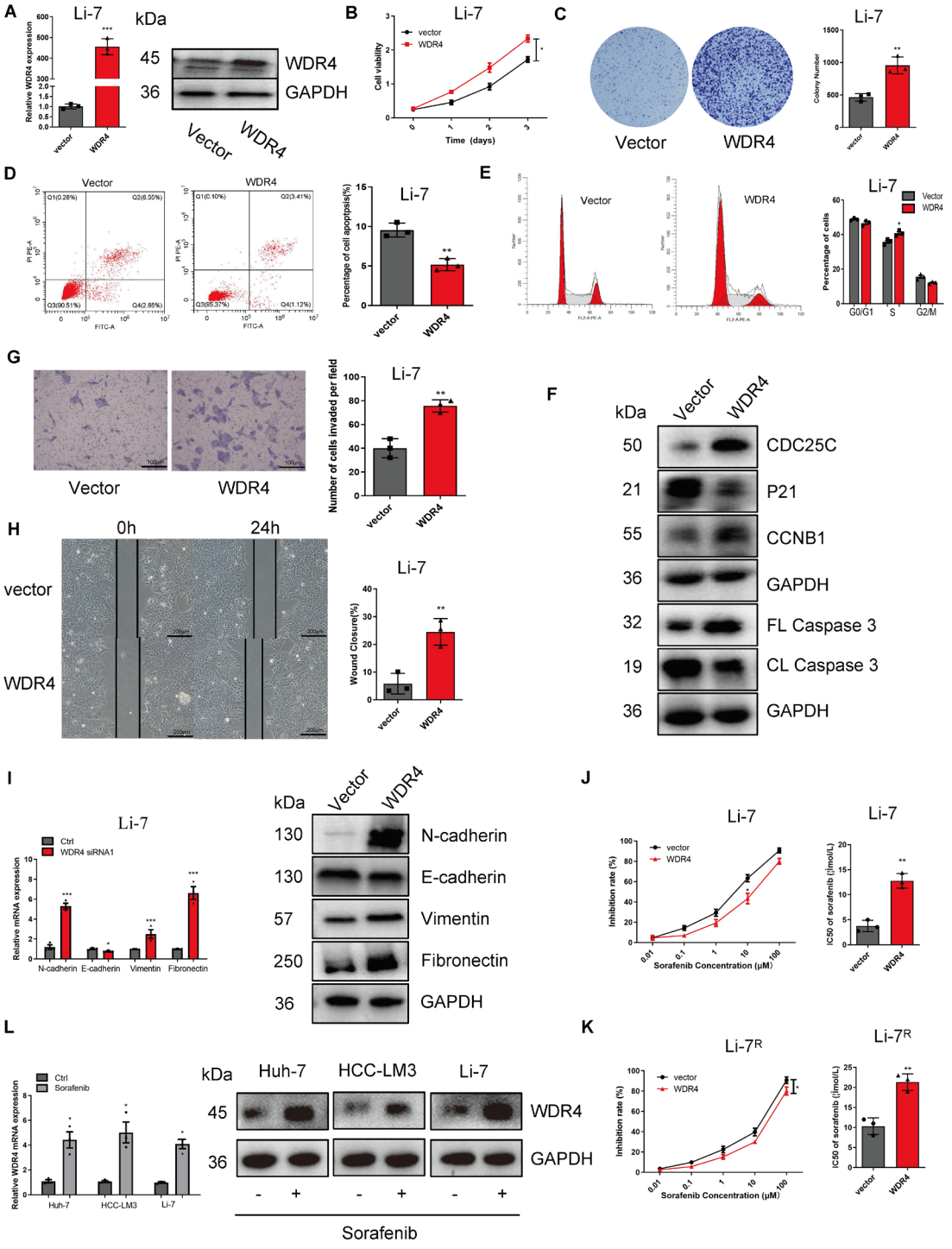


**Figure S1. WDR4 overexpression increases HCC cell growth and metastasis**

A The WDR4-overexpressing plasmid was transformed into the Li-7 cell line. B, C CCK-8 and clone formation experiments showed that WDR4 functions in cell proliferation. D, E Flow cytometry results showed changes in apoptosis and cell cycle progression. F The expression of proteins related to the cell cycle and apoptosis was detected by Western blotting. G, H The effect of WDR4 overexpression on cell invasion and migration. I, J, K The effect of WDR4 overexpression on EMT pathway proteins and sorafenib resistance. L Human HCC cell lines were treated with sorafenib, and the protein expression of WDR4 was assayed by qRT-PCR and western blot.

