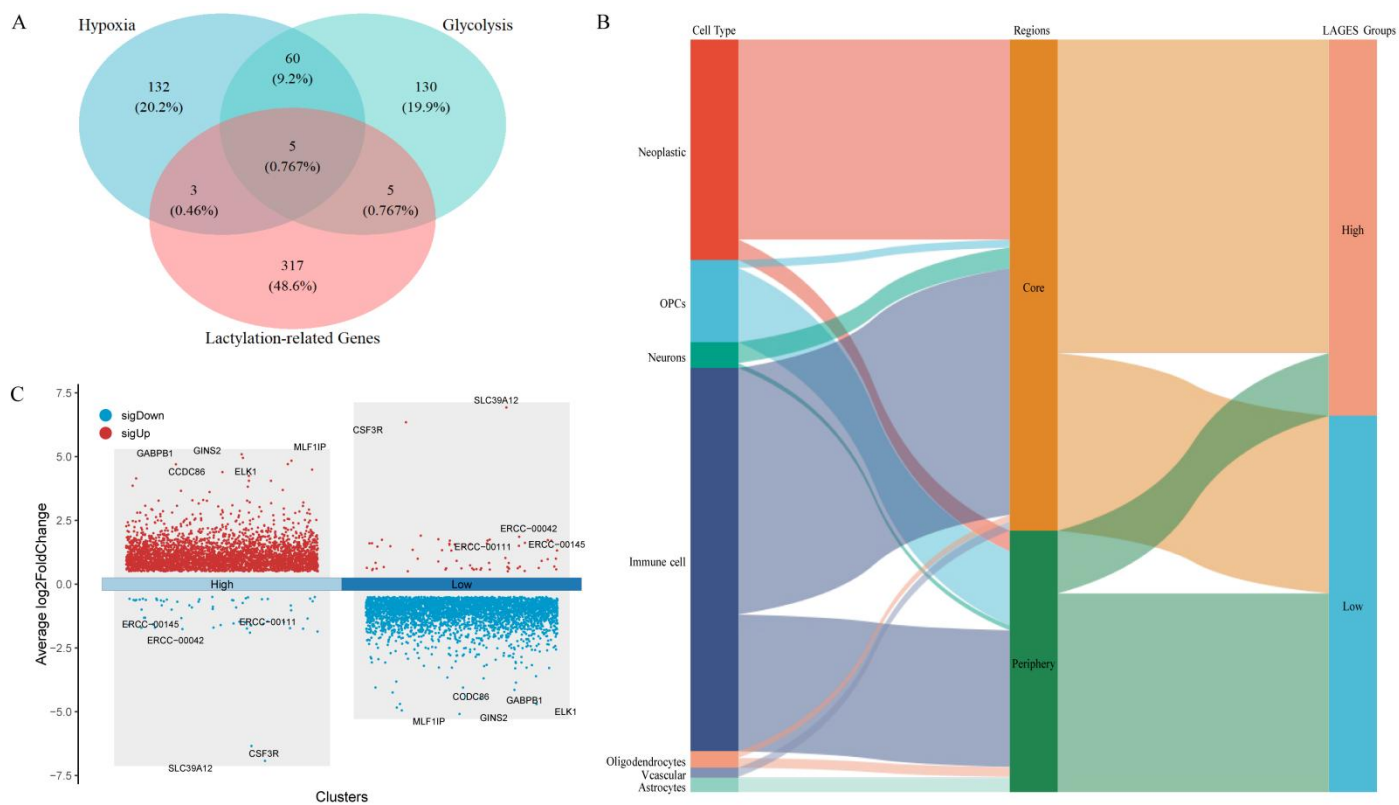


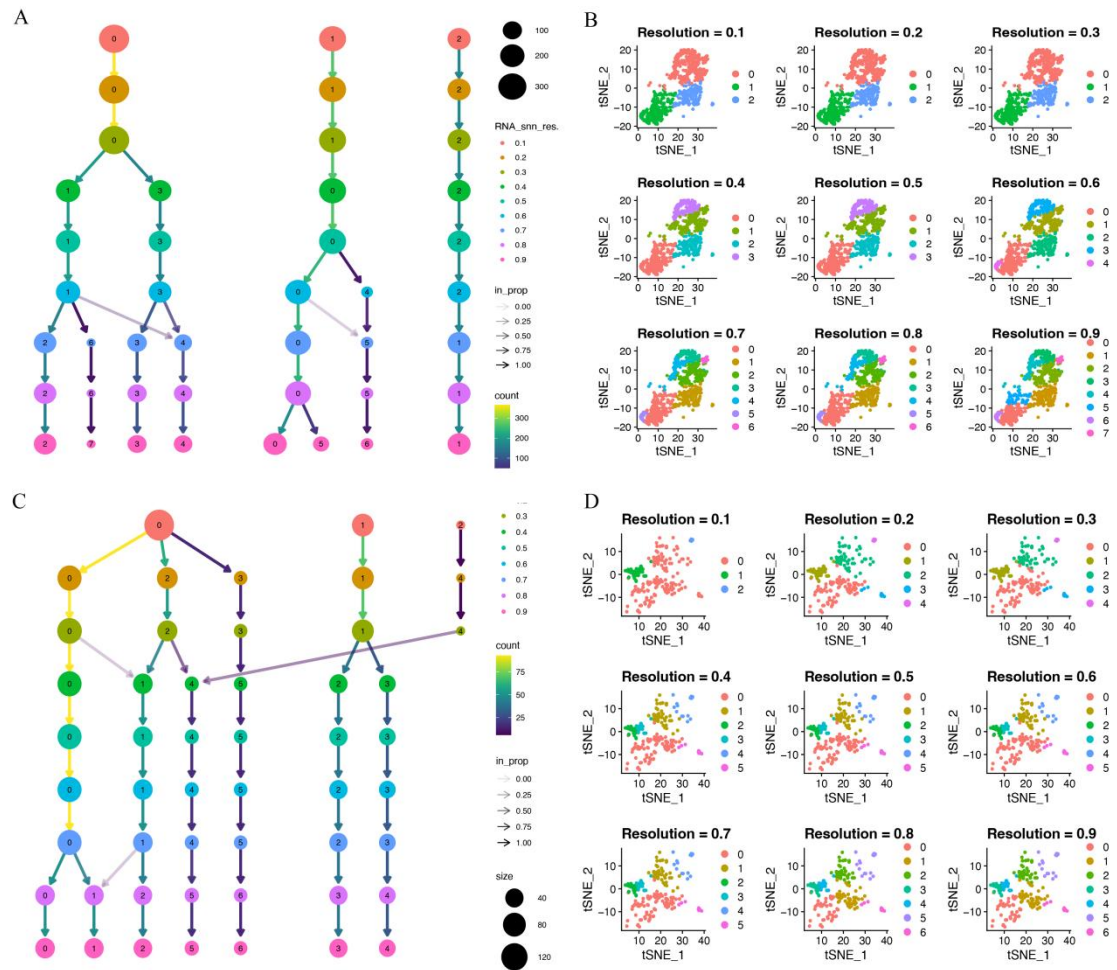


Supplementary Figure 1.

(A) Venn diagram of the Hypoxia, Glycolysis, and LRG sets.

(B) Sankey diagram showing the connection of cell types, cell originating regions and LAGES groups.

(C) The top 5 most significant differential genes in high and low LAGES group.



