

**A.** Data showing the gene expression level of tubulin (TUBB), aurora kinase B (AURKB), CDK4 and CDK6 in HCC tissue and corresponding non-tumorous liver tissues (NT) in HCC patients. Scatter dot plot: mean with SD. Student’s t test: \* P < 0.05, \*\* P < 0.01, \*\*\* P < 0.001, \*\*\*\* P < 0.0001.

**B.** Data showing the correlation between HCC patients with normal or high expression level of TUBB, AURKB, CDK4 and DDX41 and the percentage of survival in overall survival l model. Log-rank (Mantel-Cox) test: \* P < 0.05, \*\* P < 0.01, \*\*\* P < 0.001, \*\*\*\* P < 0.0001.

**C.** Data showing the correlation between HCC patients with normal or high expression level of TUBB, AURKB and CDK4 and the percentage of survival in disease-free survival model. Log-rank (Mantel-Cox) test: \* P < 0.05, \*\* P < 0.01, \*\*\* P < 0.001, \*\*\*\* P < 0.0001.

**D.** Data showing the aneuploidy score, Buffer hypoxia score and Winter hypoxia score of HCC patients with normal or high expression level of DDX41. Wilcoxon test: \* P < 0.05, \*\* P < 0.01, \*\*\* P < 0.001, \*\*\*\* P < 0.0001.