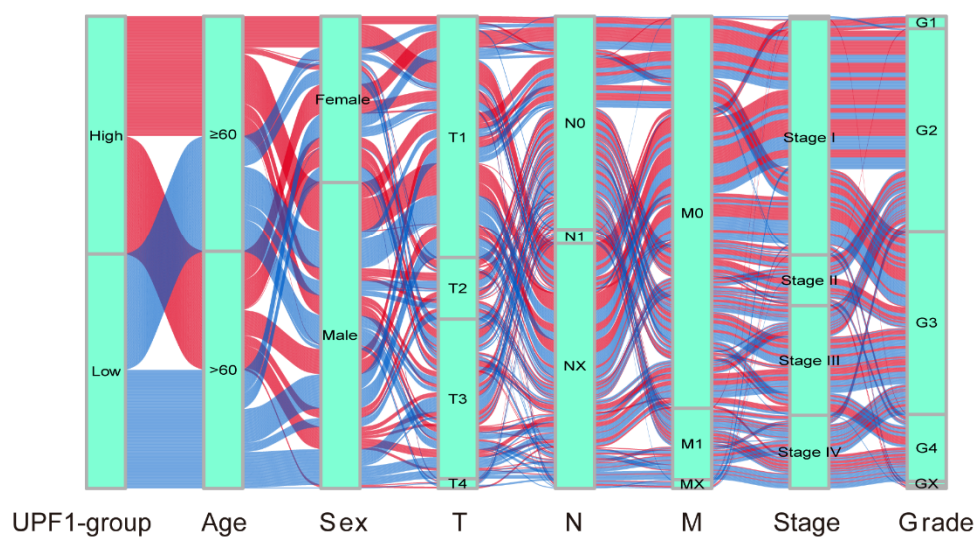


**Figure S1**



**Figure S1.** Alluvial plot shows the relationship between the expression of UPF1 the clinical characteristics of ccRCC patients

Figure S2

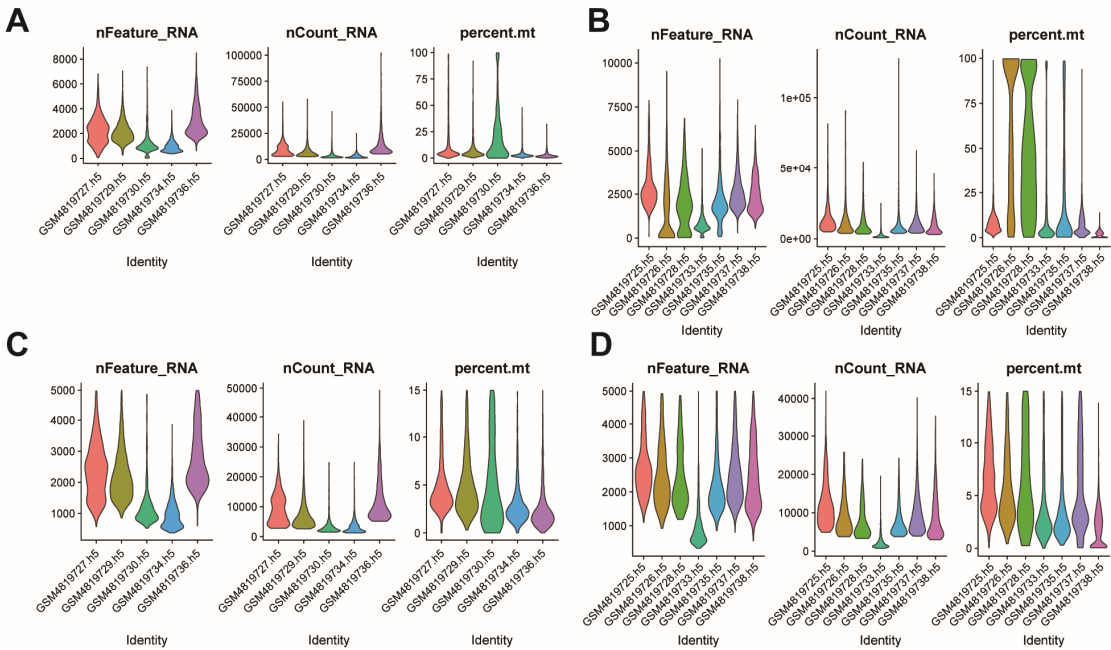
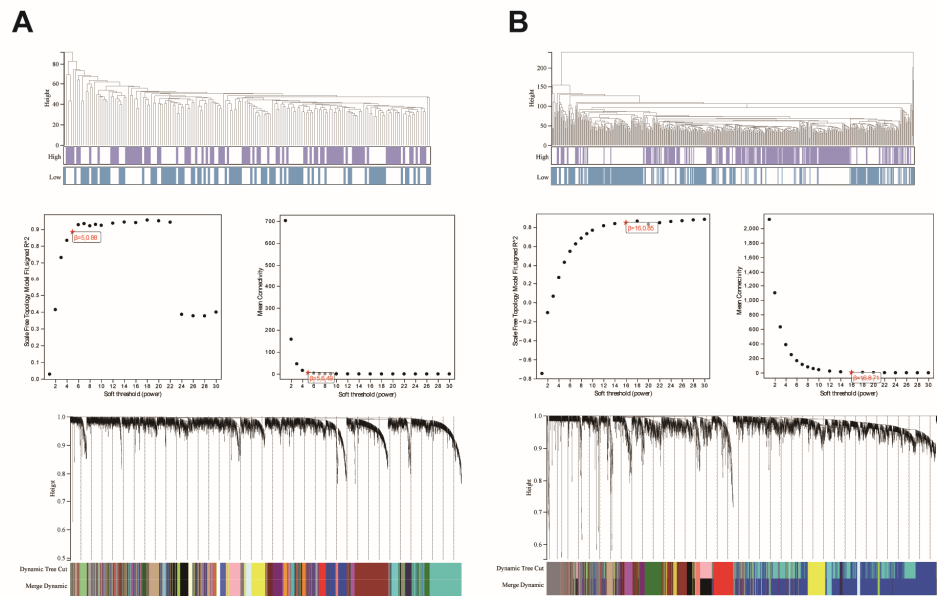