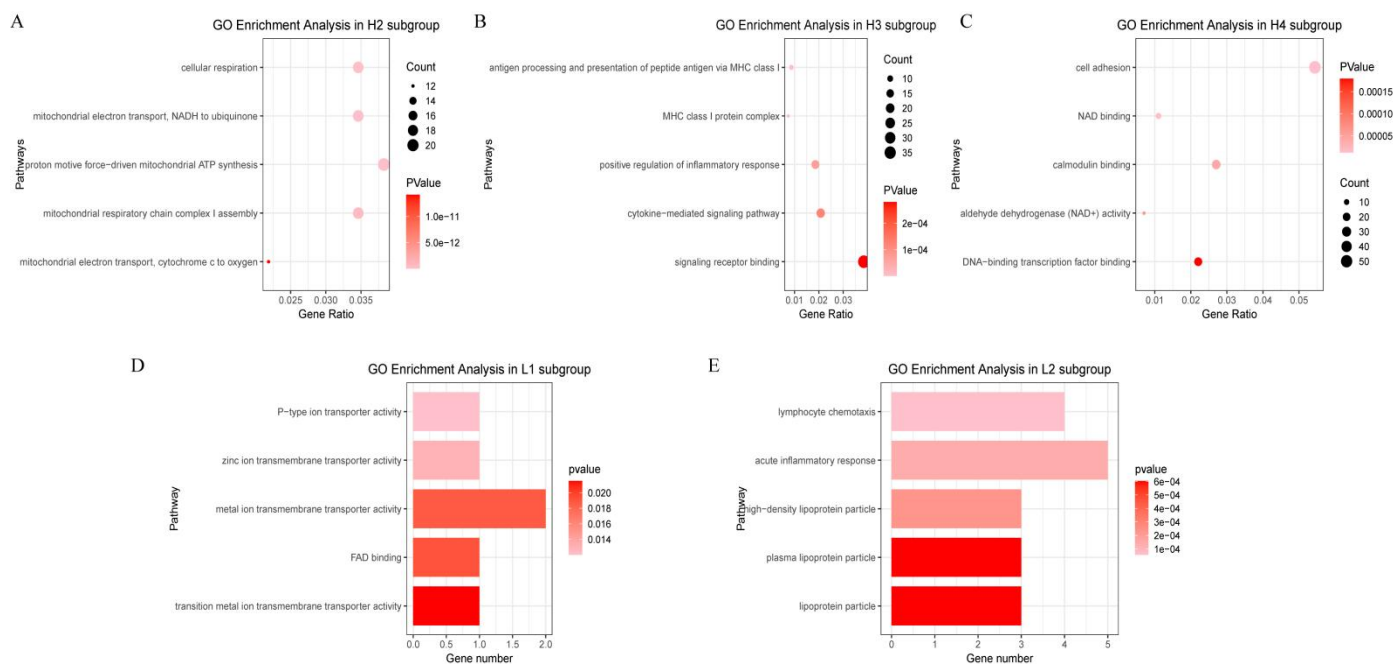
Supplementary Figure 2.

(A) Subgrouped tree diagram for the high LAGES group.

(B) Clustering under different resolution conditions in high LAGES group.

(C) Subgrouped tree diagram for the low LAGES group.

(D) Clustering under different resolution conditions in low LAGES group.



Supplementary Figure 3.