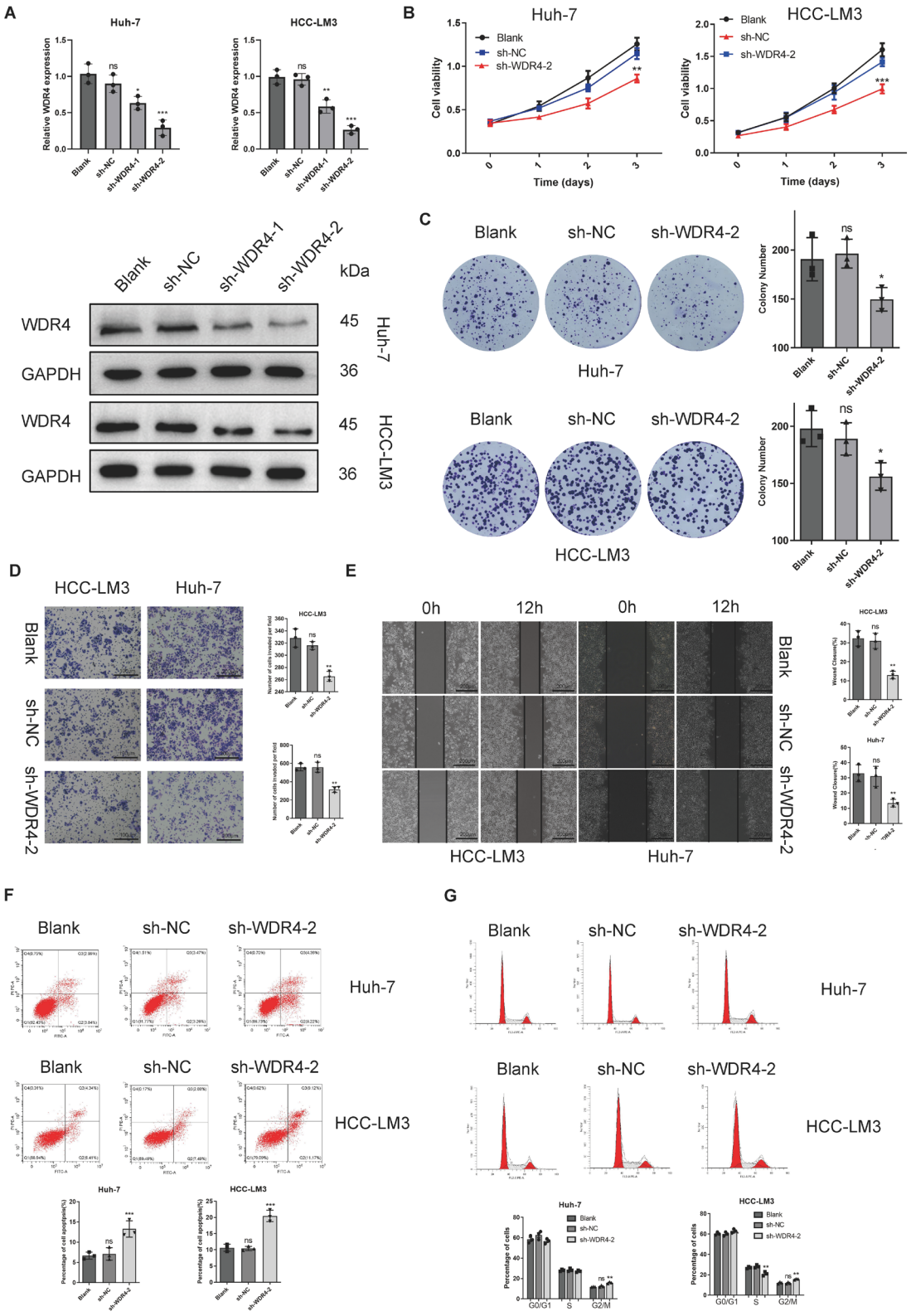



**Figure S2. Effect of WDR4 shRNA transduction on the phenotype of HCC cells**

A Knockdown of WDR4 expression in Huh-7 and HCC-LM3 cells by shRNA. B, C CCK-8 and colony formation assays showing the proliferation ability of Huh-7 and HCC-LM3 cells. D Transwell Matrigel invasion assay to measure cell invasion ability. E Scratch wound-healing motility assay was used to determine cell migration. F, G Flow cytometry results showing the effect of WDR4 knockdown on apoptosis and cell cycle progression in HCC cells.

