

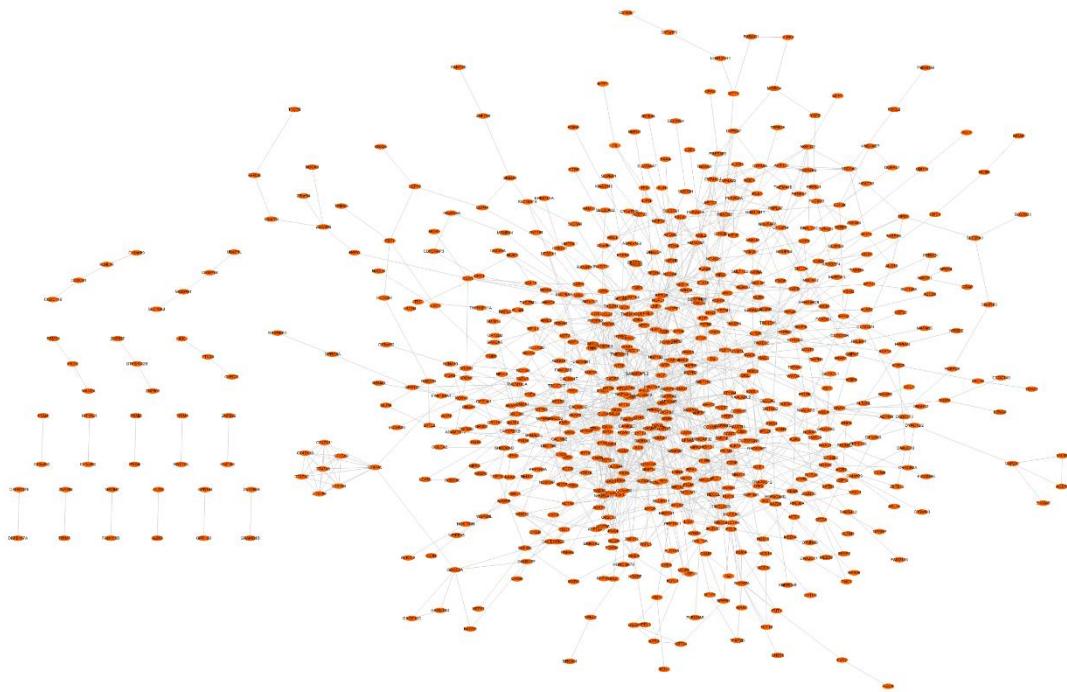
**Identification of hub genes and potential molecular mechanisms related to
radiotherapy sensitivity in rectal cancer based on multiple datasets**

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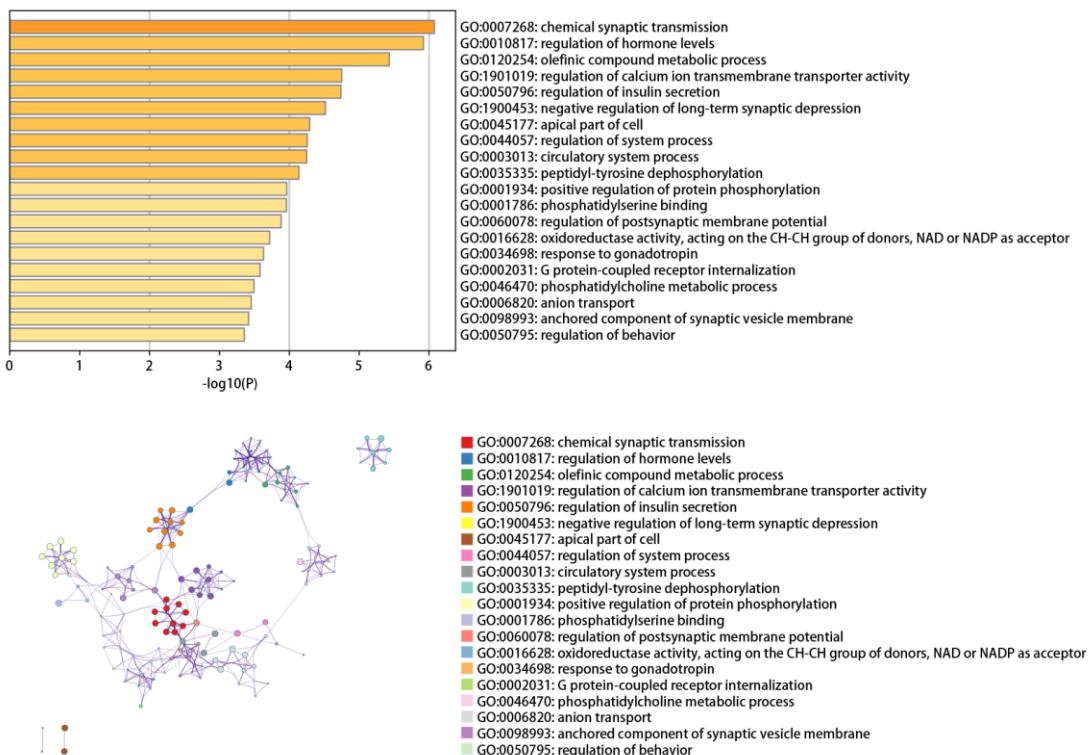
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Supplementary Figures and Legends