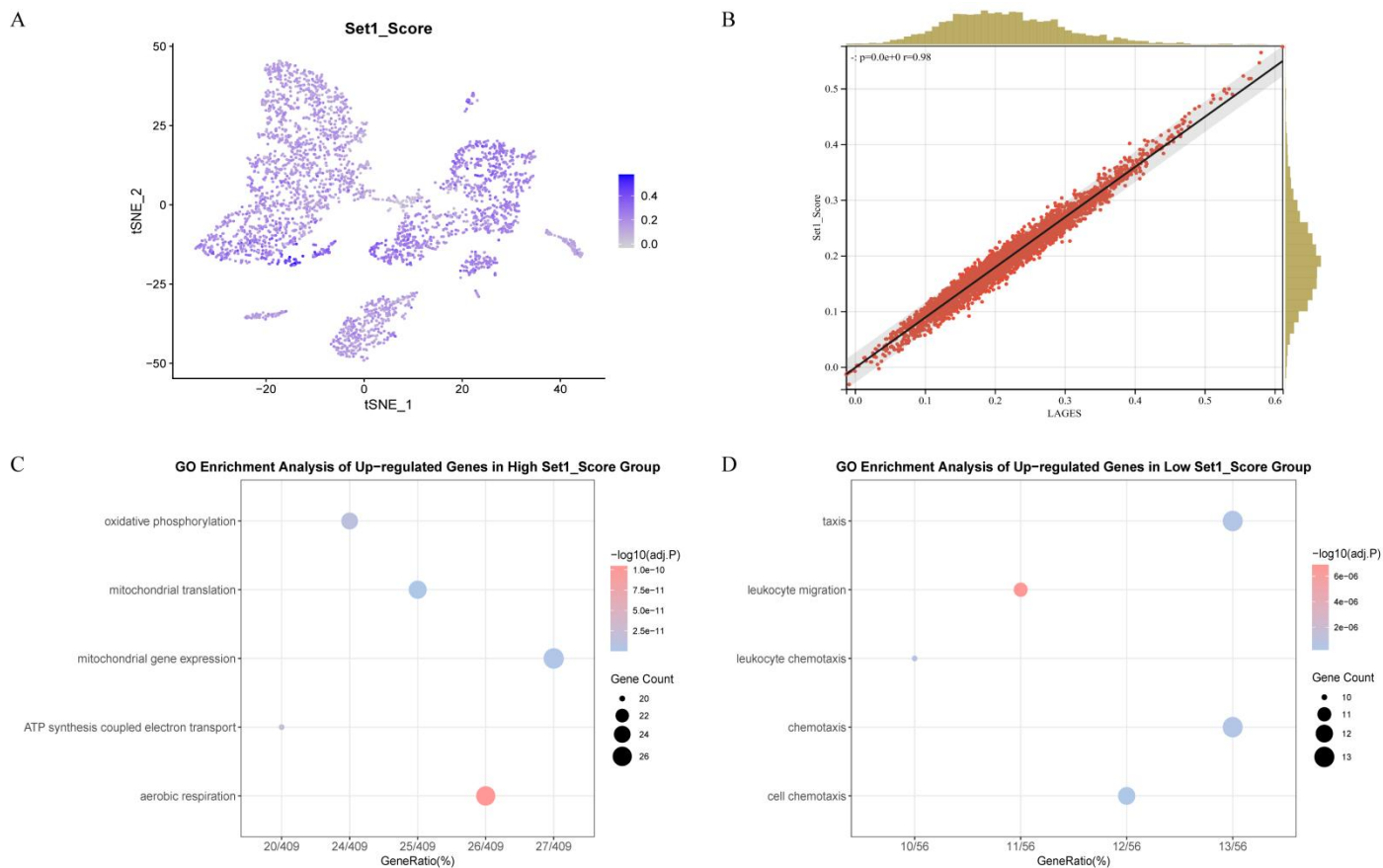
(A) GO enrichment analysis of up-regulated genes in H2 subgroup.

(B) GO enrichment analysis of up-regulated genes in H3 subgroup.

(C) GO enrichment analysis of up-regulated genes in H4 subgroup.

(D) GO enrichment analysis of up-regulated genes in L1 subgroup.

(E) GO enrichment analysis of up-regulated genes in L2 subgroup.



