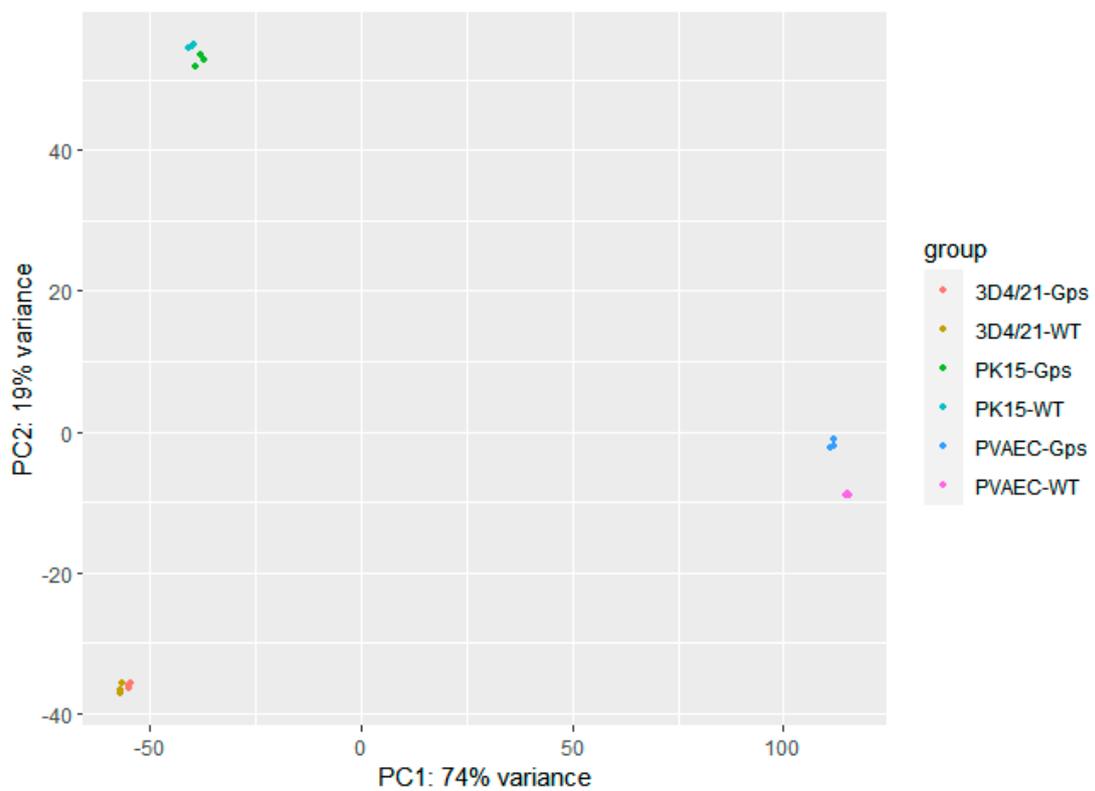


**Figure S1.** Gps-induced epigenetic changes in 3D4/21 cells.



**Figure S2.** Principal component analysis for all cells. Principal component 1 (PC1) and principal component 2 (PC2) were identified by logarithm transformation in DESeq2.