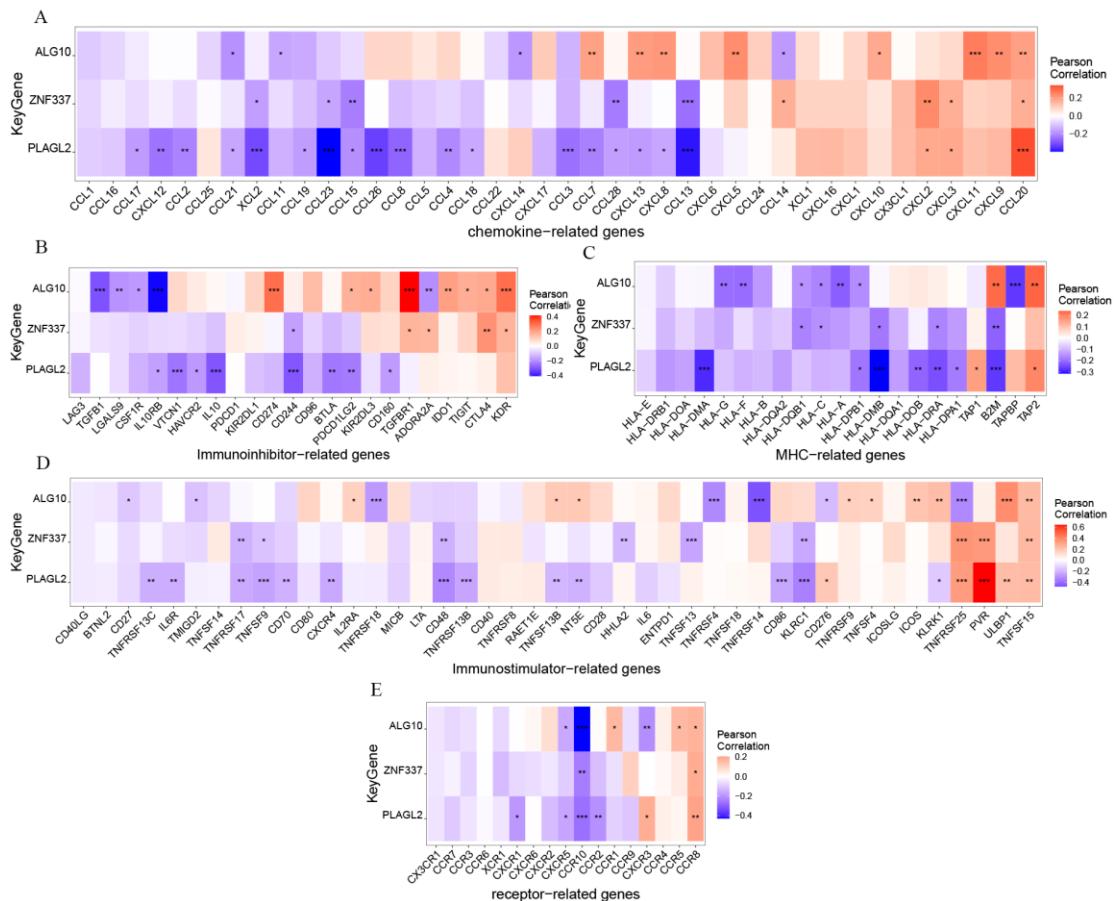


Supplementary Figure 1. Functional enrichment of DEGs by metascape enrichment analysis.

