

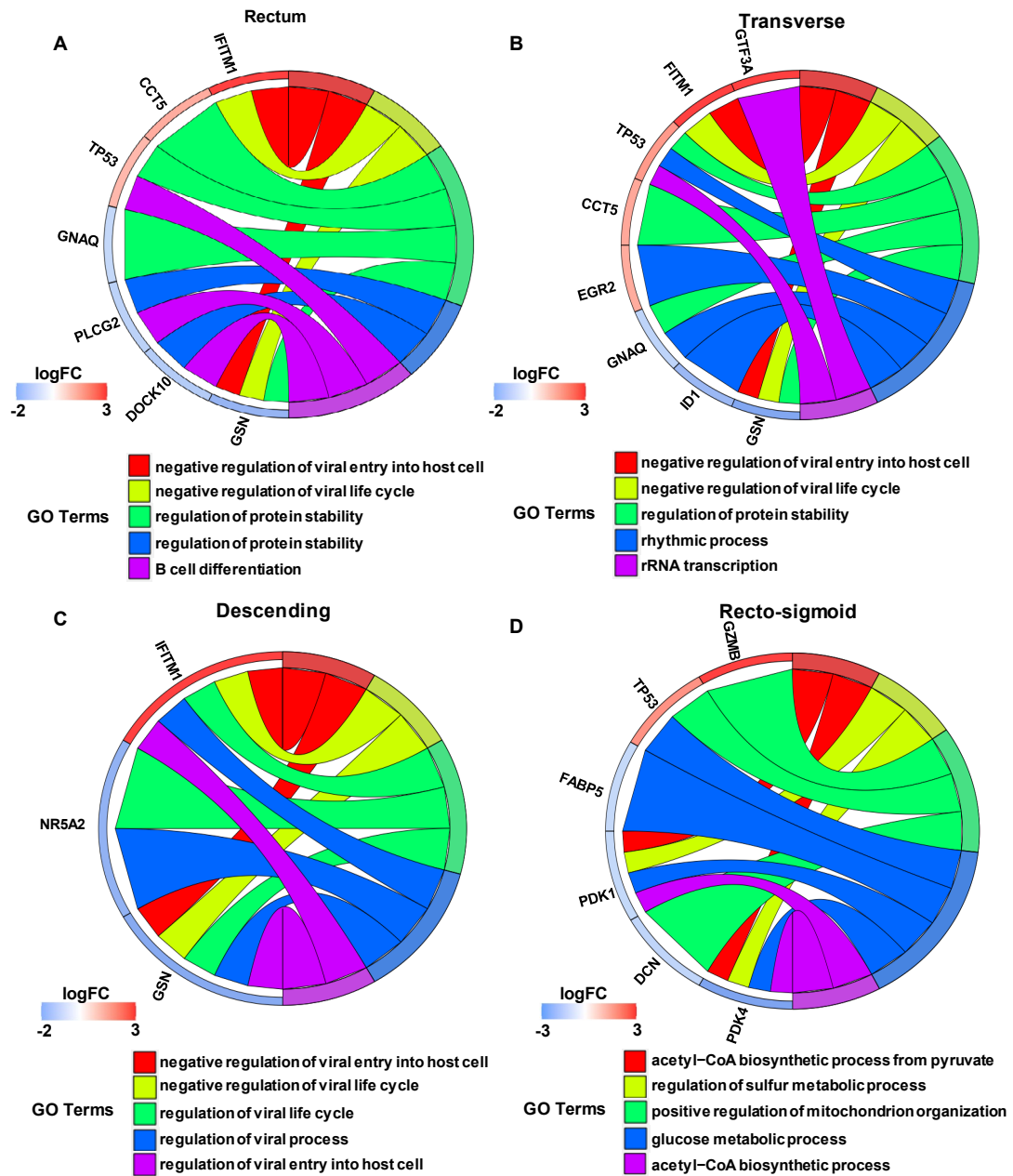


Figure S1: GO analysis of DEGs at different locations in the colon.
 (A-D) Circos chart of GO analysis with DEGs. (A) Rectum. (B) Transverse. (C) Descending. (D) Recto-sigmoid.