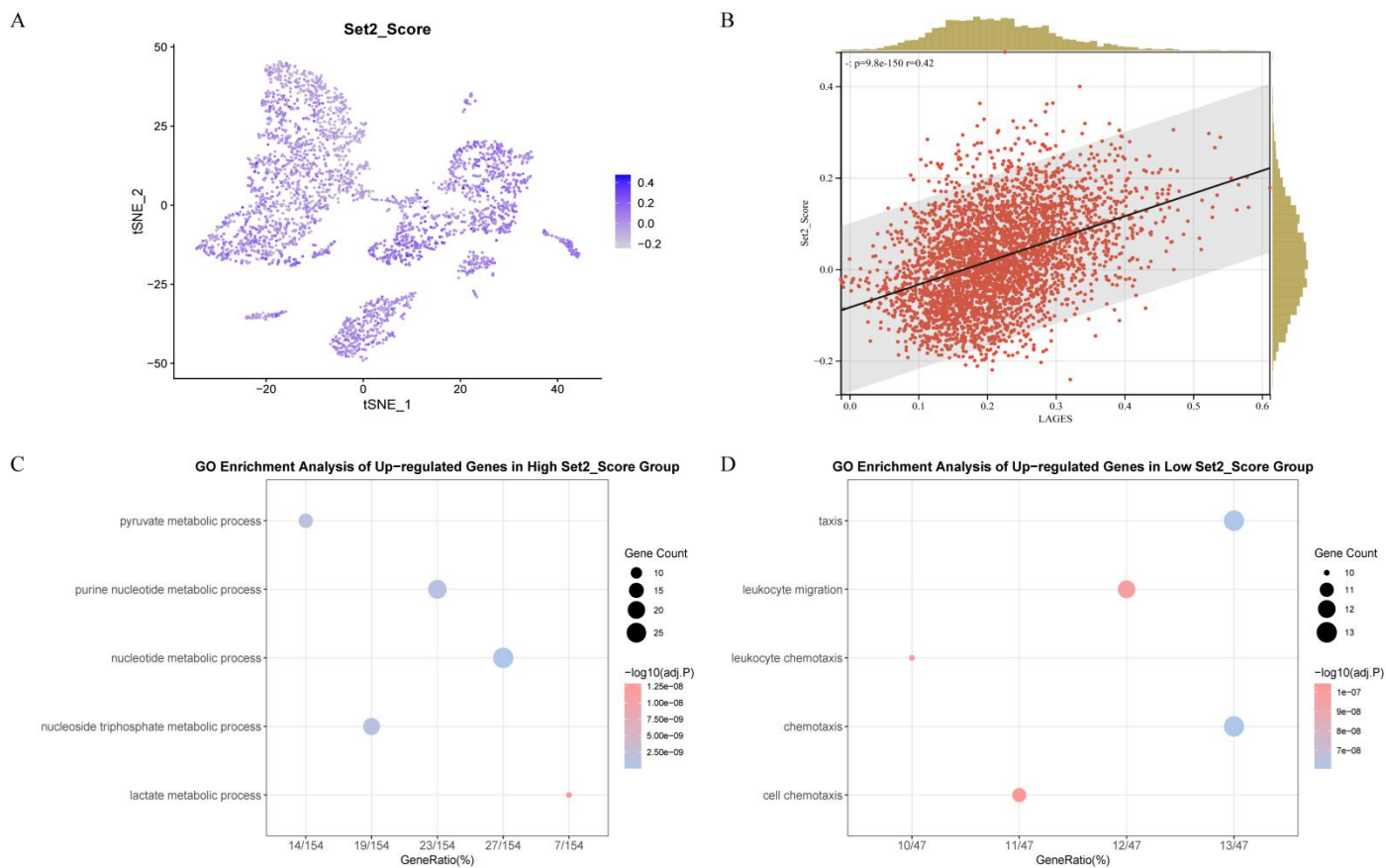
Supplementary Figure 4.

(A) The tSNE plot of all single cells colored by Set1 Score.

(B) Correlation analysis of LAGES and Set1 Score.

(C) GO enrichment analysis of up-regulated genes in High Set1_Score subgroup.

(D) GO enrichment analysis of down-regulated genes in High Set1_Score subgroup.



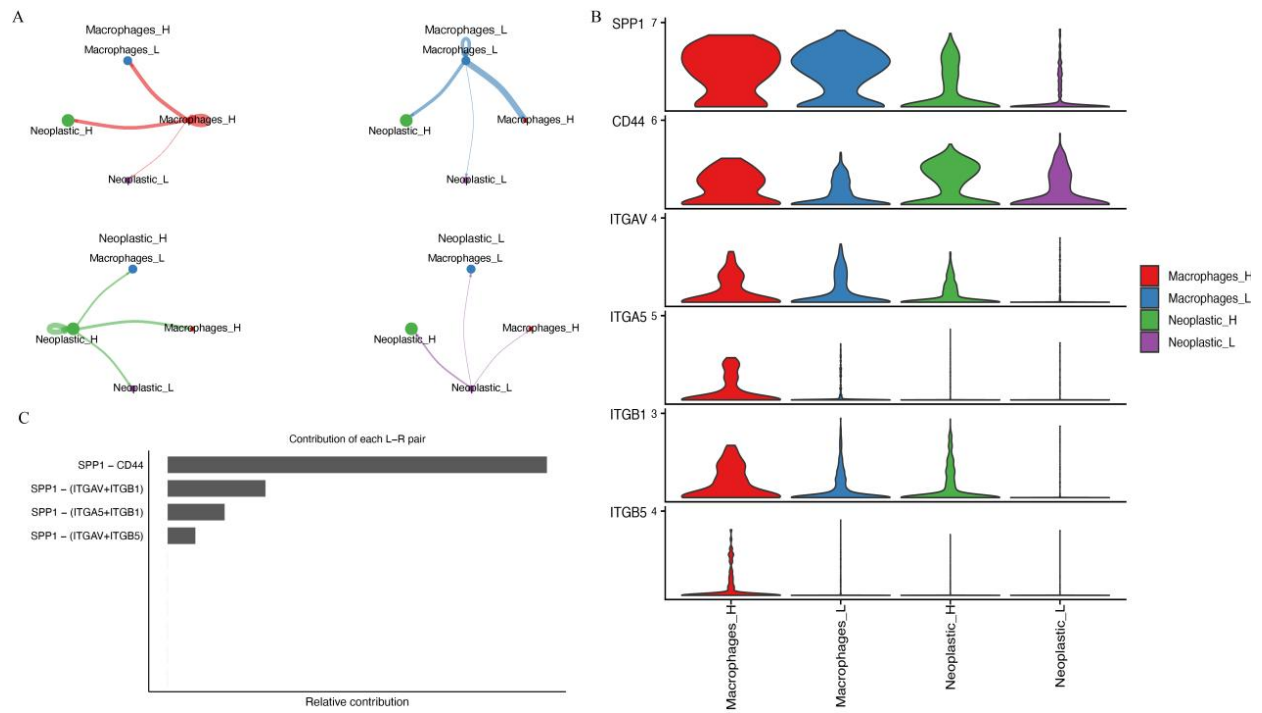
Supplementary Figure 5.

