

Doublecortin-like Kinase 1 Promotes Hepatocyte Clonogenicity and Oncogenic Programming via Non-Canonical β -Catenin-Dependent Mechanism

Running Title: DCLK1-induced β -catenin signaling in liver cancer

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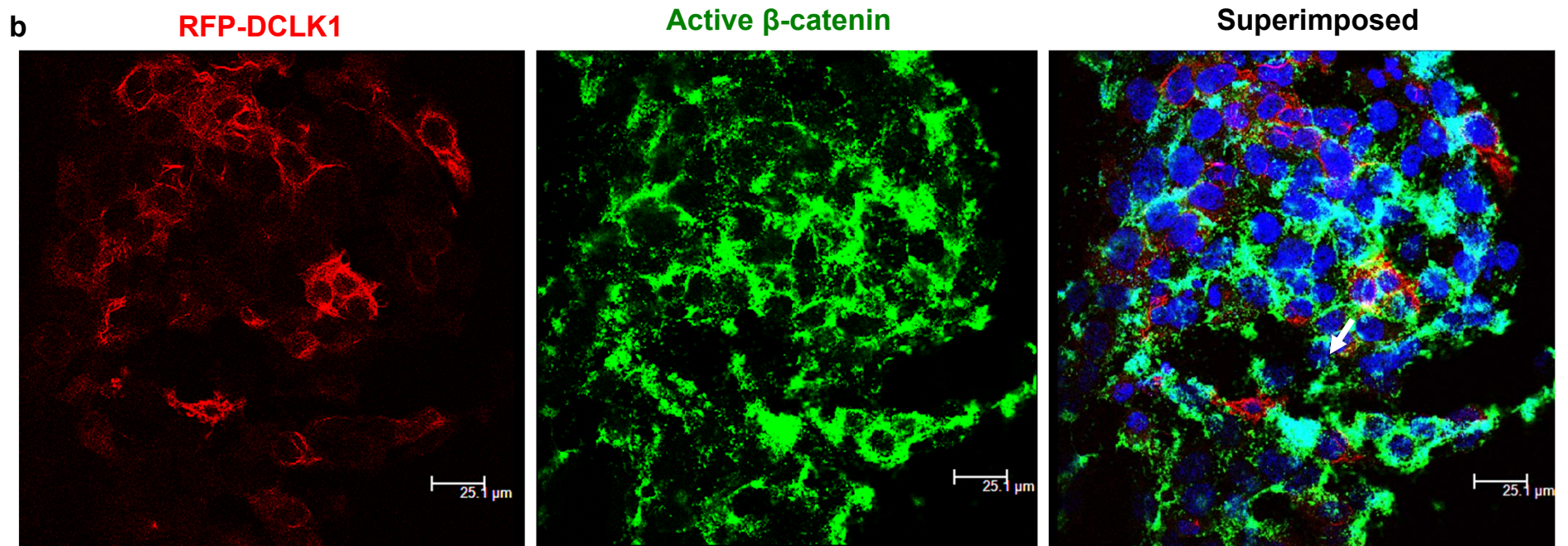
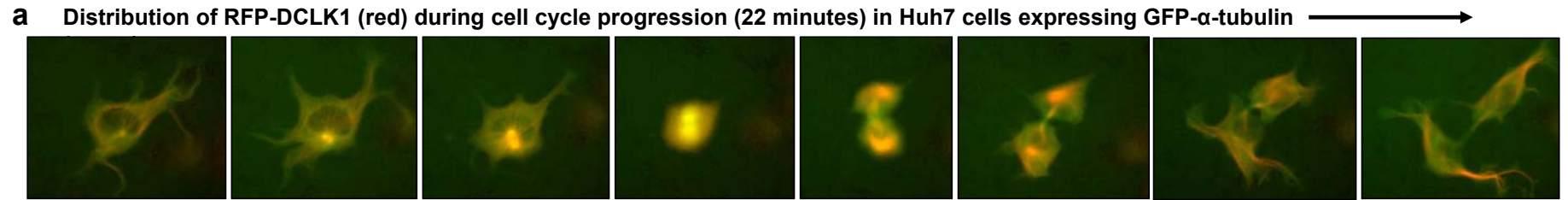
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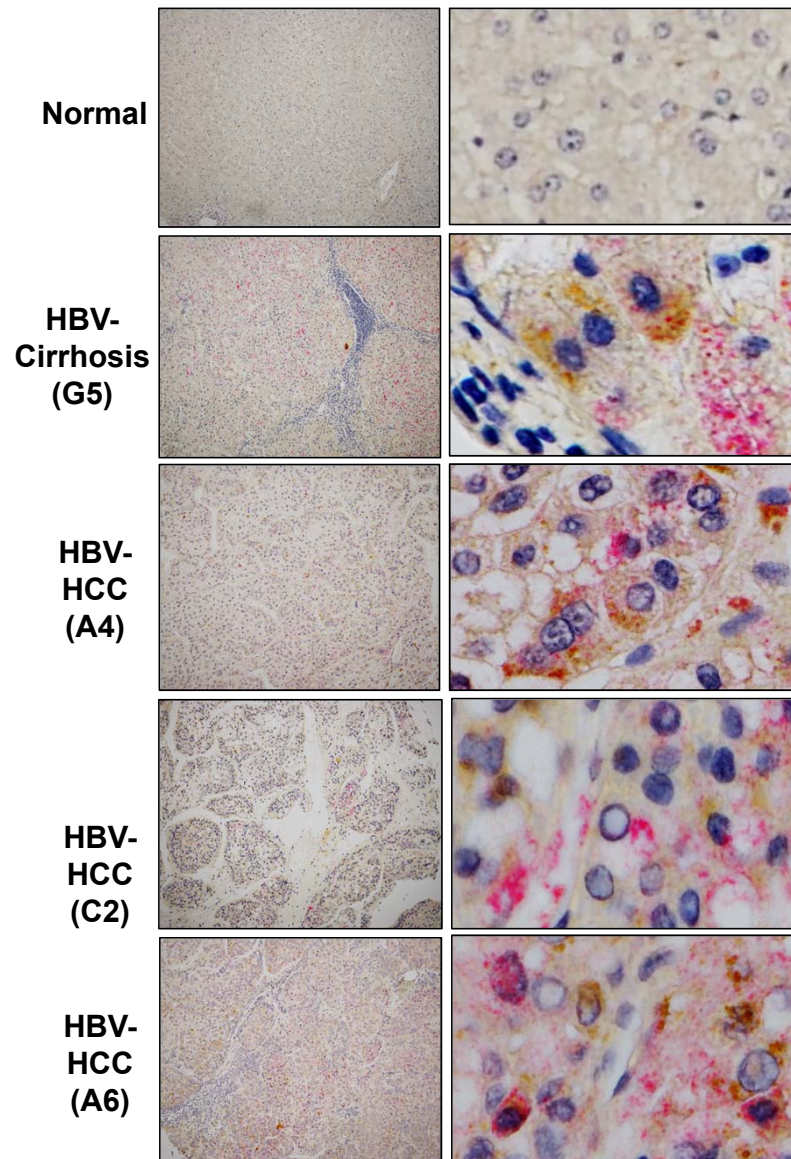
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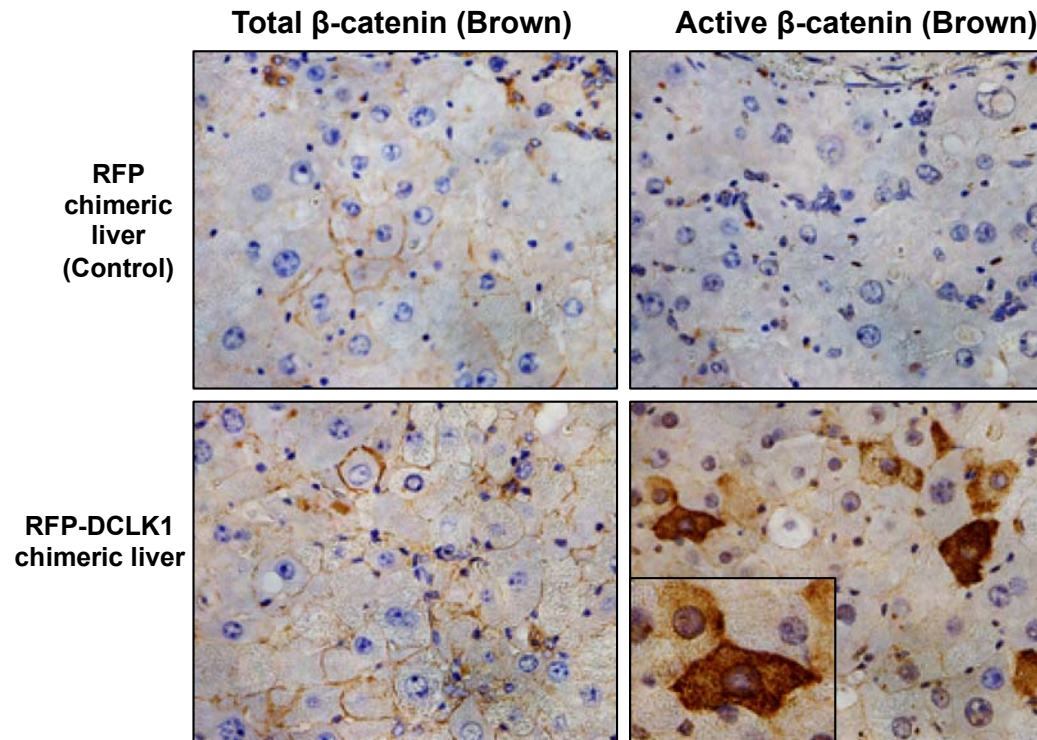
Supplementary Fig. S1