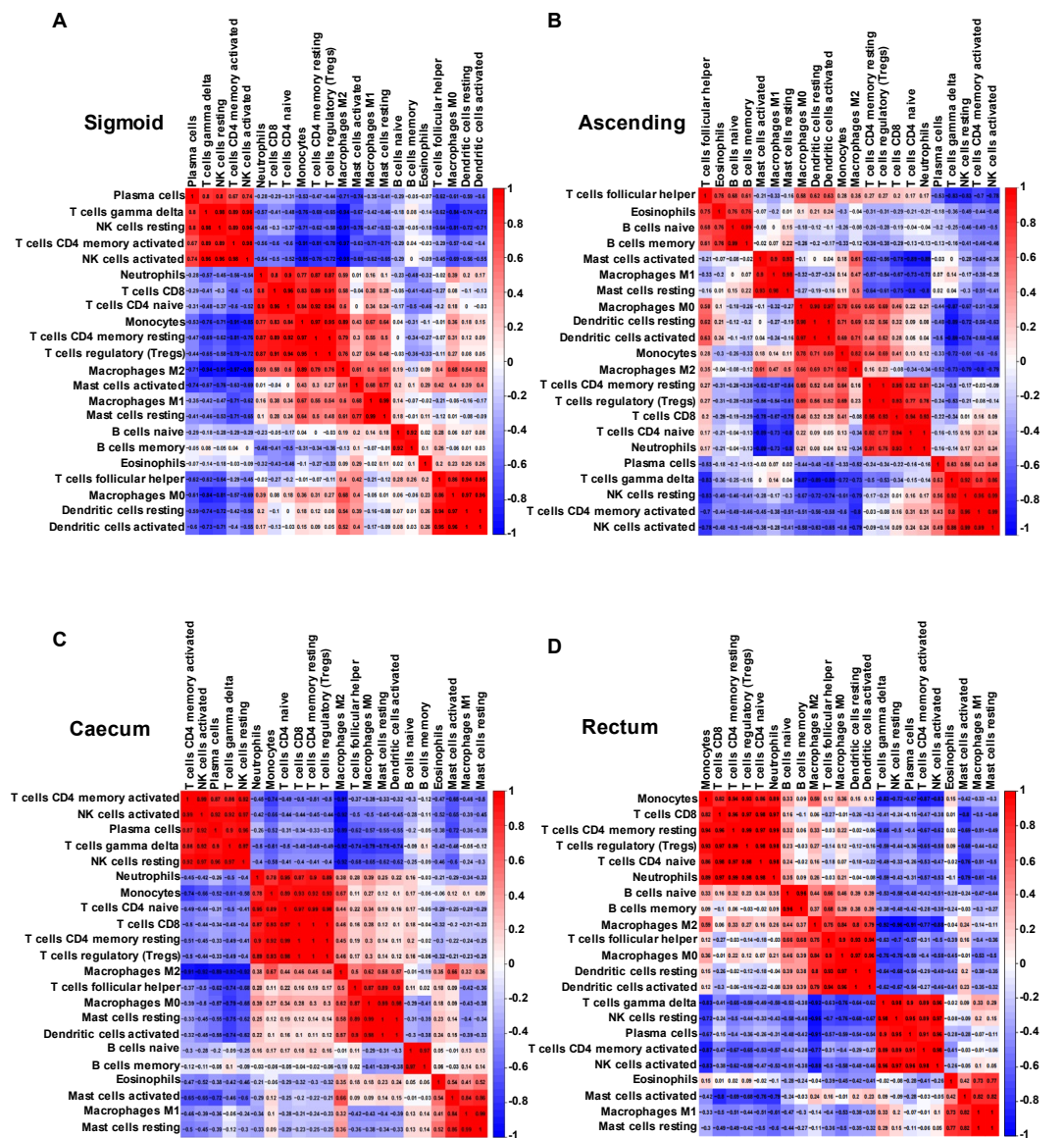


Figure S2: Immune cell correlation analysis.

(A-D) Immune cells associated with the different location. (A) Sigmoid. (B) Ascending. (C) Caecum. (D) Rectum.