(A) The tSNE plot of all single cells colored by Set2 Score.

(B) Correlation analysis of LAGES and Set2 Score.

(C) GO enrichment analysis of up-regulated genes in High Set2_Score subgroup.

(D) GO enrichment analysis of down-regulated genes in High Set2_Score subgroup.

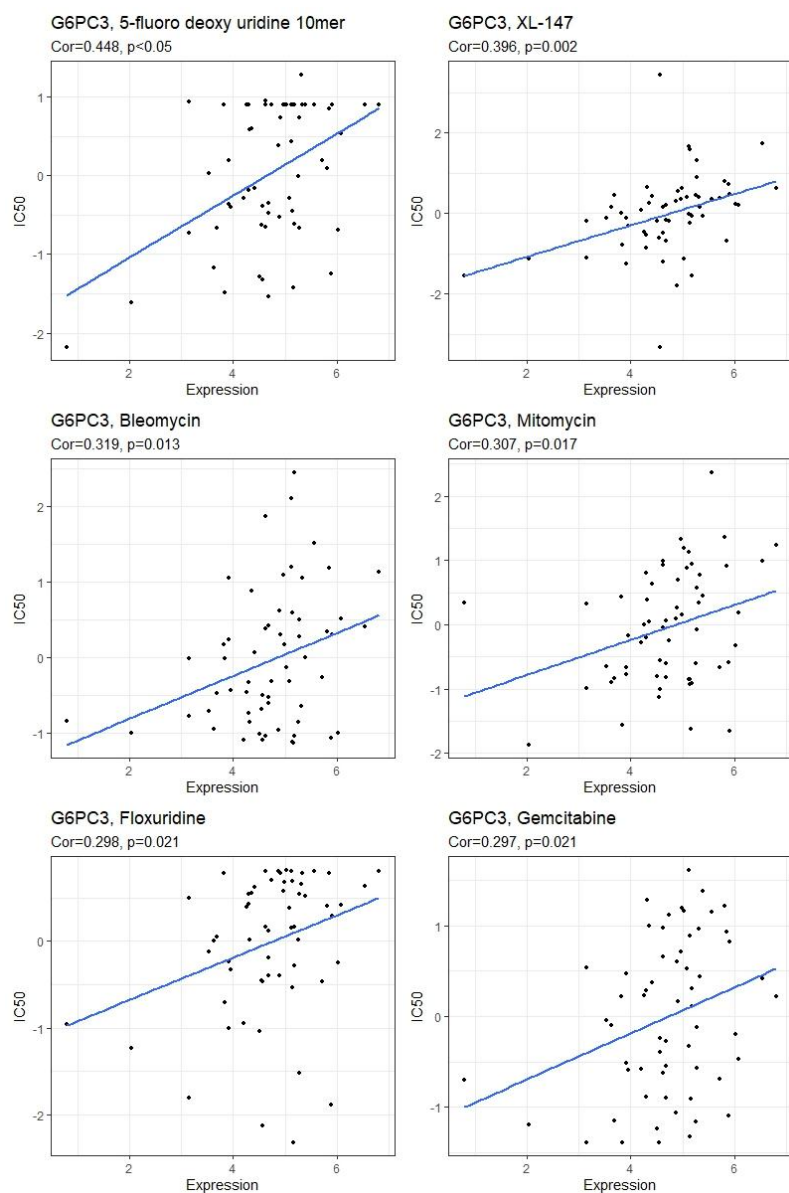


Supplementary Figure 6.

