

Figure S1. The CCEs of cell cluster C2 interacted with other cell clusters.

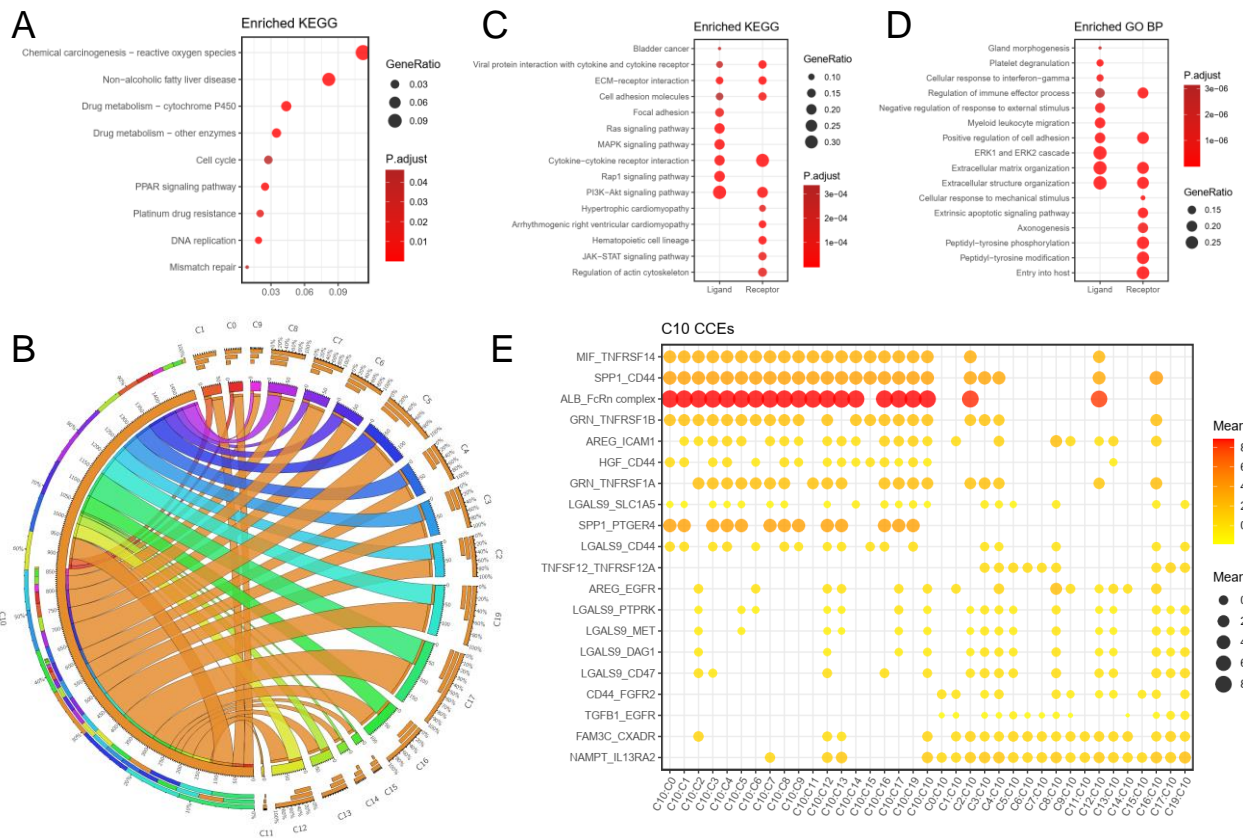


Figure S2. Cell-cell interaction events (CCEs) between hepatocyte (cluster C10) and other cell clusters in the microenvironment.

- Significantly enriched KEGG pathways of the markers of cluster C10;
- The circos plot for CCE counts from hepatocyte cluster to other cell clusters in HCC;
- Significantly enriched KEGG pathways of the ligand and receptor genes of cluster C10 in HCC;
- Significantly enriched GO BP terms of the ligand and receptor genes of cluster C10 in HCC;
- The CCEs of cell cluster C10 interacted with other cell clusters.