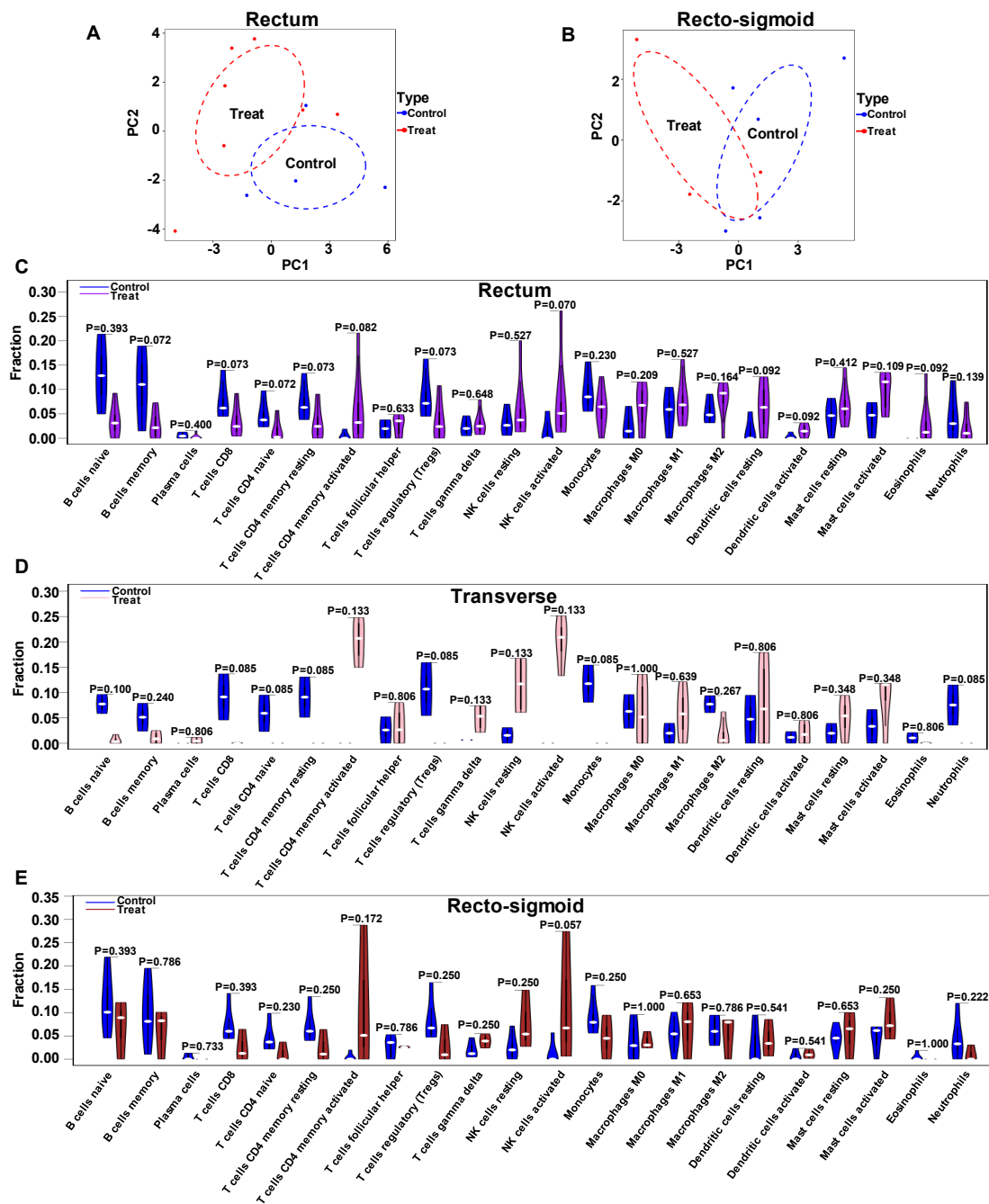


Figure S3: The PCA analysis and immune cells expression differential analysis in the colon.

(A-B) The PCA analysis of immune cell; (A) Rectum. (B) Recto-sigmoid.

(C-E) Differential immune cell expression; (C) Rectum. (D) Transverse. (E) Recto-sigmoid.