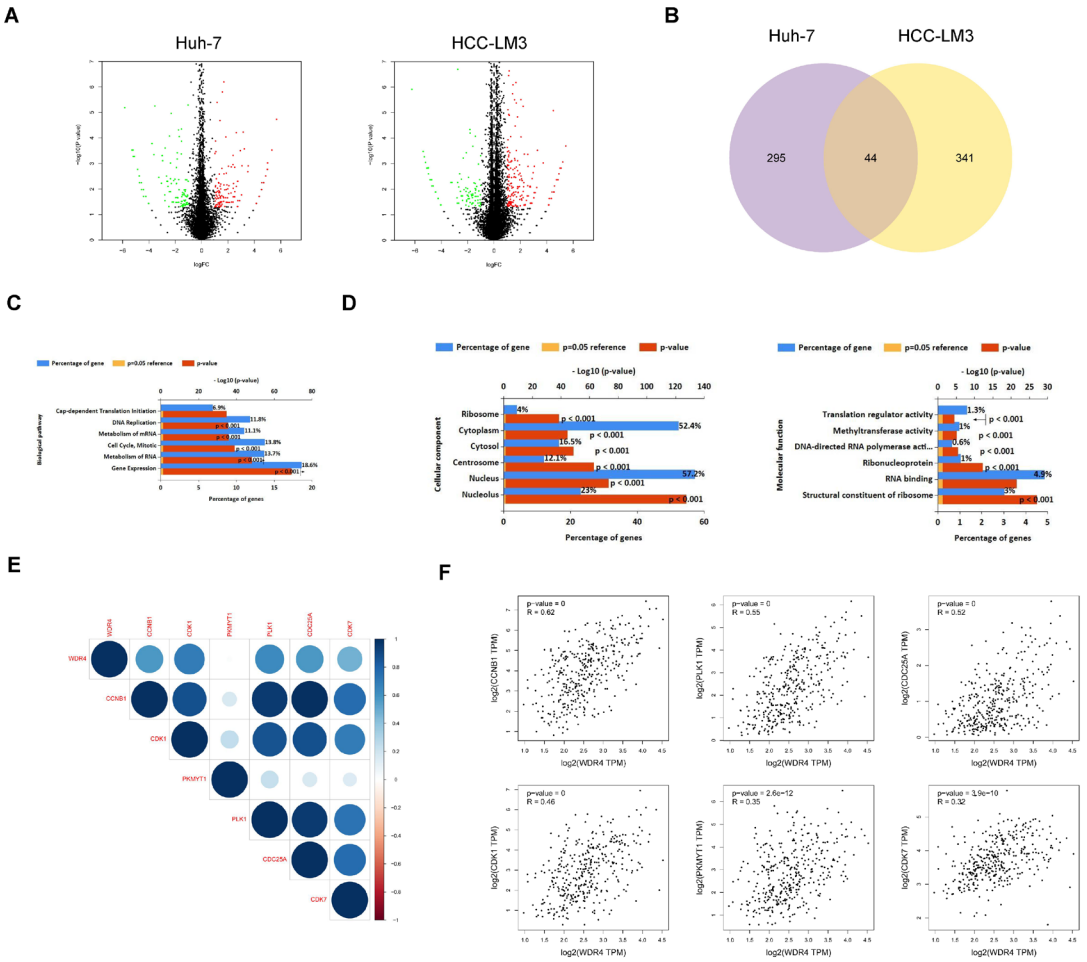


**Figure S3. Correlation between WDR4 and related genes**

A Volcano plots showing differentially expressed genes in HCC-LM3 and Huh-7 cells. B A Venn diagram showing the intersection of differentially expressed genes between HCC-LM3 and Huh-7 cells. C, D GO analysis showing that WDR4 is related to cell cycle progression, ribosomes and methyltransferase activity. E, F Correlation heat map and correlation analysis showing the correlation between the relevant genes enriched in the cell cycle pathway and WDR4.

