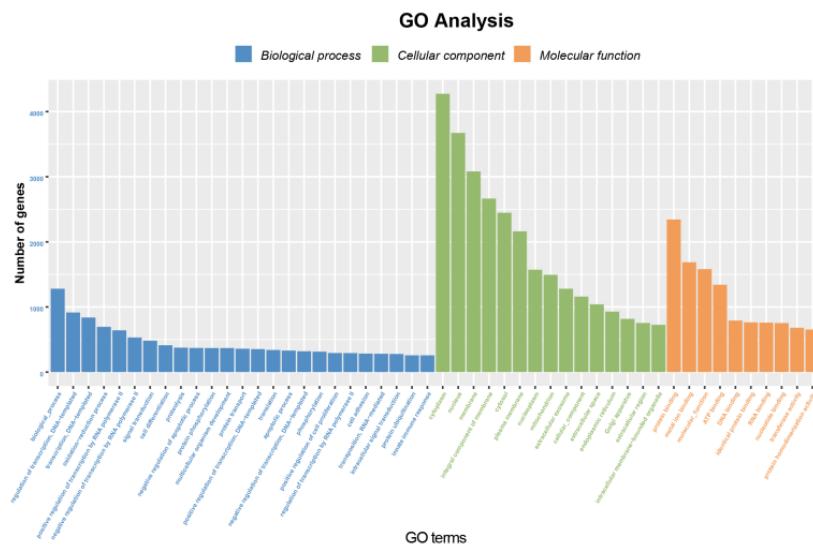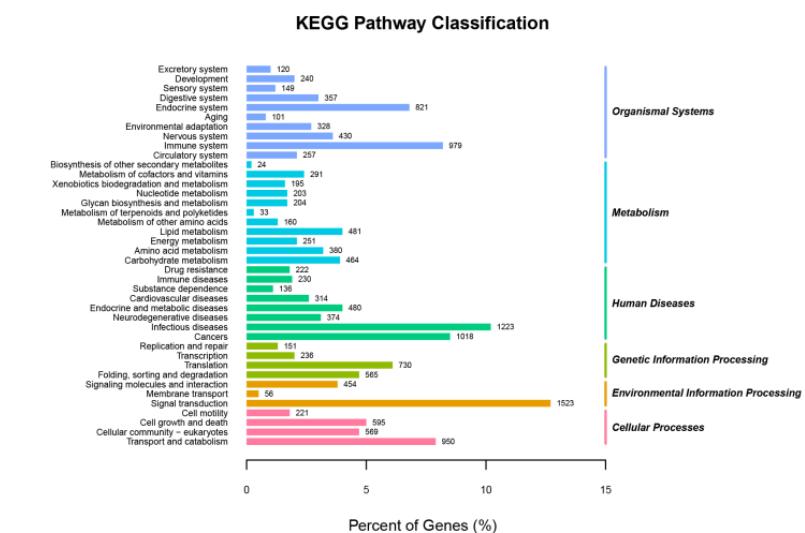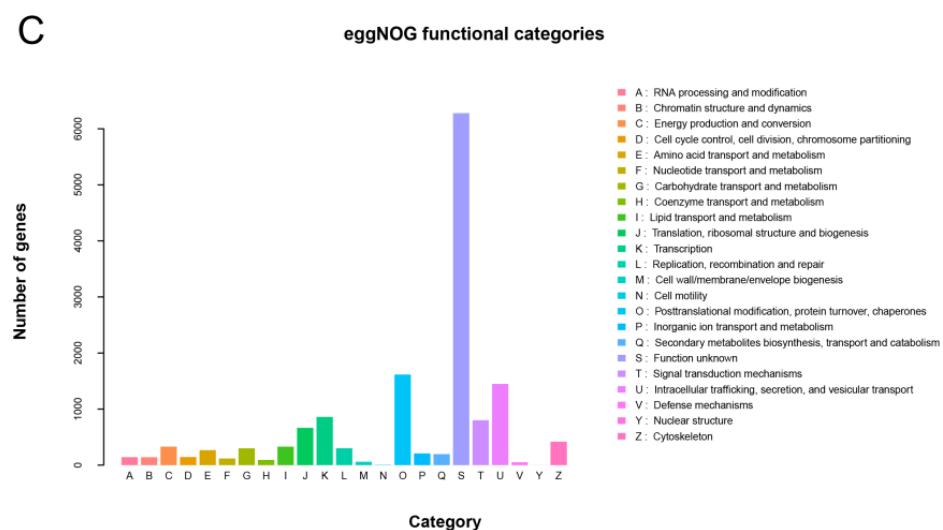
Supplementary Figure 1. Annotation of the unigenes. (A) Gene ontology (GO) term annotation. (B) KEGG pathway annotation. (C) eggNOG annotation.