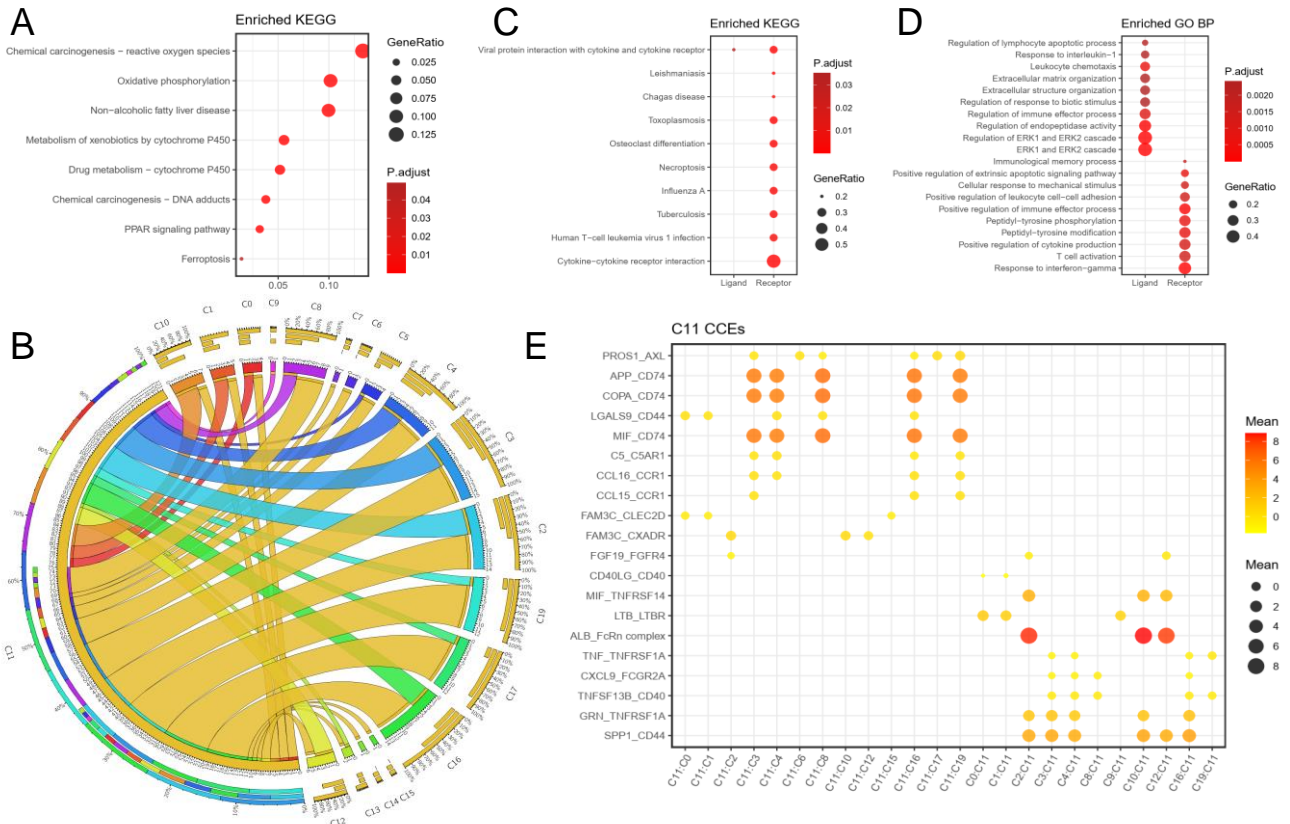


Figure S3. Cell-cell interaction events (CCEs) between hepatocyte (cluster C11) and other cell clusters in the microenvironment.

- A) Significantly enriched KEGG pathways of the markers of cluster C11;
- B) The circos plot for CCE counts from hepatocyte cluster to other cell clusters in HCC;
- C) Significantly enriched KEGG pathways of the ligand and receptor genes of cluster C11 in HCC;
- D) Significantly enriched GO BP terms of the ligand and receptor genes of cluster C11 in HCC;
- E) The CCEs of cell cluster C11 interacted with other cell clusters.