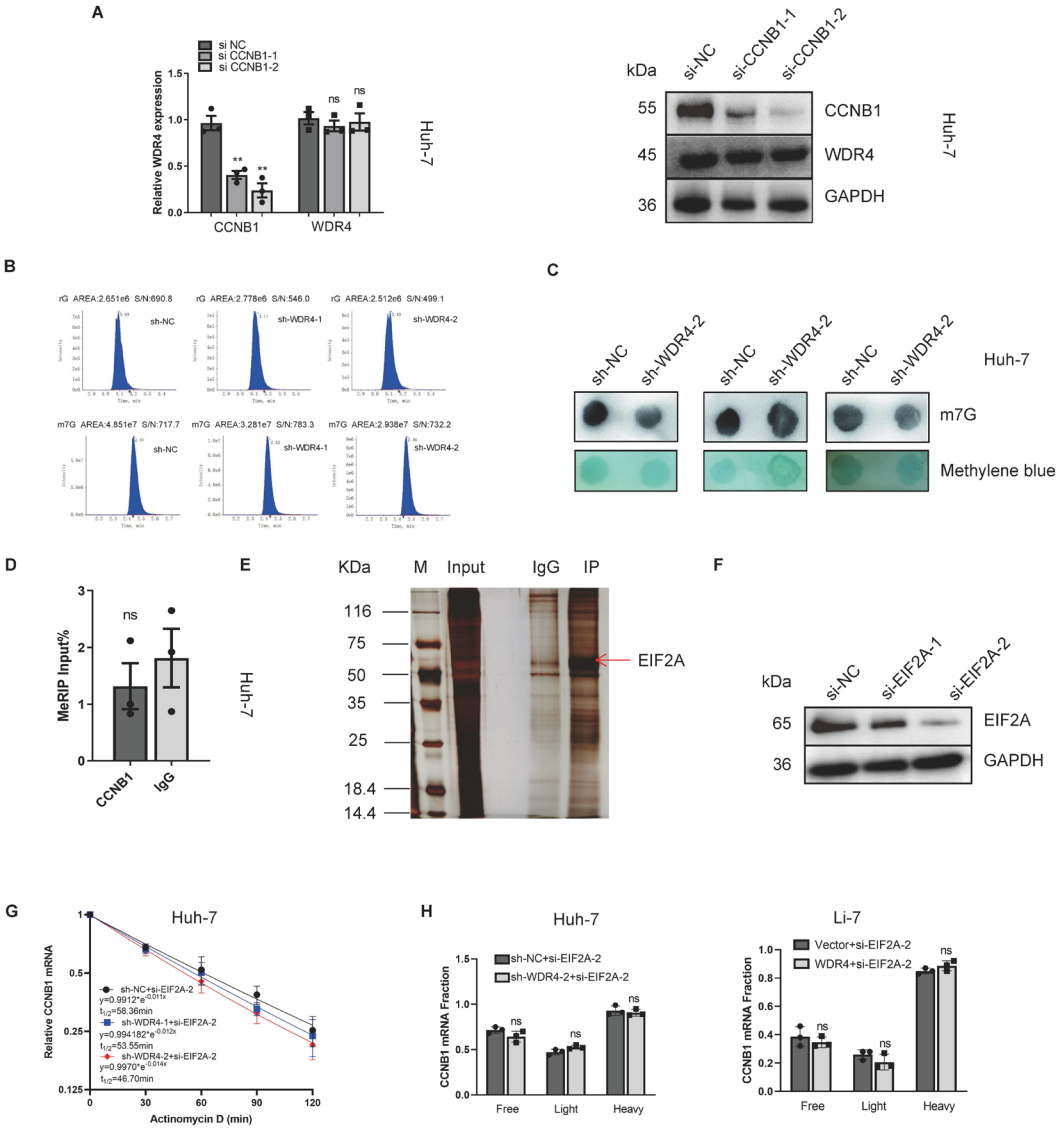


**Figure S4. WDR4 enhances CCNB1 mRNA translation by recruiting EIF2A**

A Detection of WDR4 expression in the Huh-7 cell line with CCNB1 knockdown. B LC/MS results showing the m7G methylation level. C Dot blot showing changes in m7G methylation. D Me-RIP results showing the m7G level of CCNB1 mRNA. E WDR4-interacting proteins are shown by silver staining. F Detection of EIF2A expression in the Huh-7 cell line. G Changes in CCNB1 mRNA stability after actinomycin D treatment. H Polysome profiles of control and WDR4 knockdown cells and polysome profiles of vector- and WDR4-overexpressing cells.