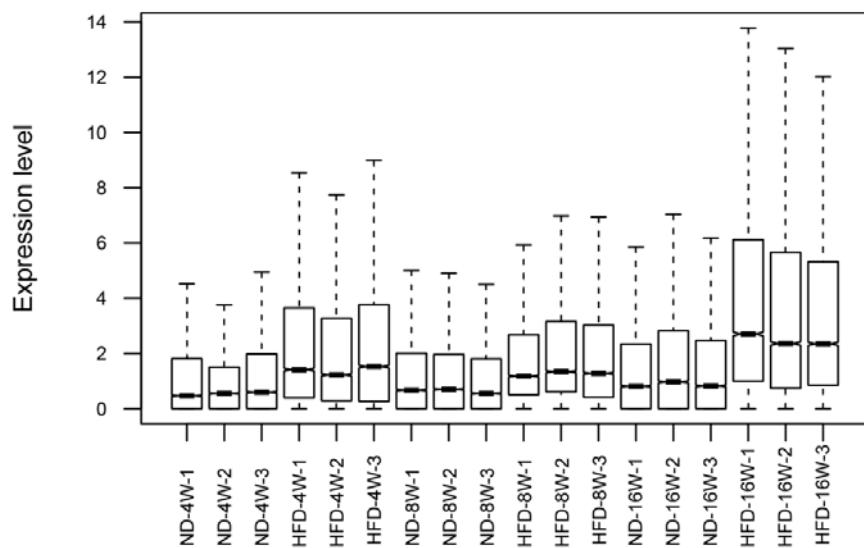
Supplementary Figure 2. Data normalization. (A) Data distribution before normalization; (B) Data distribution after normalization. ND, normal diet; HFD, high-fat diet; 4W, 4-week; 8W, 8-week; 16W, 16-week.
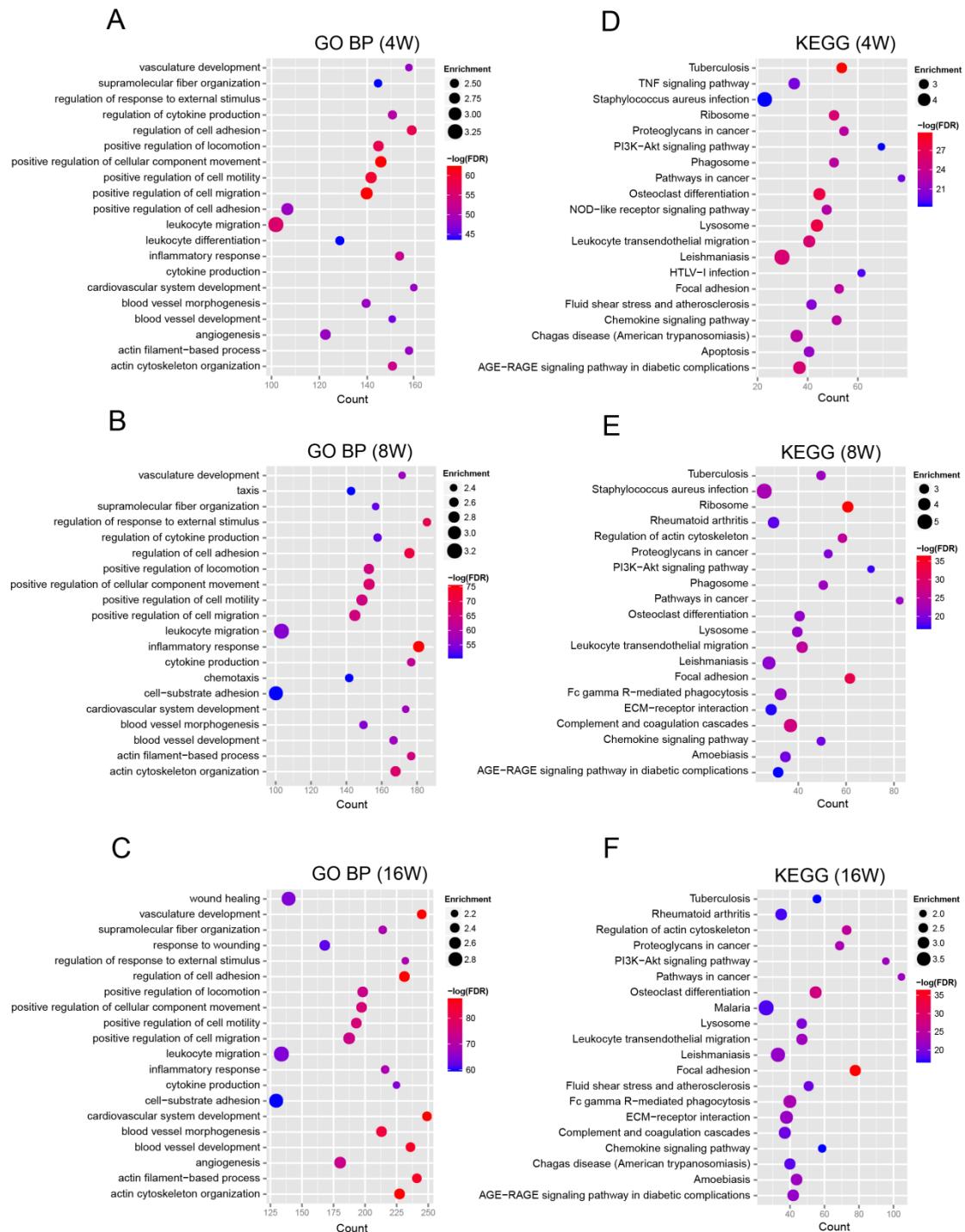
Supplementary Figure 3. GO BP and KEGG analyses of DEGs from the pairwise comparisons at HFD groups vs. ND groups of 4W, 8W and 16W.