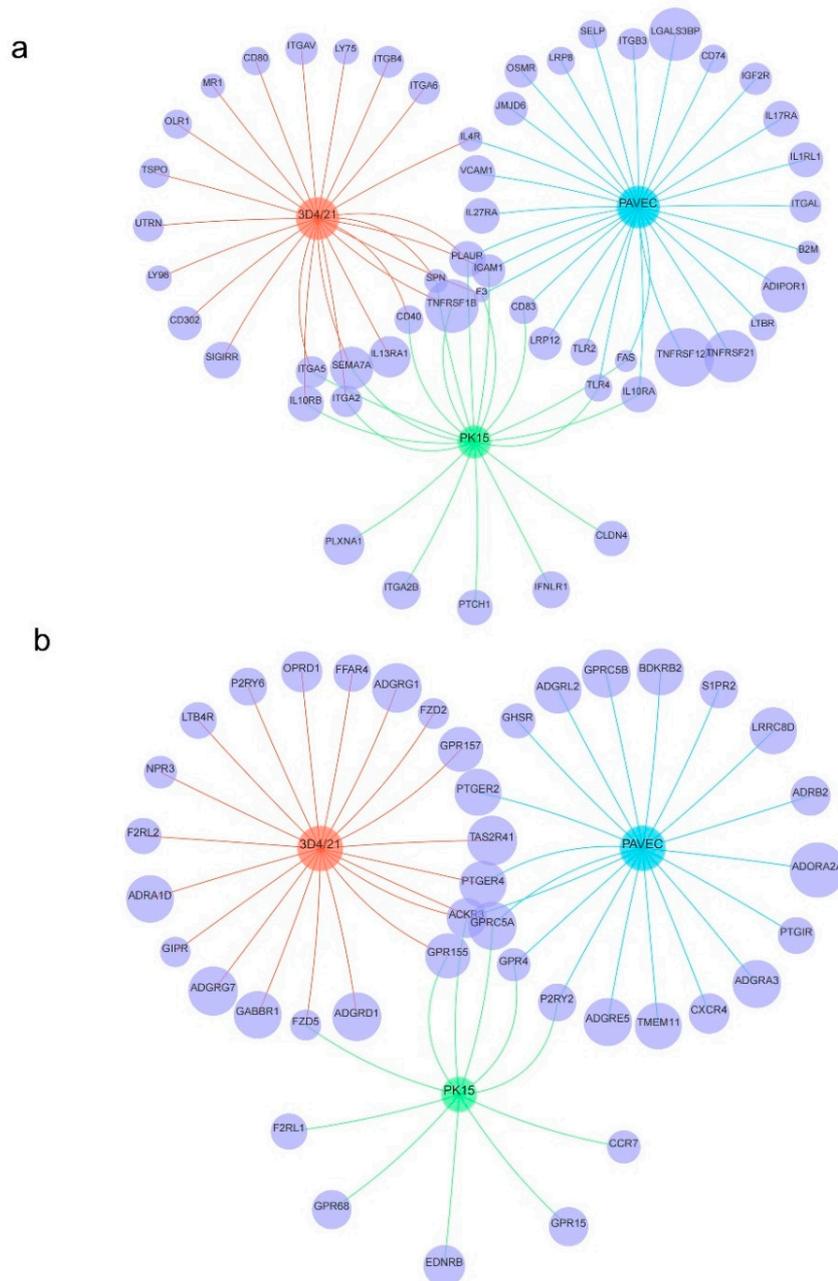
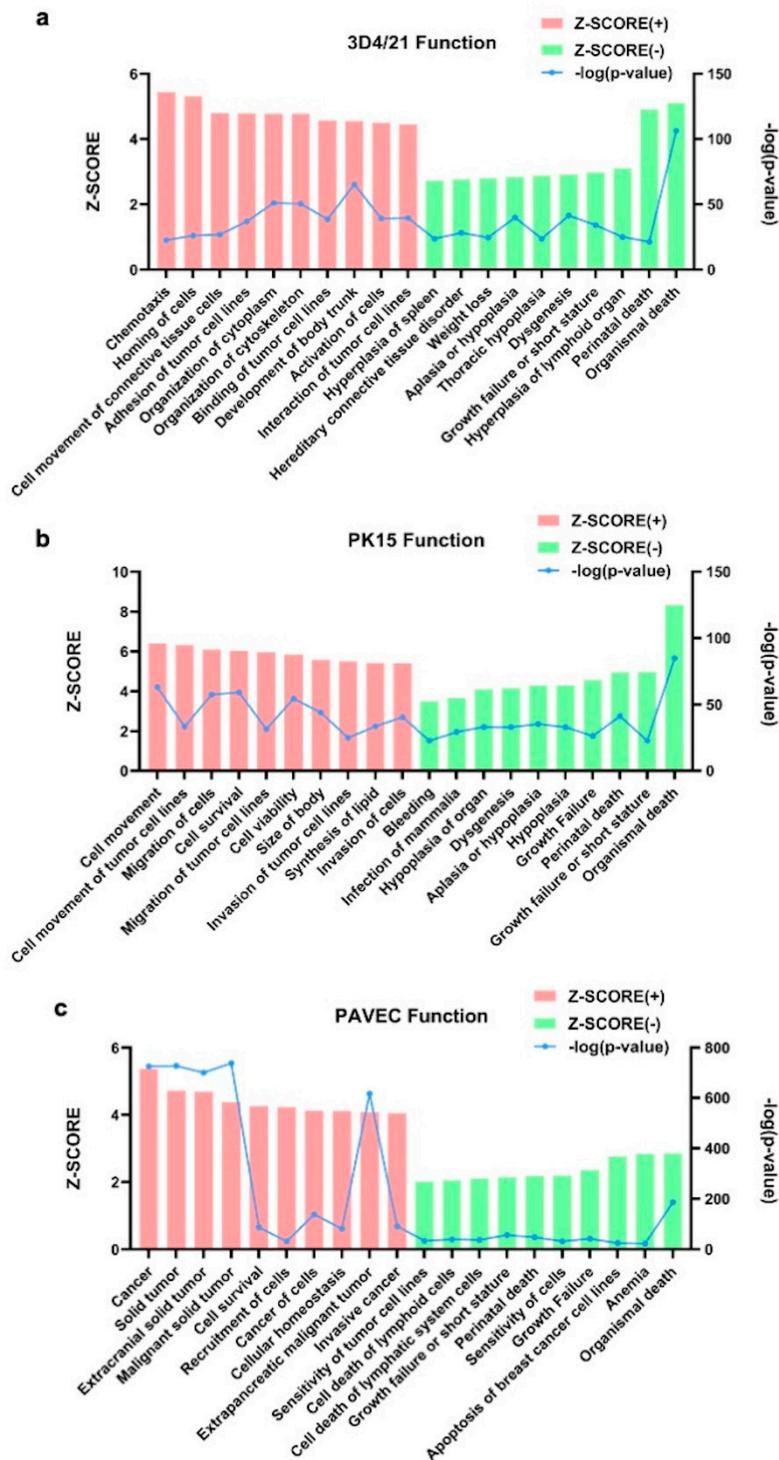
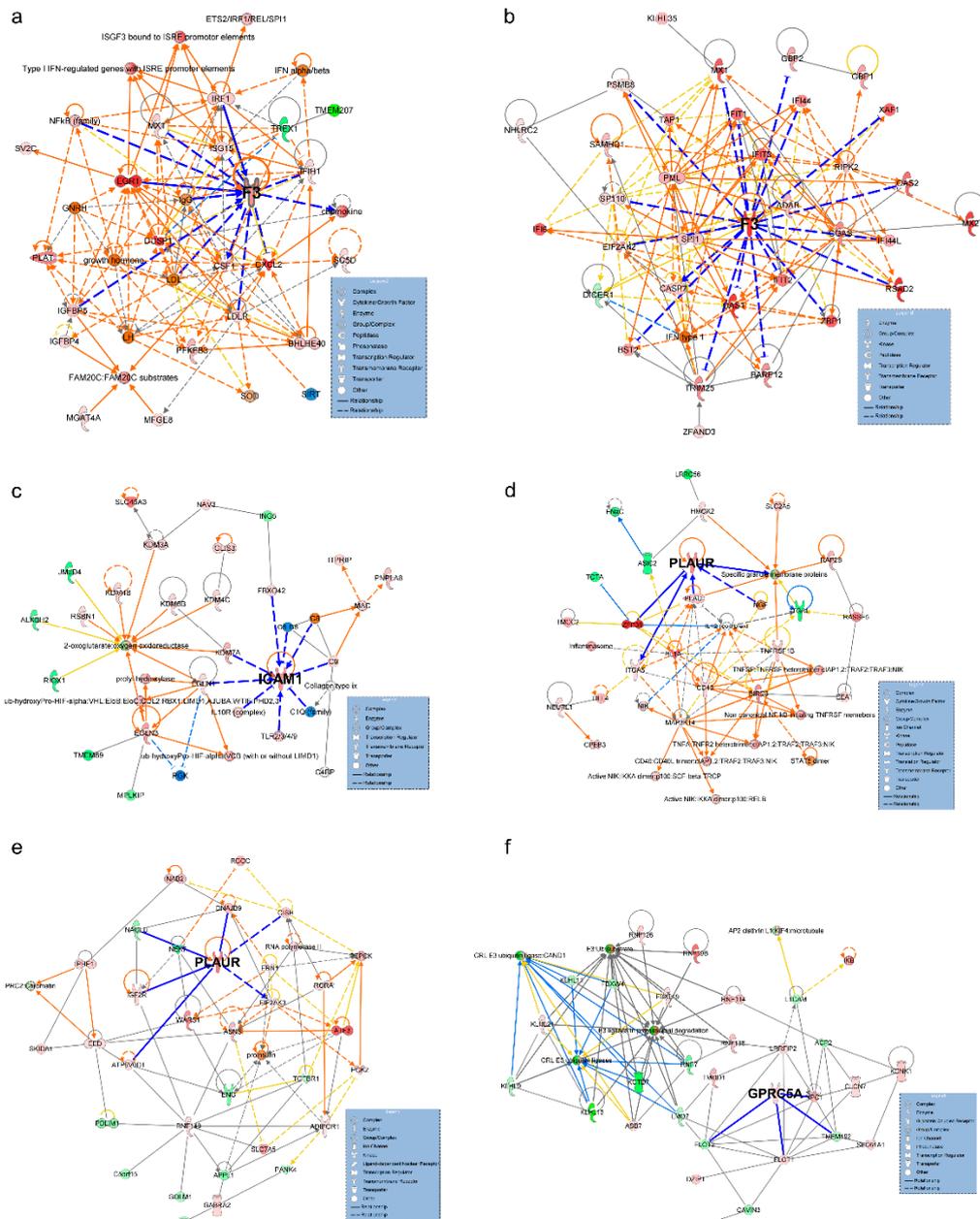


Figure S3. The landscape of putative receptors that are differentially regulated in three GPS challenged cellular models. (a) Network of G-protein coupled receptors in three comparisons. (b) Network of transmembrane receptors in three comparisons.



**Figure S4.** Top ten up-regulated and top ten down-regulated functions in three types of cells. Categories are shown in terms of the Z-SCORE, as represented by the left y-axis and the  $-\log(p\text{-value})$ , represented by the right y-axis. (a) Top ten up-regulated