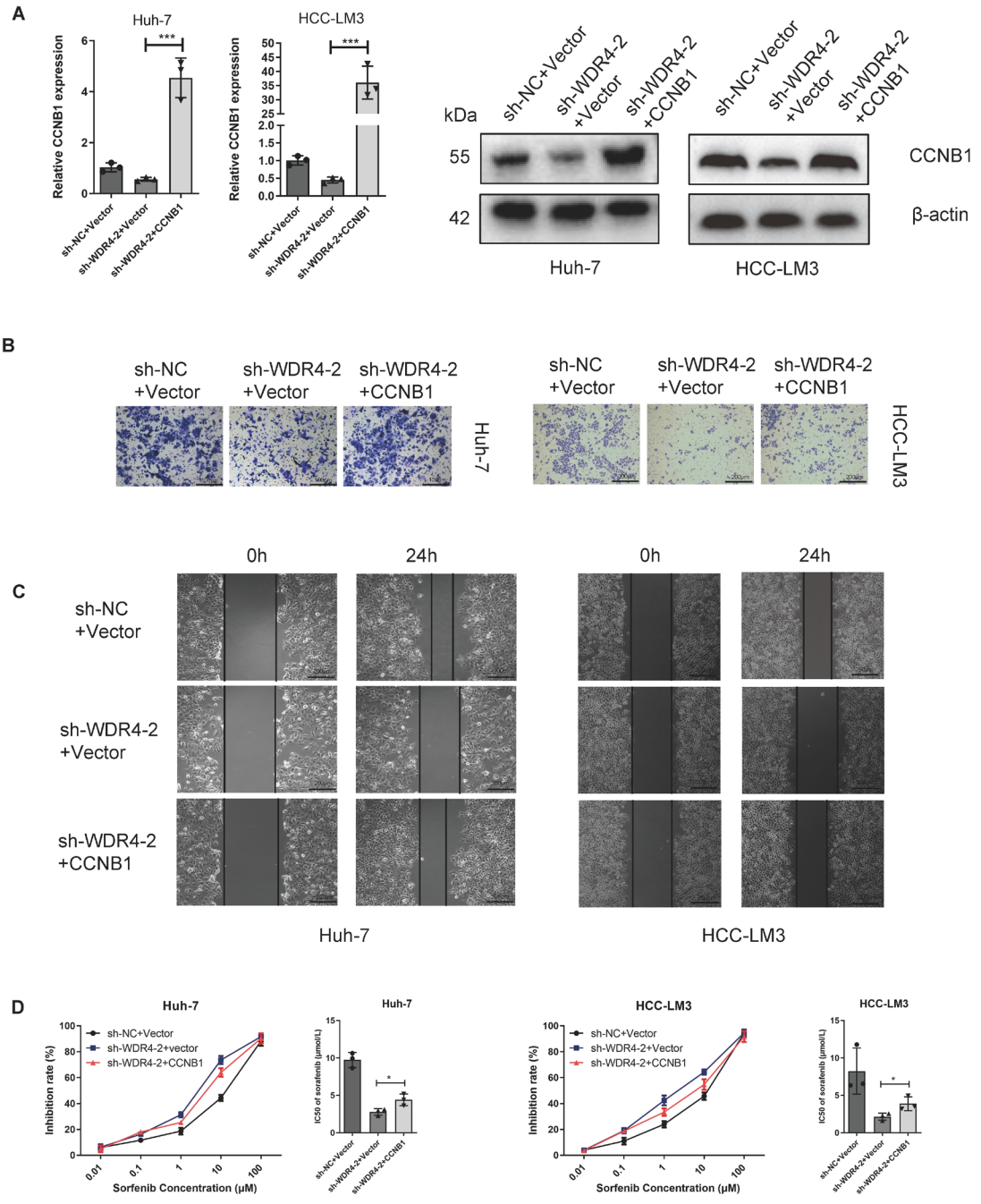


**Figure S5. CCNB1 promotes HCC invasion and migration**

A The CCNB1-overexpression plasmid was transformed into Huh-7 cells and HCC-LM3 cells with stable WDR4 knockdown. B Transwell Matrigel invasion assay of cell invasion ability. C Scratch wound-healing motility assay of cell migration. D The effect of CCNB1 overexpression on sorafenib resistance.

