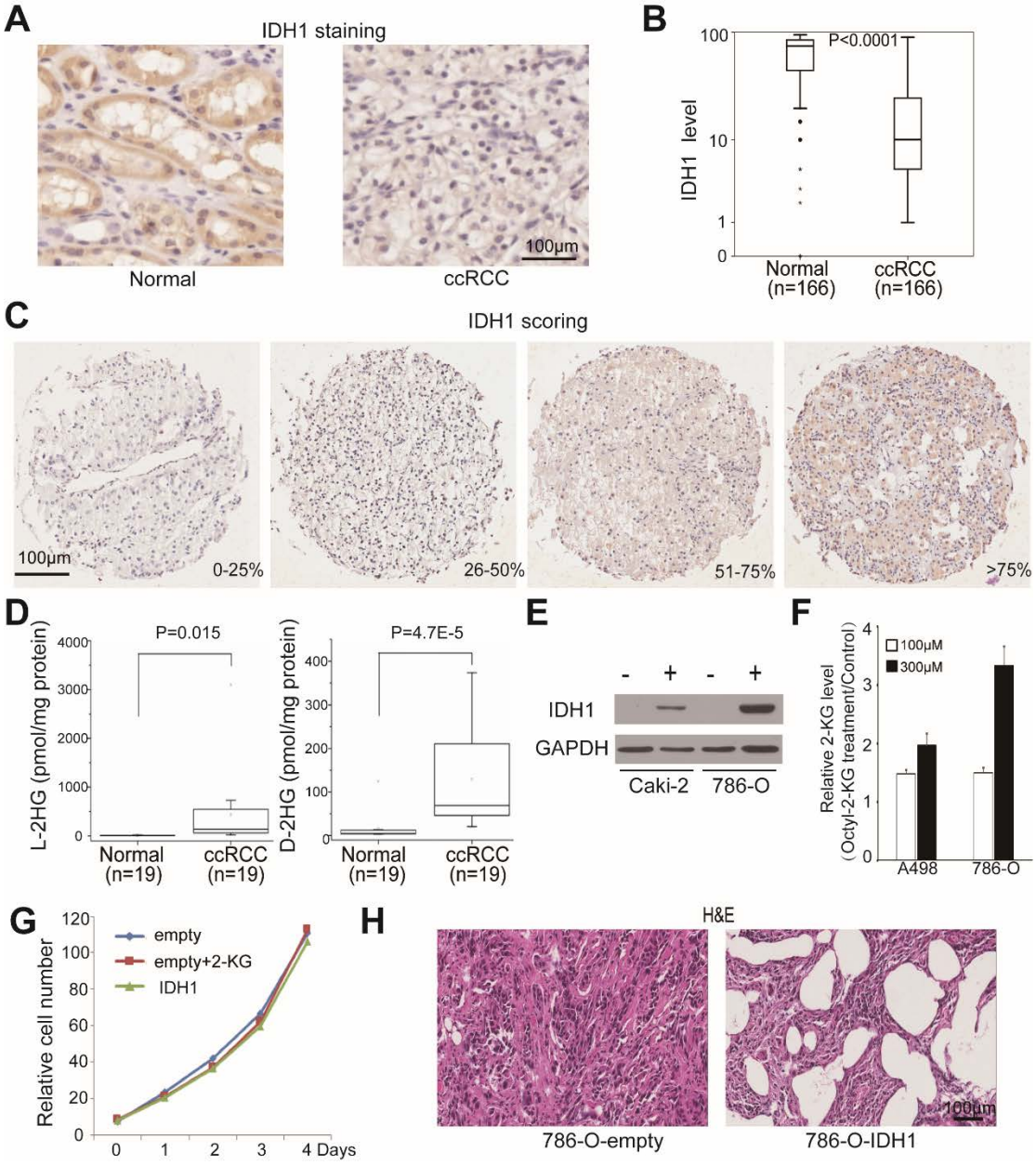

Supplementary information, Figure S5 Manipulating 5hmC generating pathway has potential therapeutical effect. **(A)** IHC staining of IDH1 in the tumor tissue and matched normal kidney tissue of one representative ccRCC patient. **(B)** Box plot of IDH1 staining score in paired ccRCC cases of the tissue microarray (TMA). **(C)** Scoring of IDH1 levels by IHC staining for the TMA. **(D)** The intracellular level of two 2-HG enantiomers, D-2HG and L-2HG in paired ccRCC samples was measured by the LC-ESI-MS method. **(E)** IDH1 levels in the IDH1-FLAG vector stable-transfected ccRCC cell lines were measured by western blot. GAPDH was used as the loading control. **(F)** 786-O and A498 ccRCC cells were treated with cell-permeable octyl-2-KG for 48hrs. The intracellular level of 2-KG was measured by the LC-ESI-MS method. **(G)** 786-O cells were treated with octyl-2-KG (300μM) or over-expressed IDH1, cell proliferation capacity was evaluated by the cell titer blue assay. The relative cell number at each time point was normalized to mock control. **(H)** A representative H&E staining of the indicated xenografts.