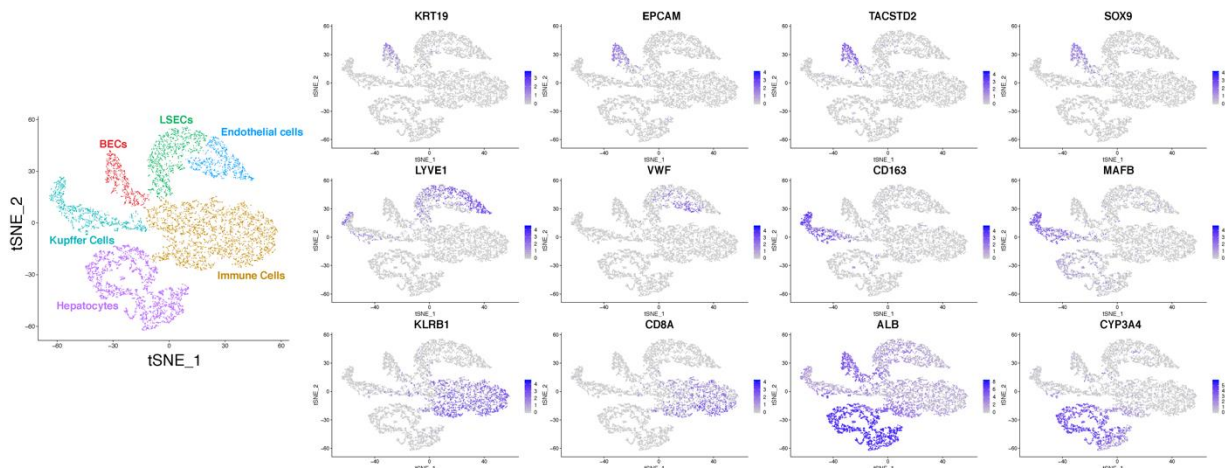
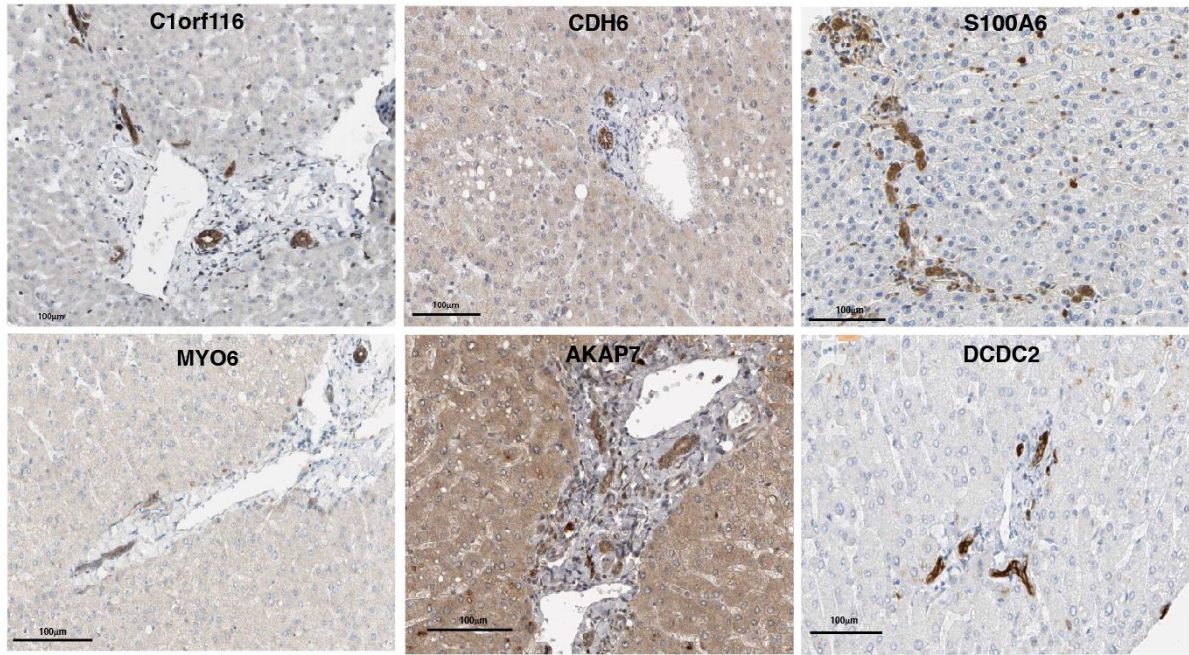