(A,B,C) GO BP terms enrichment of the DEGs from 4W, 8W and 16W time points. (D,E,F).KEGG pathway enrichment of the EGs from 4W, 8W and 16W time points.
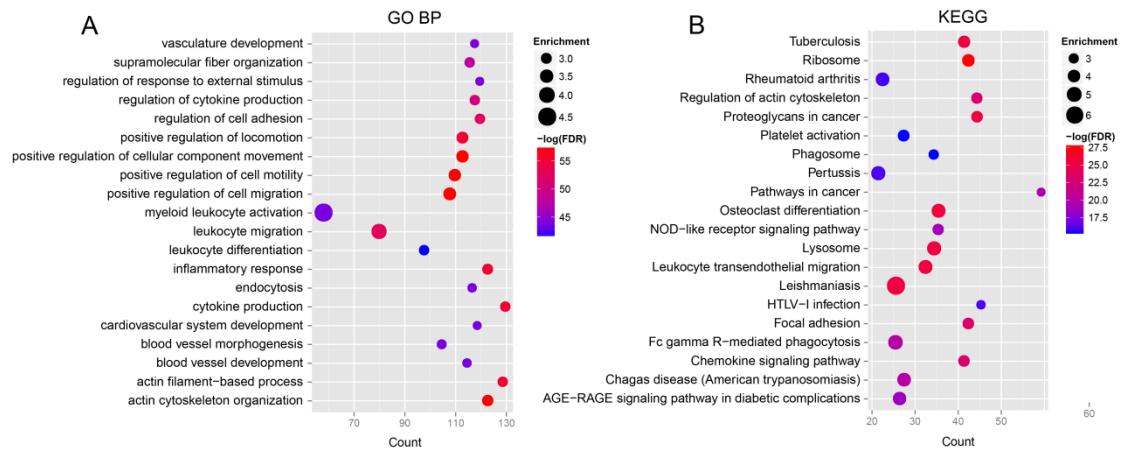
Supplementary Figure 4. GO BP and KEGG analyses of Overlapping DEGs among 4W, 8W and 16W groups. (A,B,C). GO BP terms enrichment. (D,E,F). KEGG pathway enrichment.