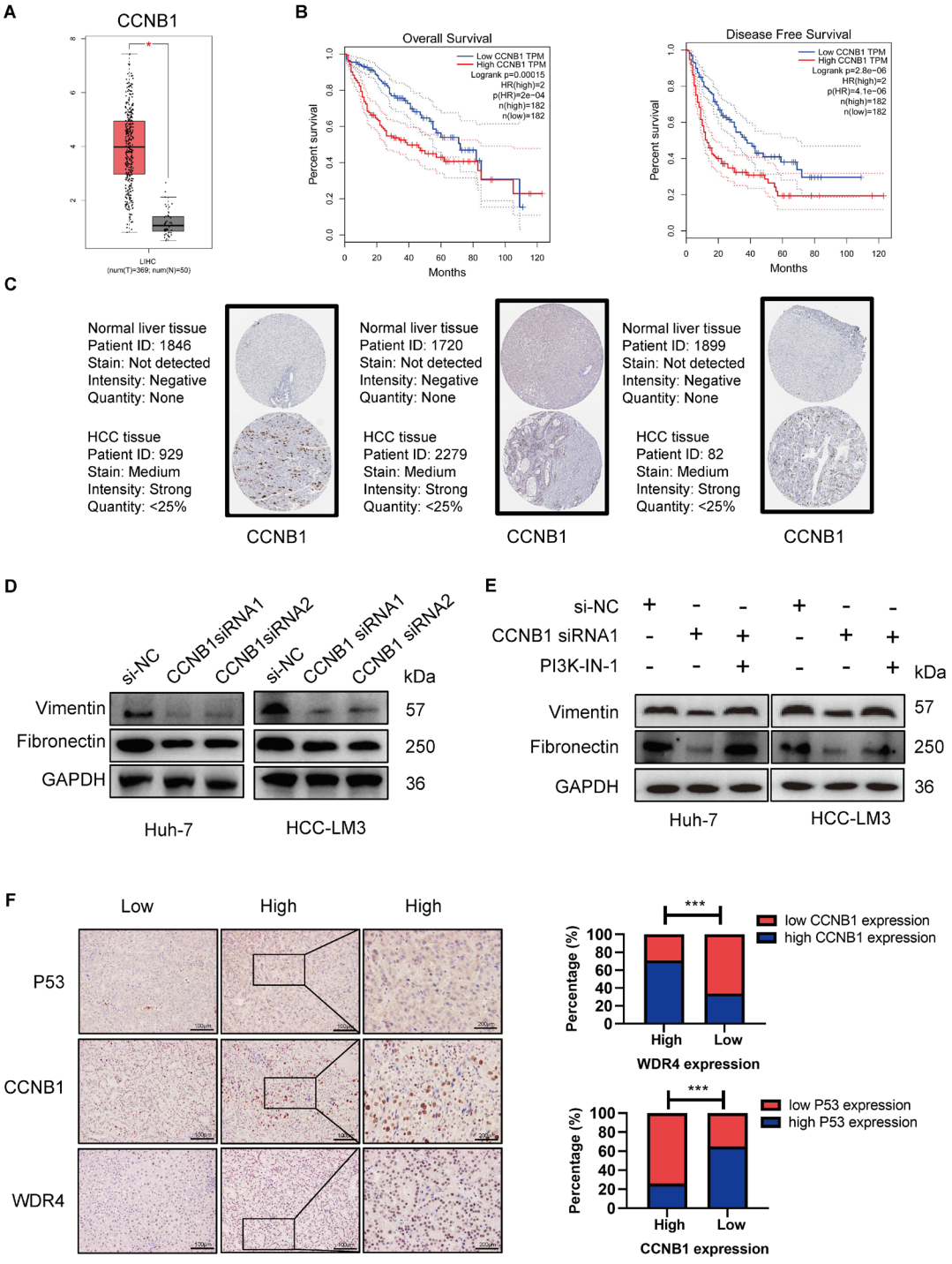


**Figure S6. CCNB1 is highly expressed in HCC**

A, B Analysis of CCNB1 transcript levels and the overall survival curve of HCC patients. C The HPA database shows that CCNB1 expression in HCC tissues is significantly higher than that observed in normal liver tissues. D, E Western blot results showing changes in the protein expression of EMT. F P53, CCNB1 and WDR4 expression were determined by IHC analysis.