(A) The interaction signal intensity of individual cell subpopulations.

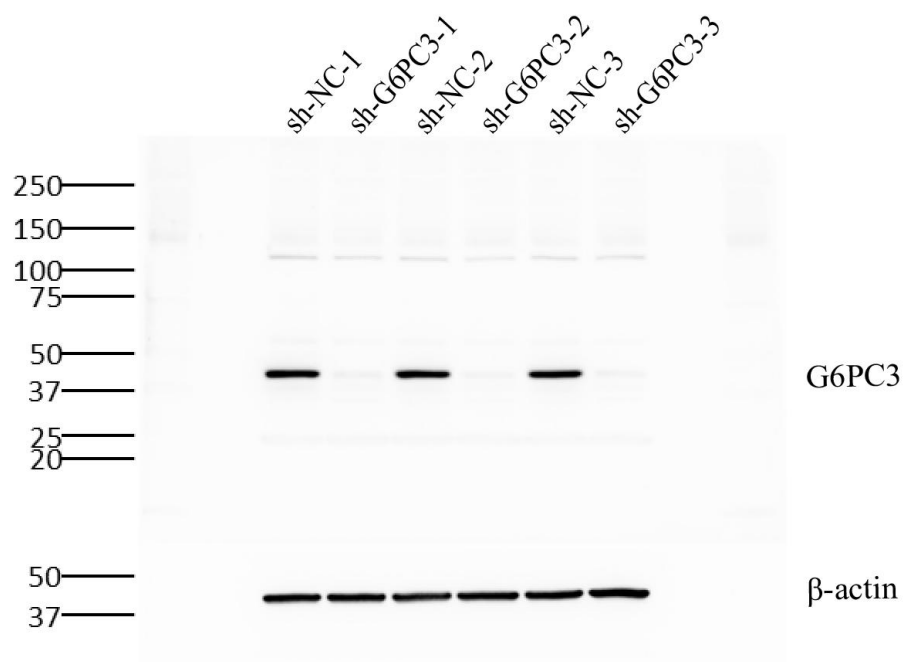
(B) The expression distribution of genes involved in the signaling pathway in each cell subpopulation is presented.

(C) The ranking of the contribution of ligand-receptor pairs.



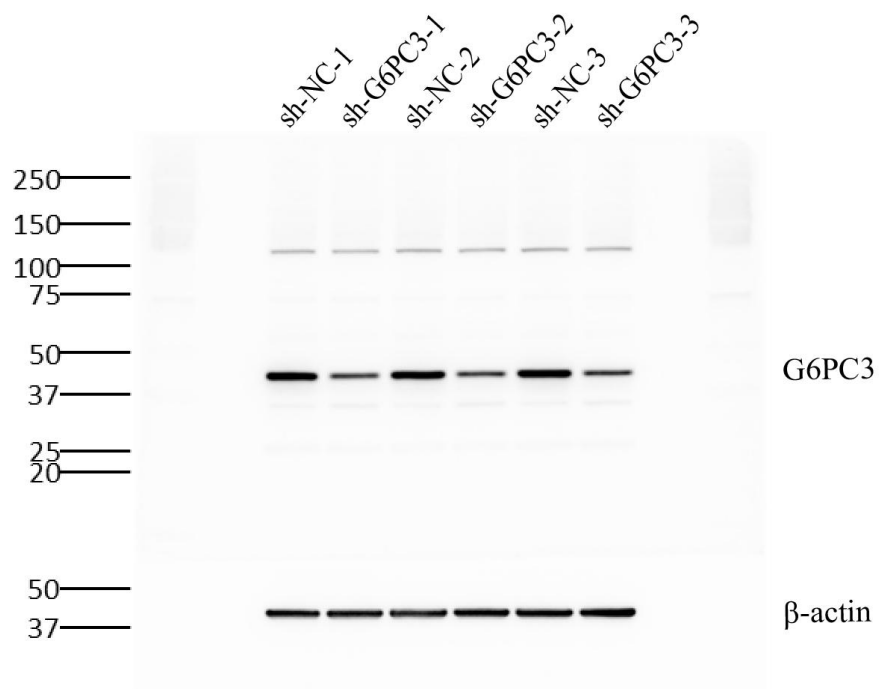
Supplementary Figure 7.