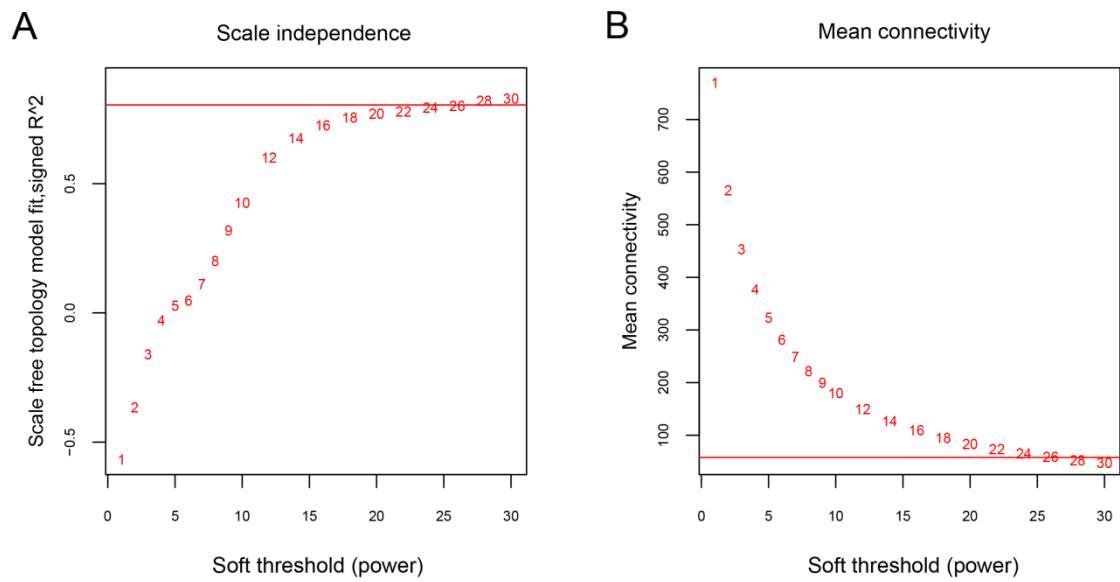
Supplementary Figure 5. The soft-thresholding power calculation of WGCNA analysis. (A). The panel shows scale independence. (B). The panel represents mean connectivity.
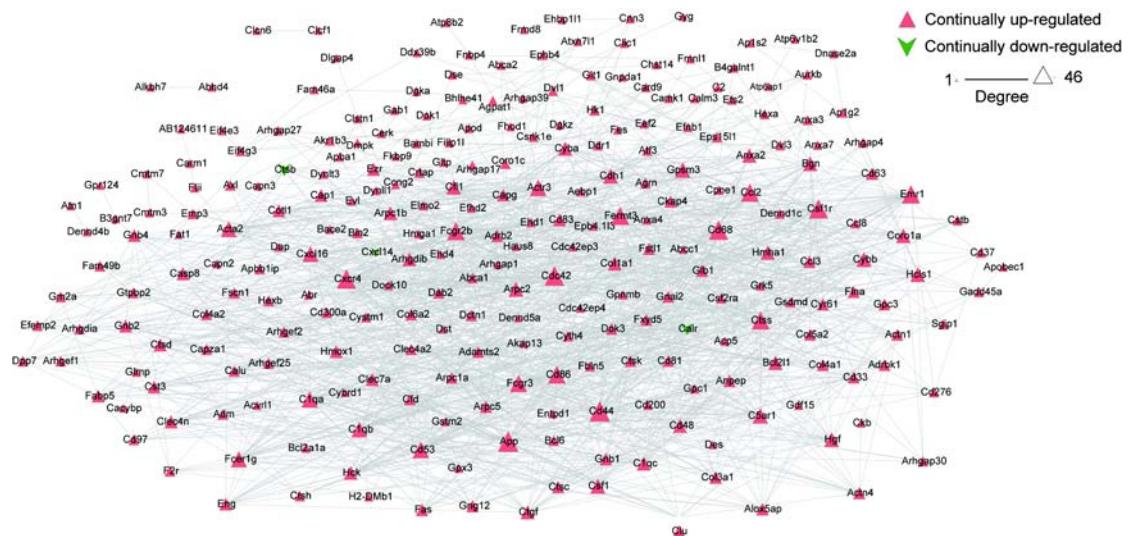
Supplementary Figure 6. PPI network obtained from the 800 overlapping DEGs showed in Figure 5A. A triangle or an inverted triangle represents the DEG that was continuously up-regulated or down-regulated, respectively. The size of the node represents the Degree value.
