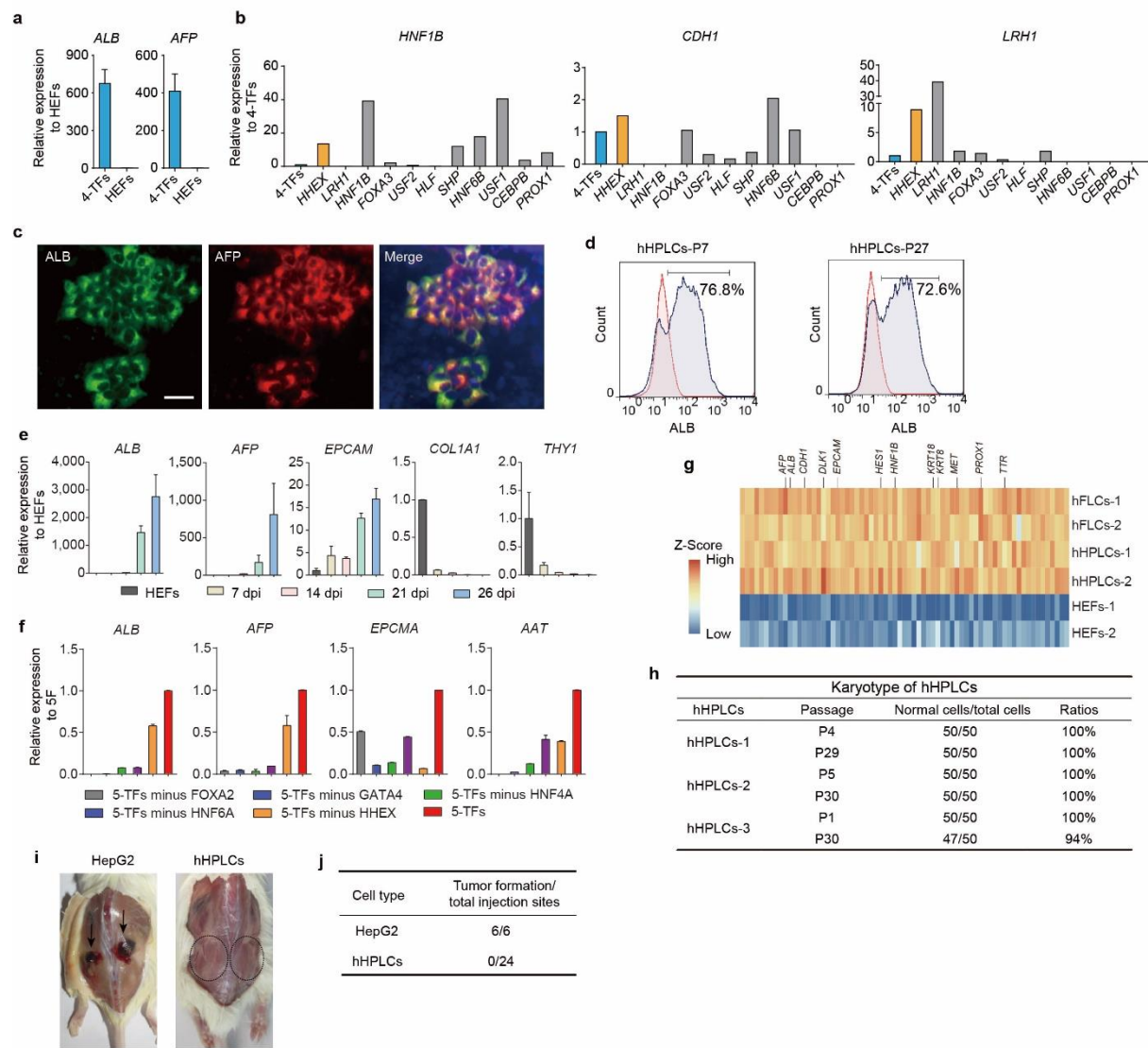


Figure S1



**Figure S1. Generation of hHPLCs by defined factors *in vitro*.** (a) The expression of *ALB* and *AFP* in HEFs and HEFs overexpressed with 4-TFs at 16 dpi. *n* = 3. Relative expression was normalized HEFs. (b) Transcription factors screening based on 4-TFs evaluated by RT-qPCR analysis of gene expression. Relative expression was normalized to HEFs overexpressed with 4-TFs at 16 dpi. (c) Immunofluorescence staining of ALB- and AFP-positive colonies in 5 TF-overexpressing HEFs at 15 dpi. (d) Flow cytometry analysis of ALB positive cells in hHPLCs at P7 and P27. (e) Dynamic gene expression analysis of human hepatic progenitor markers *ALB*, *AFP*, *EPCAM* as well as fibroblast markers *COL1A1* and *THY1* in reprogrammed cells at different time points by RT-qPCR. Relative expression was normalized to HEFs. *n* = 2. (f) Gene expression analysis of human hepatic progenitor markers in reprogramming cells overexpressed with 5-TFs and “5-TFs minus one” at 20 dpi. *n* = 3. (g) Sets of human hepatic progenitor-enriched genes were analyzed among hHPLCs, HEFs, and hFLCs. (h) Karyotype of three hHPLC cell lines in early and late passages. (i) hHPLCs or HepG2 were subcutaneously transplanted to the left and right side of NPG mice. Tumors were indicated by arrows. Transplantation sites were indicated by dashed circles. (j) Summary of the tumor formation of NPG mice subcutaneously transplanted with hHPLCs and HepG2 cells. No tumor was found in hHPLCs and hiHeps group over 12 weeks post transplantation. HepG2-derived tumors were found during 2-3 weeks. The scale bars represent 50  $\mu$ m. Data are presented as mean  $\pm$  SEM.