Correlation between the IC50 values of the drug and the expression level of G6PC3.



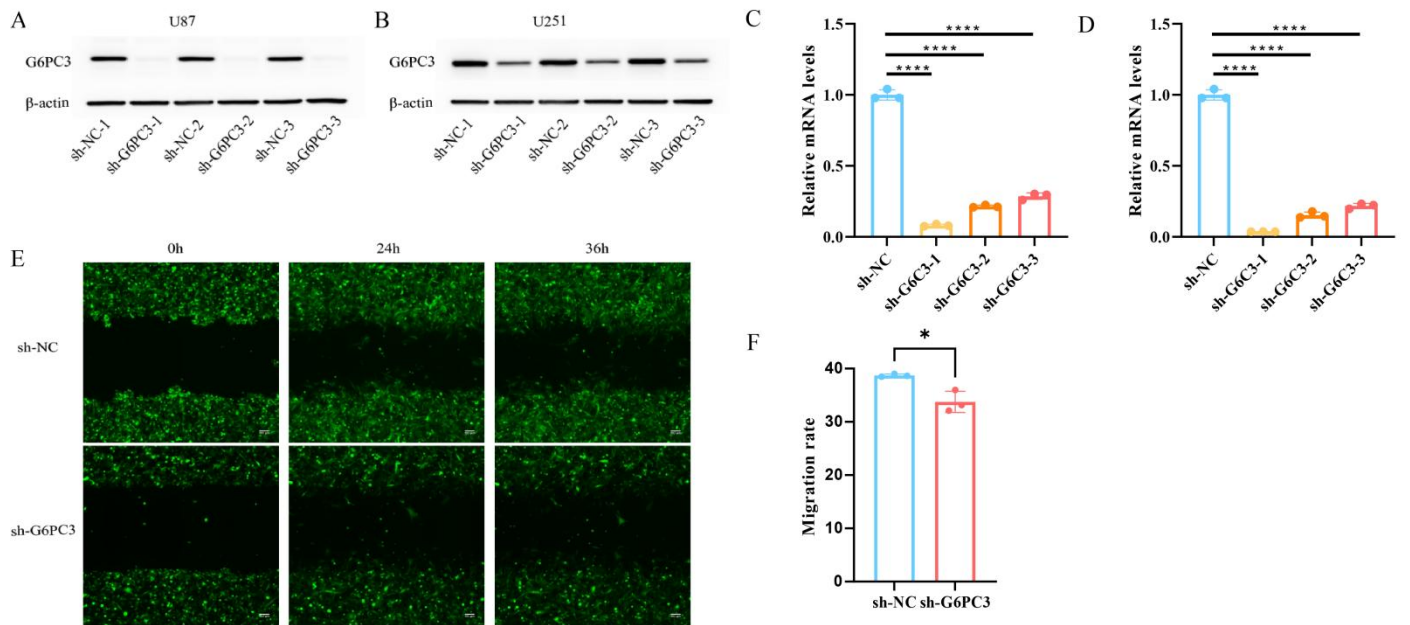
Supplementary Figure 8.

Full-length, unprocessed original western blot analysis before and after G6PC3 knockdown in U87 cell line.



Supplementary Figure 9.

Full-length, unprocessed original western blot analysis before and after G6PC3 knockdown in U251 cell line.



Supplementary Figure 10.

(A) Western blot analysis before and after G6PC3 knockdown in U87 cell line.

(B) Western blot analysis before and after G6PC3 knockdown in U251 cell line.

(C) RT-qPCR for G6PC3 mRNA levels in U87 cell line.

(D) RT-qPCR for G6PC3 mRNA levels in U251 cell line.

(E) Celigo scratch assay detected cell migration rate in U251 cell line.

(F) Cell migration rate in U251 cell line before and after G6PC3 knockdown was detected by Celigo scratch assay. $p^* < 0.05$, $p^{****} < 0.00001$.