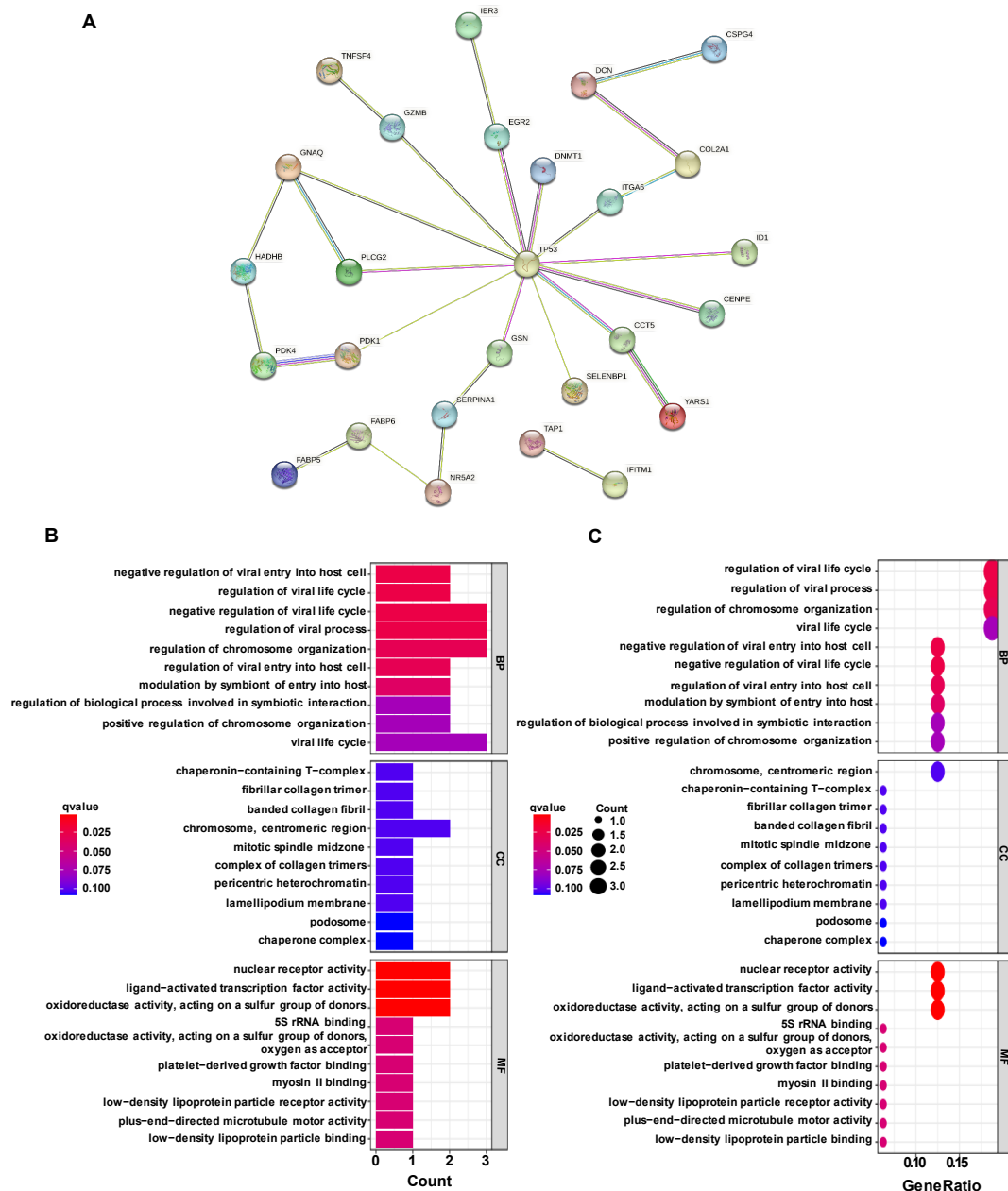


Figure S4: Characteristics analysis of DEGs.

(A) Protein-Protein Interaction Networks (PPI) of all DEGs.

(B) The GO enrichment analysis of sixteen hub DEGs with bar plot.

(C) The GO enrichment analysis of sixteen hub DEGs with bubble plot.