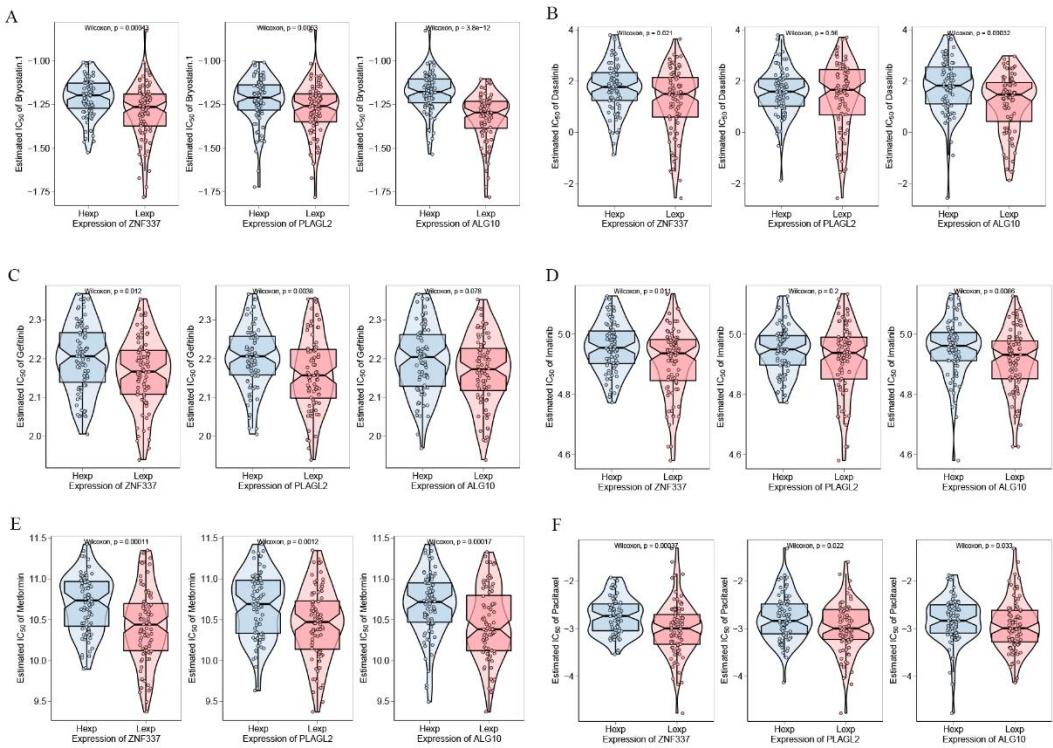


Supplementary Figure 2. Protein interaction network analysis of DEGs by Cytoscape

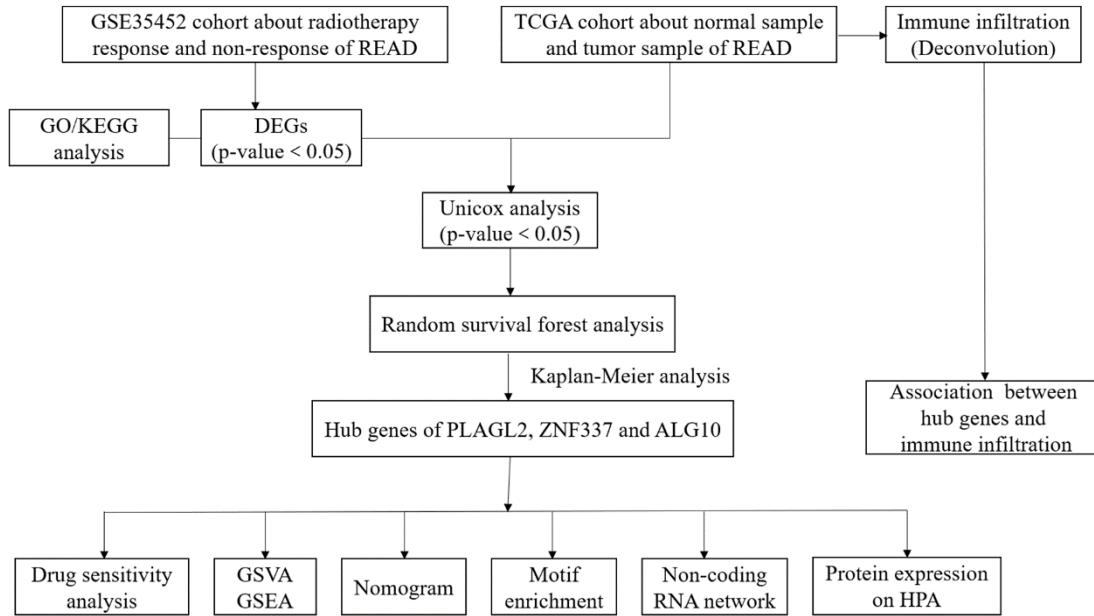
analysis. Circles represent genes, lines represent the interaction of proteins between genes.