Dynamic distribution of recombinant RFP-DCLK1 in Huh7 cells during cell division and active β -catenin expression pattern in a colony of Huh7-RFP-DCLK1+ cells. **a** Live cell imaging of Huh7 cells expressing RFP-DCLK1 (Huh7-RFP-DCLK1, red) and GFP-tagged α -tubulin (green, showing microtubules). Yellow appearance reflects co- distribution/localization of RFP-DCLK1 with microtubules in a mitotic cell. **b** Confocal microscopy of Huh7-RFP-DCLK1 colony in monolayer culture. Green, active β -catenin stained with anti-ABC antibody; Blue, Dapi for nuclear stain.



Supplementary Fig. S2

Livers of HBV patients with cirrhosis and HCC co-stained for DCLK1 and active β -catenin. Immunohistochemical staining of liver tissues (normal, cirrhosis and HCC) was simultaneously carried out with anti-ABC 8E7 mAb and anti-DCLK1 ab10902 antibodies. The co-staining of DCLK1 (brown) and active β -catenin (red) (10X image) in the same epithelial cells are highlighted in the right panel.



Supplementary Fig. S3.

Staining pattern of total and active β -catenin in the chimeric FRG livers. Extensive nucleo-cytoplasmic staining of active β -catenin (lower right panel) only in RFP-DCLK1 chimeric liver, (highlighted in the inset) and a typical membranous staining for total β -catenin (left panel) are shown.