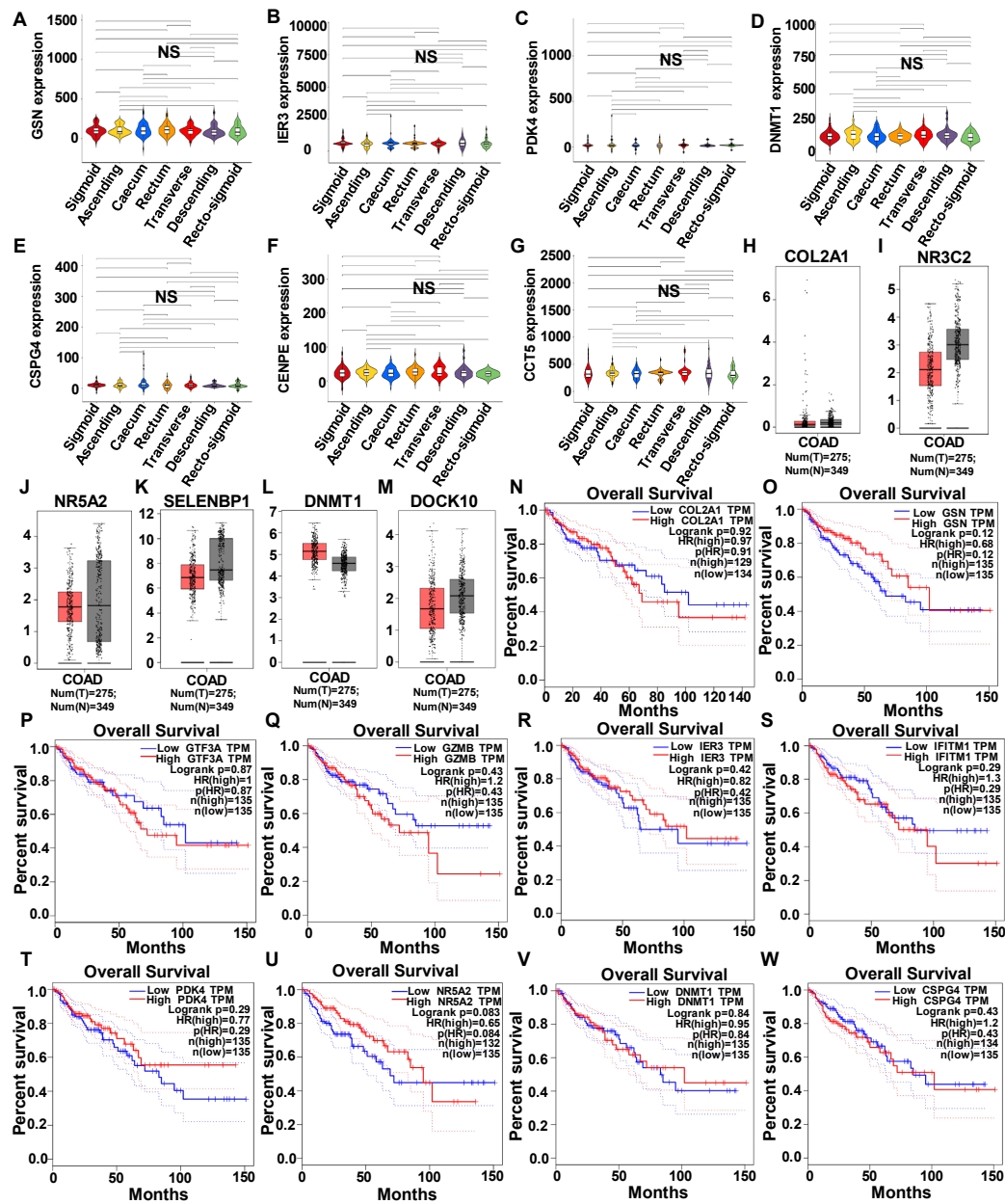


Figure S5: Differential expression and survival analysis of sixteen hub genes. (A-G) Expression of genes at different sites; (A) GSN. (B) IER3. (C) PDK4. (D) DNMT1. (E) CSPG4. (F) CENPE. (G) CCT5. NS stand for not significant. (H-M) The genes expression in normal and tumor groups; (H) COL2A1. (I) NR3C2. (J) NR5A2. (K) SELENBP1. (L) DNMT1. (M) DOCK10. (N-W) The Survival analysis of genes; (N) COL2A1. (O) GSN. (P) GTF3A. (Q) GZMB. (R) IER3. (S) IFITM1. (T) PDK4. (U) TNR5A2. (V) DNMT1. (W) CSPG4. Analyses of variance and survival analyses were validated by external validation in TCGA and GTEx databases.