Supplementary Figure 3. The correlations between the expression of key genes (ALG 10, PLAGL2 and ZNF337) and different immune-related genes from the TISIDB database. A. Correlated with chemokines-related genes; B. Correlated with immunoinhibitor-related genes; C. Correlated with MHC-related genes; D. Correlated with immunostimulatory-related genes; E: Correlated with receptor-related genes. (* represented $P < 0.05$, ** represented $P < 0.01$ and *** represented $P < 0.001$; The redder the color, the stronger the positive correlation; The deeper of the purple color, the stronger the negative correlation)



Supplementary Figure 4. The sensitivity analysis of chemotherapeutic drugs between different expression levels of key genes based on GDSC database. A: Bryostatin.1; B: Dasatinib; C: Gefitinib; D: Imatinib; E: Metformin; F: Paclitaxel.



Supplementary Figure 5. The flowchart of the current study.

Supplemental Table

Supplementary Table 1. Information of the DEGs identified from database. A total of 1119 DEGs were identified from GSE35452 dataset, including 544 up-regulated genes and 575 down-regulated genes in READ cohort.

DEGs	Gene name
Upregulated (544)	LOC100131756, LRRIQ3, LOC101927151, BRCA2, RP11-495P10.9, RP3-522P13.1, UMODL1, C10orf62, MED14OS, LHX8, LOC101928401, SPACA3, DRD3, ENKUR, LOC101928288, CSMD2-AS1, RECQL, TMC1, TRA@, MTNR1B, SEMA3A, GABRA6, SPATC1, SNX25, STX16, RP11-171N4.1, UNC93A, LIG4, LOC284865, TRHR, MTCP1, B3GALTL, LOC100506538, LOC101926912, RP11-356B19.11, SLC6A4, LOC149373, C5orf64, PTPN11, LOC284939, LINC00424, C18orf15, RP11-585P4.5, LOC283075, USP12, GTF2IRD2B, NAA11, LINC01206, SYN1, C7orf25, DIAPH3, SCPEP1, RNF166, FAM230B, UQCC2, RP11-66N11.8, PALM, LINC00116, VAPB, GPR132, TRIM65, SLC26A4-AS1, KIR2DL2, FOXK1, LOC101929025, TPP2, LOC284798, CXCR3, OR51A10P, CMC4, RP11-1012E15.1, MANEA, RNF6, ANGPT1, KCNV1, CYP2A7, PFDN4, LINC00593, MTIF3, LOC729461, SPATC1L, MRGPRX4, LINC01348, PIPOX, CCND2, ZFP1, KLHL18, LINC00052, LINC01424, LINC00703, LOC101927988, MMP27, LOC101928545, YAF2, NRTN, RBM41, POLB, DOCK9, EDARADD, LOC101929289, CTB-78F1.1, LOC100271832, GPR107, GCNT4, GABRB1, PLB1, LINC01420, LOC101929709, HM13, LRRC37BP1, LOC101927650, TUSC8, AC064852.4, PPIAL4B, PPIAL4C, PPIAL4G, C14orf39, SNORD3A, SNORD3B-1, SNORD3B-2, SNORD3C, SNORD3D, LINC00323, DTD1, GRINA, FAM200A, UBD, LINC00461, MIR9-2, NAALAD2, SLC10A3, GS1-164F24.1, CXCL11, DEFB107A, DEFB107B, C10orf53, RP11-498C9.17, RFPL2, ADCY5, PHF2P1, LOC101929248, ZNF92, MED14, POU5F1, BC037833, RP11-492E3.2, LOC100652824, MIR3934, TCP11L1, FAM72A, FAM72B, FAM72C, FAM72D, SKIL, OR11A1, DDAH1, TMPRSS11B, EFR3B, PDGFRA, LOC101928435, LOC101927003, BC031255, RP11-260O18.1, NKAP, LOC101928446, ZNF280B, CYP4A11, CEP44, PARVB, RP11-360K13.1, CIDECP, AGER, MED30, BMP15, TGIF2LY, CXXC1P1, ABCB8, LOC285766, HRG, GPR143, MORC4, TCFL5, CASC2, POM121, CCDC116, RP11-402G3.5, TTC7B, LOC101927308, PTPRO, CEP19, AK054708, RP11-547D24.1, SGOL1, LOC646482, CTA-331P3.1, OGFRL1, LOC653786,

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