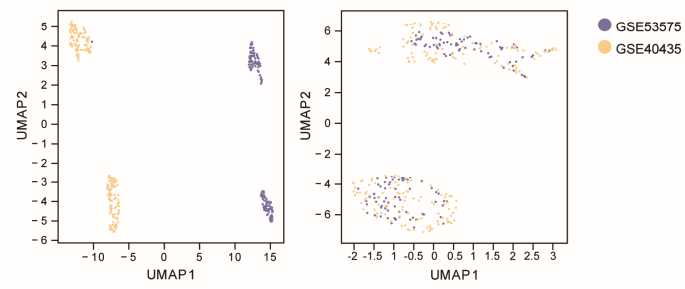
Figure S2. Normalization of single-cell sequencing data.

**Figure S3**



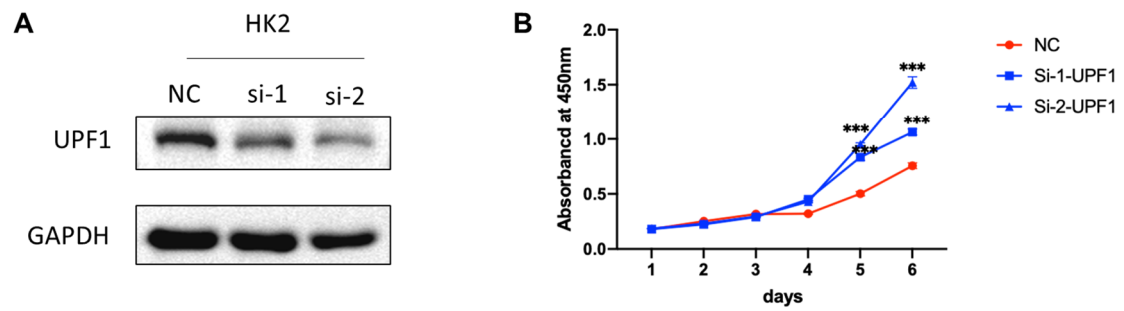
**Figure S3.** Construction of WGCNA network in GEO(A) and TCGA(B) cohorts

**Figure S4**



**Figure S4.** Batch correction of GEO datasets.

**Figure S5**



**Figure S5.** (A) knocked out UPF1 in normal renal cell lines (HK2). (B) The CCK8 increment curve suggested that the knockdown of UPF1 would also promote the proliferation of HK2.