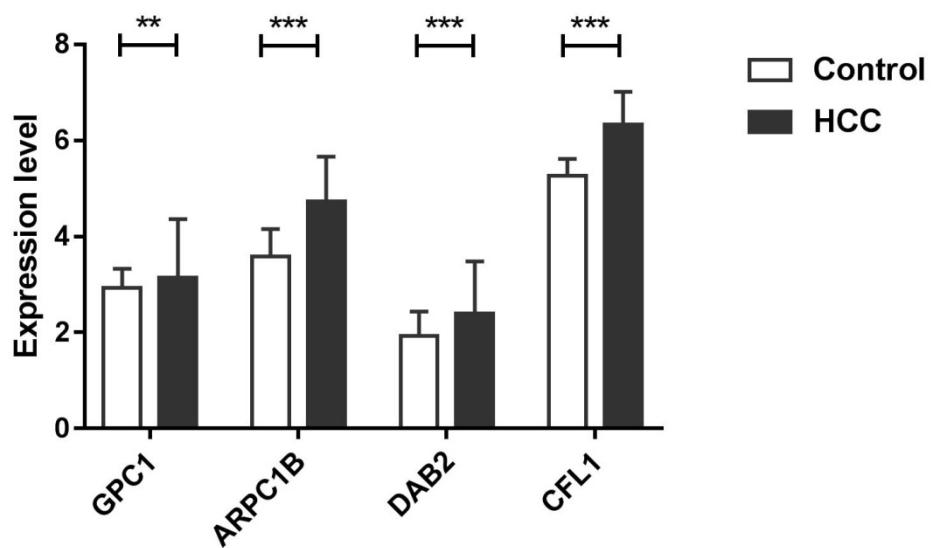
Supplementary Figure 7. Expression levels of GPC1,ARPC1B, DAB2 and CFL1 in healthy controls and HCC patients. The expression levels were investigated in 50 normal tissues and 370 HCC tissues from TGCA. Statistical differences were examined by two tailed Student's t-test. **P <0.01, ***P< 0.001.

2. Supplementary Tables

Supplemental Table 1

Primer	Sequence
Ger-Cd44-F	GGCAATGGAACGATGGAGGACAG
Ger-Cd44-R	AGTGGTCTGGAGTCTCTGATGGC
Ger-App-F	TGACGAGGATGCGGAGGATGG
Ger-App-R	TGGTGGTGGTGGTGGTAGTGG
Ger-Cdc42-F	GGCTGTCAAGTATGTGGAGTGCTC
Ger-Cdc42-R	CTGCGGCTCTTCTTGGGTTCTG
Ger-Cd68-F	GCTGCCACTCTGCTGCCATC
Ger-Cd68-R	ACTGGTCGTGCTGTTCCTTGTTG
Ger-Cxcr4-F	GTCCATGCCACCAACAGTCAGAG
Ger-Cxcr4-R	AAGTCAGGGATGGTCAGGAGAAGG
Ger-Csf1r-F	TGTAGGACGAATCAAGCAGCAACC
Ger-Csf1r-R	AGAGGAGCAGCAGCAGCAGAG
Ger-Adgre1-F	CTGTGGCTGTCTTCCTGGCTTC
Ger-Adgre1-R	CCCTGATTGGCACTGCTGTATCTG
Ger-Fermt3-F	CCAGTCTGTCACCCTCCGAGTC
Ger-Fermt3-R	CCAGTCCTGCTTGCGATTGATCTC
Ger-Tgf-β1-F	GCAACAATTCCTGGCGTTACCTTG
Ger-Tgf-β1-R	CGAAAGCCCTGTATGCCGTCTC
Ger-Col1a2-F	CATTGGTCCTGCTGGTGCTGTC
Ger-Col1a2-R	TCGCCACGGTTTCCATGTTTCC
Ger-Pdgfb-F	ACCTCCACCAGCAGCAGTCAG
Ger-Pdgfb-R	GGTCAAGGGAAGAAGCAGCATGG
Ger-Ctgf-F	ACCTGTGCCTGCCATTACAACTG
Ger-Ctgf-R	TCCCTTACGCCCTGGCTCTTATG
Ger-Gapdh-F	ACGGCAAGTTCAACGGCACAG
Ger-Gapdh-R	TCGCTCCTGGAAGATGGTGATGG
Ger-Gpc1-F	AGGAGACGCTGGCGGAGTTC
Ger-Gpc1-R	CCCAGGCAGTCCAGGTAGTCG
Ger-Arpc1b-F	GGCTCGACTCGCTGCATAAGAAC
Ger-Arpc1b-R	CTCTTCACGTCCCAGATGCTCATG
Ger-Dab2-F	AACCAGGAAGAGGCAGAAGGA
Ger-Dab2-R	AAAGAGAGCTTGCGTCAACCA
Ger-Cfl1-F	TCTGGTGTGGCTGTCTCTGATGG
Ger-Cfl1-R	ACTTCTTCTGGCGTTGAGGACTTG