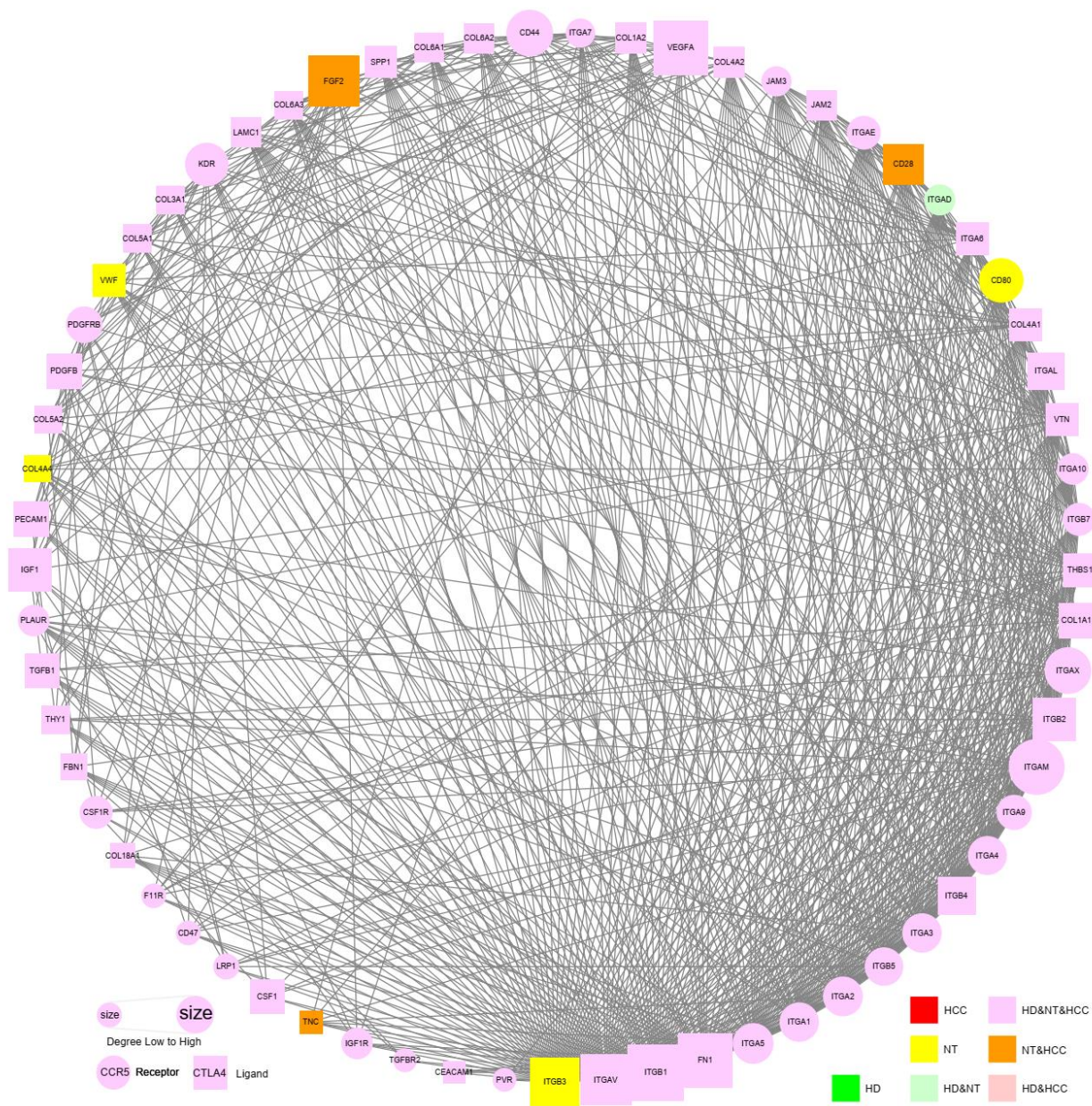


Figure S4. The protein-protein interaction (PPI) network constructed with NT specific CCE gene ITGB3 and the related CCE genes in NT.