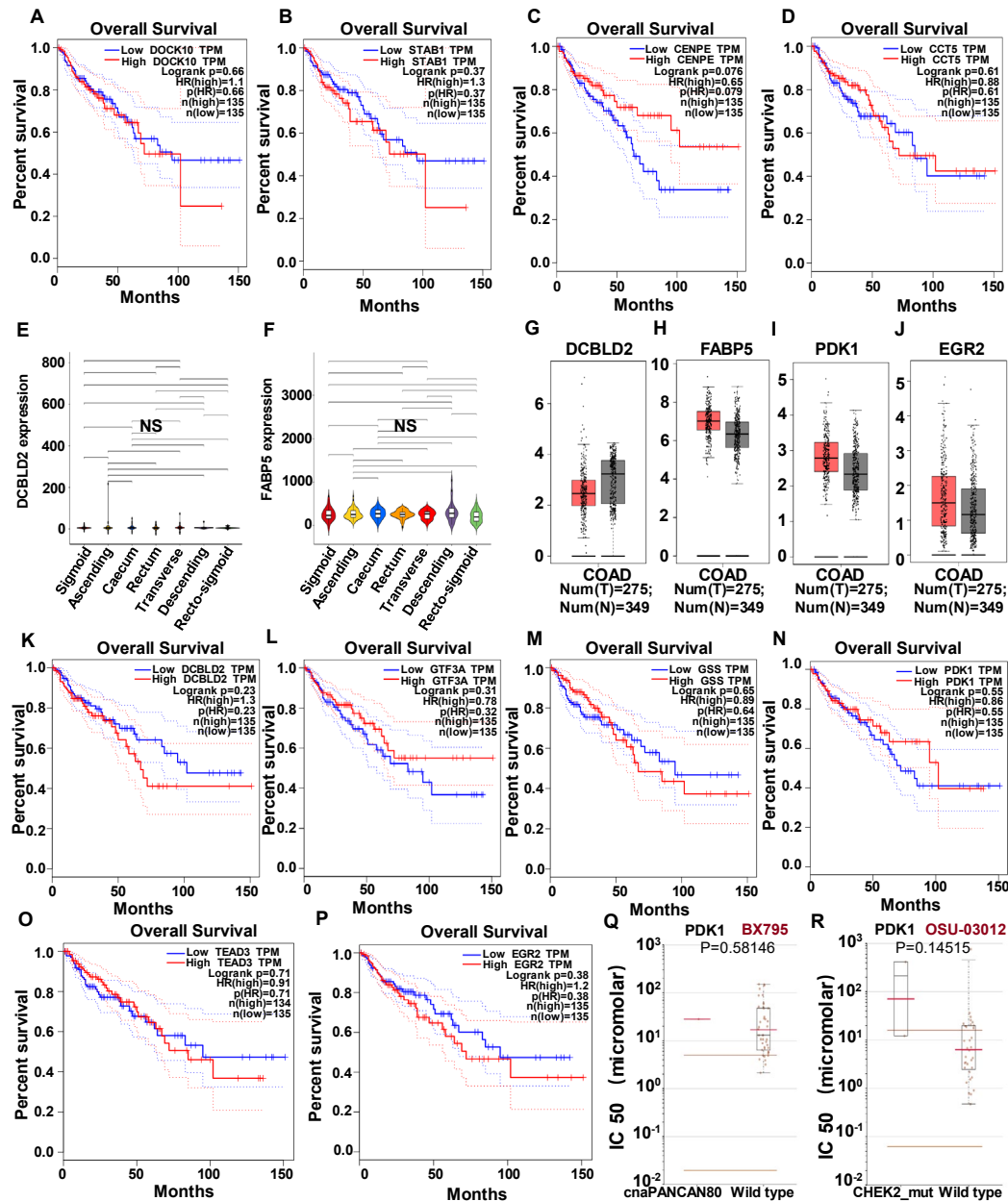


Figure S6: Differential expression and drug sensitivity analysis of six location-specific gene.

(A-D) The Survival analysis of genes; (A) DOCK10. (B) STAB1. (C) CENPE. (D) CCT5. Analyses of variance and survival analyses were validated by external validation in TCGA and GTEx databases.

(E-F) Expression of genes at various locations; (E) DCBLD2. (F) FABP5. NS stand for not significant.

(G-J) The genes expression in normal and tumor groups; (G) DCBLD2. (H) FABP5. (I) PDK1. (J) EGR2.

(K-P) The Survival analysis of genes; (K) DCBLD2. (L) GTF3A. (M) GSS. (N) PDK1. (O) TEAD3. (P) EGR2.