and top ten down-regulated functions in the comparison of 3D4/21\_Gps vs. 3D4/21\_WT. (b) Top ten up-regulated and top ten down-regulated functions in the comparison of PK15\_Gps vs. PK15\_WT. (c) Top ten up-regulated and top ten down-regulated functions in the comparison of PAVEC\_Gps vs. PAVEC\_WT.



**Figure S5.** Networks for putative receptor candidates in different kinds of cells. (a) Gene network containing F3 in PK15\_GPS vs. PK15\_WT related to cellular movement, inflammatory response, skeletal and muscular system development and function. (b) Gene network containing F3 in PAVEC\_GPS vs. PAVEC\_WT related to antimicrobial response, immunological disease, inflammatory response. (c) Gene network containing ICAM1 in PK15\_GPS vs. PK15\_WT related to cancer, hematological disease, immunological disease. (d) Gene network containing PLAUR in PK15\_GPS vs. PK15\_WT related to cell-to-cell signaling and interaction, hematological system development and function, inflammatory response. (e) Gene network containing PLAUR in PAVEC\_GPS vs. PAVEC\_WT related to carbohydrate metabolism, cellular movement, connective tissue development and function. (f) Gene network containing GPRC5A in PAVEC\_GPS vs. PAVEC\_WT related to developmental disorder, hereditary disorder, metabolic disease.