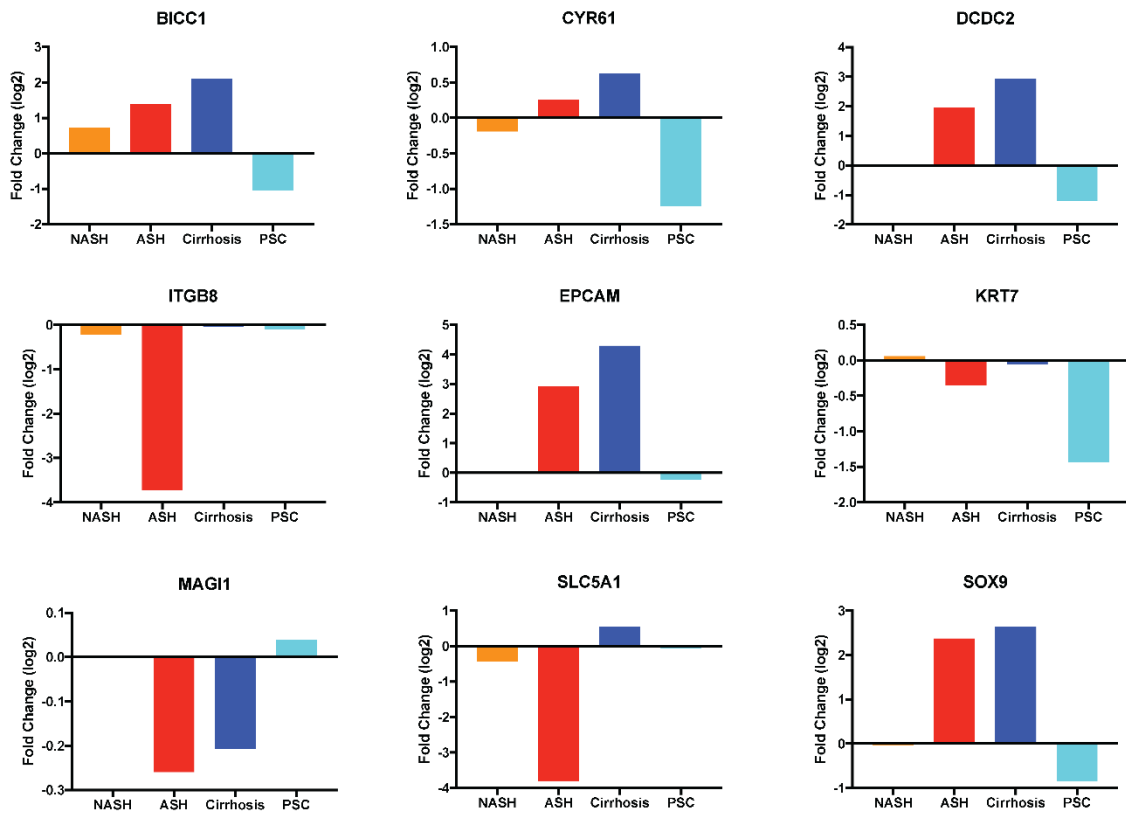
Supplementary Figure S1. (A) TSNE plots of scRNAseq data of hepatocytes and LPCs isolated from healthy and DDC-injured livers, validated hepatocyte (Cyp3a11, Cyp2e1 and Alb) and LPC (Sox9, Epcam, Tacstd2 aka TROP2) markers. The blue scale bar represents normalized counts. TSNE plot by single cell signature explorer with single cell signature analysis of quiescent (B) and activation signature (C) on single cells from Pepe-Mooney et al [28]. Signature scores are presented for each cell using colour gradient and grey colour overlap shows the location of most cells with a high signature score.



Supplementary Figure S2. TSNE plots of scRNAseq data of different cell types isolated from healthy human livers, validated hepatocyte (ALB and CYP3A4), BEC (KRT19, EPCAM, TACSTD2, SOX9), LSECs (LYVE1), Endothelial cell (VWF), Kupffer cell (CD163, MAFB) and other immune cell (CD8A, KLRB1) markers. The blue scale bar represents normalized counts.



Supplemental Figure S3. Immunohistochemistry staining of new potential BEC markers from our BEC signature, obtained from protein atlas.



Supplemental Figure S4. Gene expression of genes in the scBEC signature on transcriptomic data of NASH, ASH, Cirrhosis and PSC. Expression values are compared to their control samples (healthy livers).

Supplementary Table S1. BEC labeling based on injury model.

BEC marker used for isolation	Injury model	Specie	BEC Labeling
MIC1 1C3	Healthy	Mouse	Quiescent
MIC1 1C3	DDC injury	Mouse	Activated
HNF1b	Healthy	Mouse	Quiescent
HNF1b	DDC injury	Mouse	Activated
HNF1b	CDE injury	Mouse	Activated
Folx1	Healthy	Mouse	Initiation
Folx1	DDC injury (3 days)	Mouse	Initiation
Folx1	DDC injury (7 days)	Mouse	Initiation
Folx1	DDC injury (14 days)	Mouse	Activated
EPCAM	Healthy	Mouse	Quiescent
LGR5	CCL4 injury	Mouse	Activated (not used for BEC activation signature)
EPCAM	Cirrhotic liver	Human	Activated
SP	Cirrhotic liver	Human	Activated
TROP2	Cirrhotic liver	Human	Activated