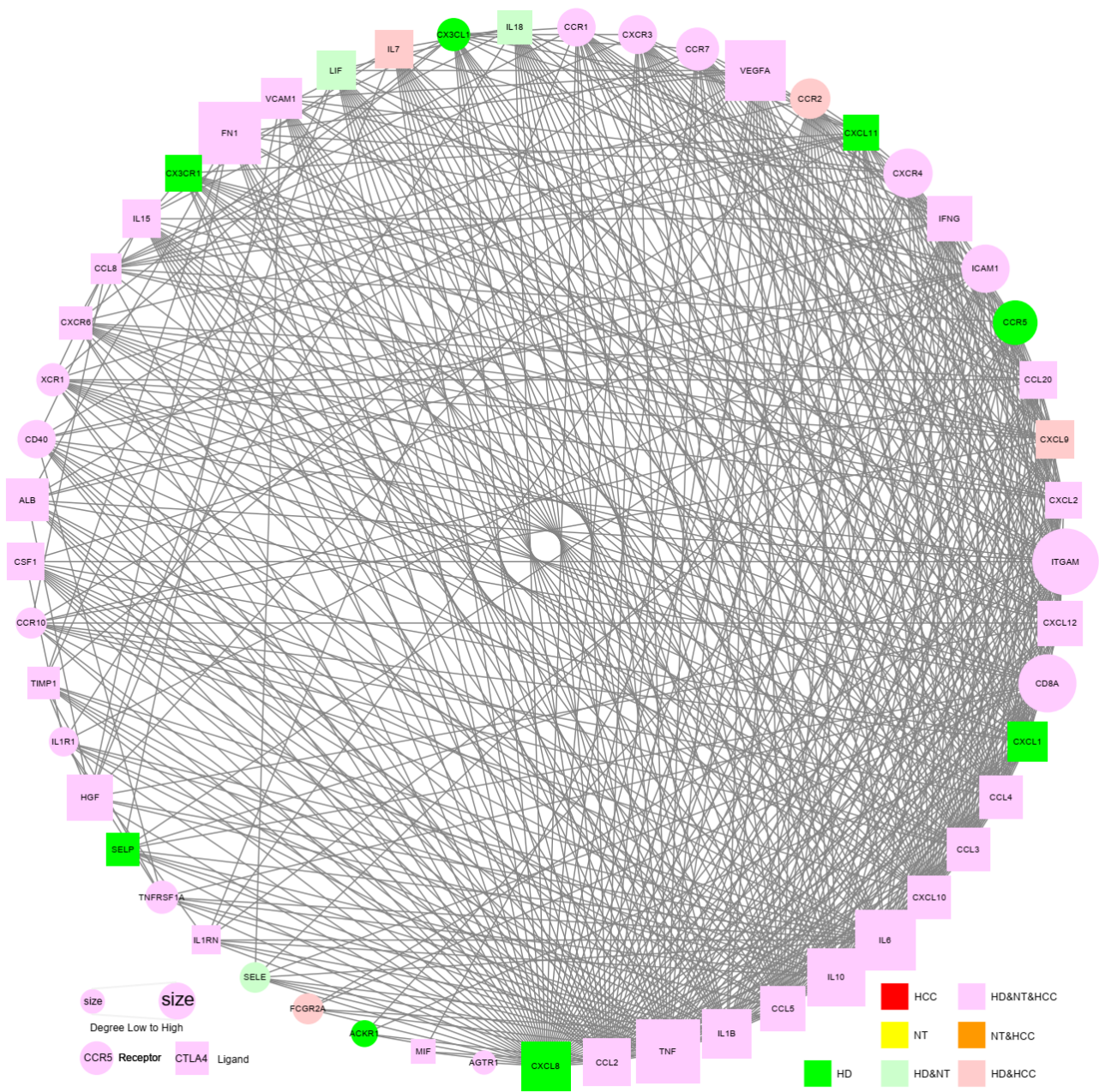


Figure S5. The protein-protein interaction (PPI) network constructed with HD specific CCE gene CXCL8 and the related CCE genes in HD.