(Q-R) Drug sensitivity of PDK1. (Q) BX795. (R) OSU-03012. Different and survival analyses were validated by external validation in TCGA and GTEx databases.

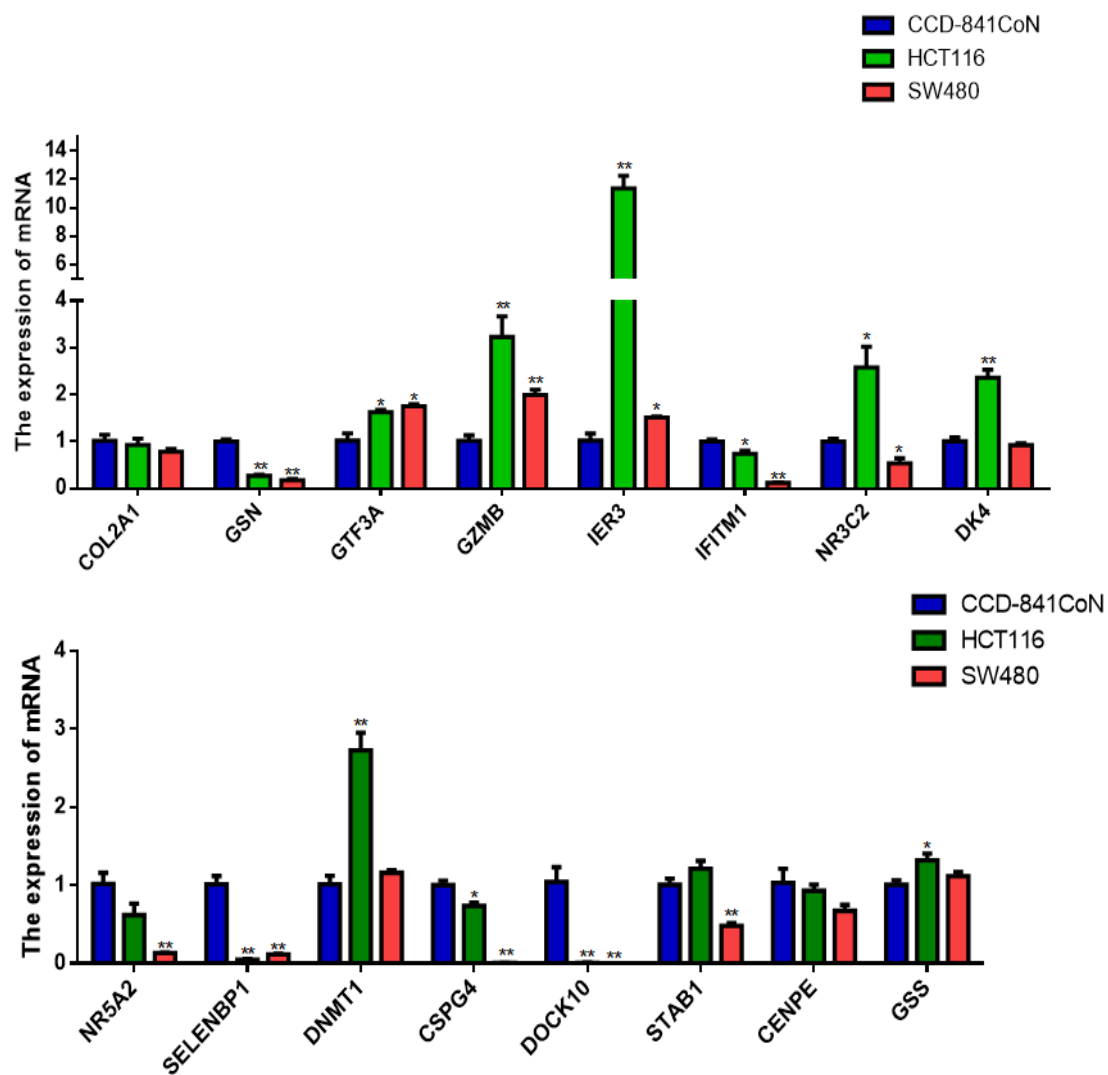


Figure S7: RT-qPCR was used to detect differences in expression of 16 hub genes in colorectal cells and colorectal cancer cells.

