

**Modulation of Hepatitis B virus infection by epidermal growth factor secreted from
liver sinusoidal endothelial cells**

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Supplementary Table 1. List of quantitative PCR primers for mouse genes

| gene | Left Primer | Right Primer |
|---------------|-----------------------|-----------------------|
| <i>Stab2</i> | TGTCCAGACGGCTACATCAA | CCAGGGATATCCAGGACGTA |
| <i>Lyve1</i> | CCTCCAGCCAAAAGTTCAAA | TCCAACACGGGGTAAAATGT |
| <i>Pecam1</i> | CTGGTGCTCTATGCAAGCCT | AGTTGCTGCCCATTTCATCAC |
| <i>F8</i> | TCATGTATAGCCTGGATGGGA | GATGAGTCCACATTGCCAAA |
| <i>Ngfr</i> | GTGTGCGAGGACACTGAGC | GGGGGTAGACCTTGTGATCC |
| <i>Desmin</i> | GTGAAGATGGCCTTGGATGT | CTCGGAAGTTGAGAGCAGAGA |
| <i>Hgf</i> | CCTGACACCACTTGGGAGTA | CTTCTCCTTGGCCTTGAATG |
| <i>Actb</i> | TTCTTTGCAGCTCCTTCGTT | ATGGAGGGGAATACAGCCC |

Supplementary Table 2. List of quantitative PCR primers and probes for HBV

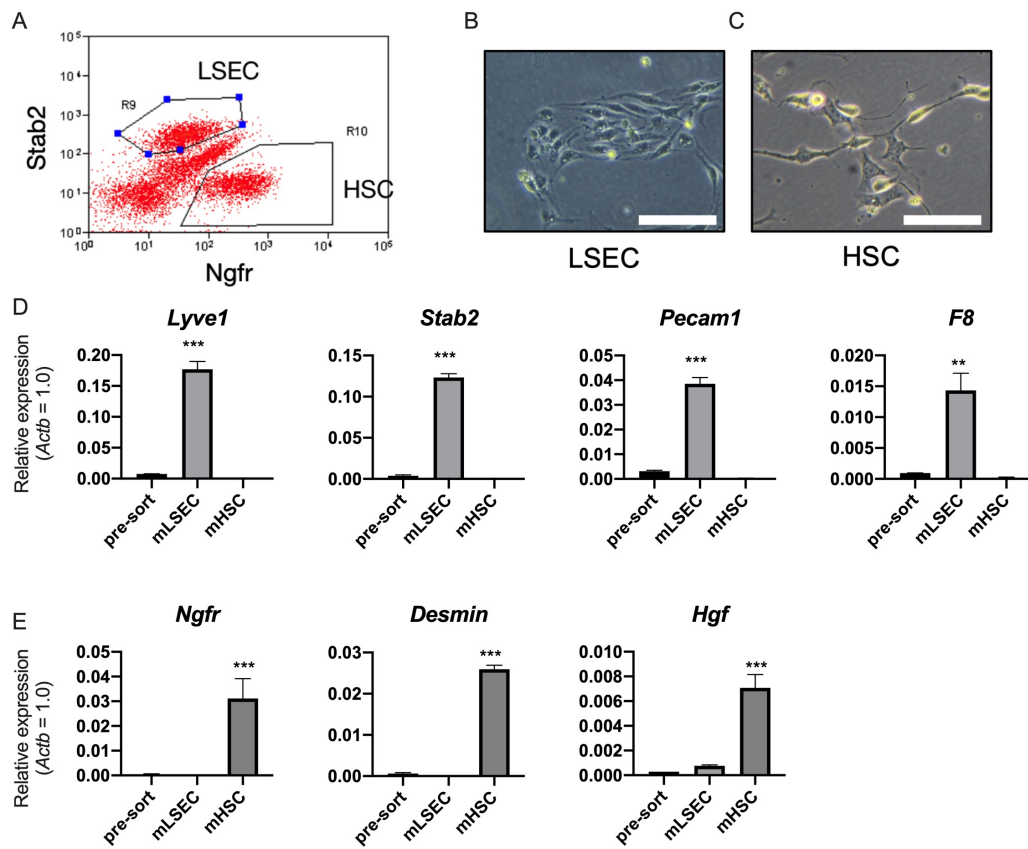
detection

| | Primer/Probe |
|-----------|-----------------------|
| HBSF2 | CTTCATCCTGCTGCTATGCCT |
| HBSR2 | AAAGCCCAGGATGATGGGAT |
| cccDNA F7 | TCCCCGTCTGTGCCTTCTC |
| cccDNA R7 | GCACAGCTTGGAGGCTTGA |
| cccDNA P7 | FAM- CCGTGTGCACTTCG |

Supplementary Table 3. List of primary and secondary antibodies used for immunocytochemistry analysis and FCM analysis of mouse and human cells

| Primary Antibody | Supplier |
|------------------|--------------------------|
| LAMP2 | abcam (ab25631) |
| EGFR | cell signaling (D38B1) |
| Myc | abcam (ab206486) |
| Stabilin2 | Nonaka et al. |
| LNGFR | Miltenyi biotec (REA648) |

| Secondary Antibody | Supplier |
|---------------------------------|---------------------|
| Alexa Fluor 488 anti-Rabbit IgG | Invitrogen (A32790) |
| Alexa Fluor 555 anti-Mouse IgG | Invitrogen (A21424) |



Supplementary Fig. 1. Identification and characterization of fetal mouse LSECs and

HSCs.

(A) Flow cytometric analysis of fetal mouse liver cells at E14.5.

(B) Primary culture of $Stab2^+$ cells. Scale bar, 100 μ m.

(C) Primary culture of $Ngfr^+$ cells. Scale bar, 100 μ m.

(D) Expression levels of LSEC markers in pre-sorting cells (pre-sort), $Stab2^+$ cells

(LSECs), and $Ngfr^+$ cells (HSCs). The results are shown as the mean \pm SEM of 3

independent experiments. n = 3 in each group. The significant difference was determined

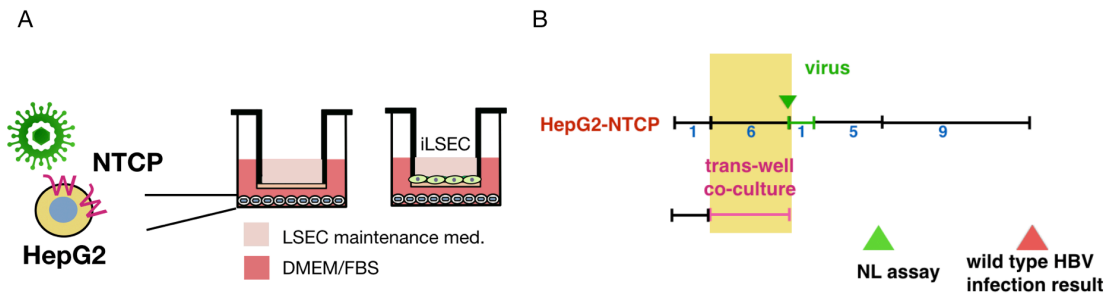
in each group compared with the control group. *** $p < 0.001$.

(E) Expression levels of HSC markers in pre-sorting cells (pre-sort), $Stab2^+$ cells (LSECs)

and $Ngfr^+$ (HSCs) cells. The results are shown as the mean \pm SEM of 3 independent

experiments. The significant difference was determined in each group compared with the

control group. *** $p < 0.001$.

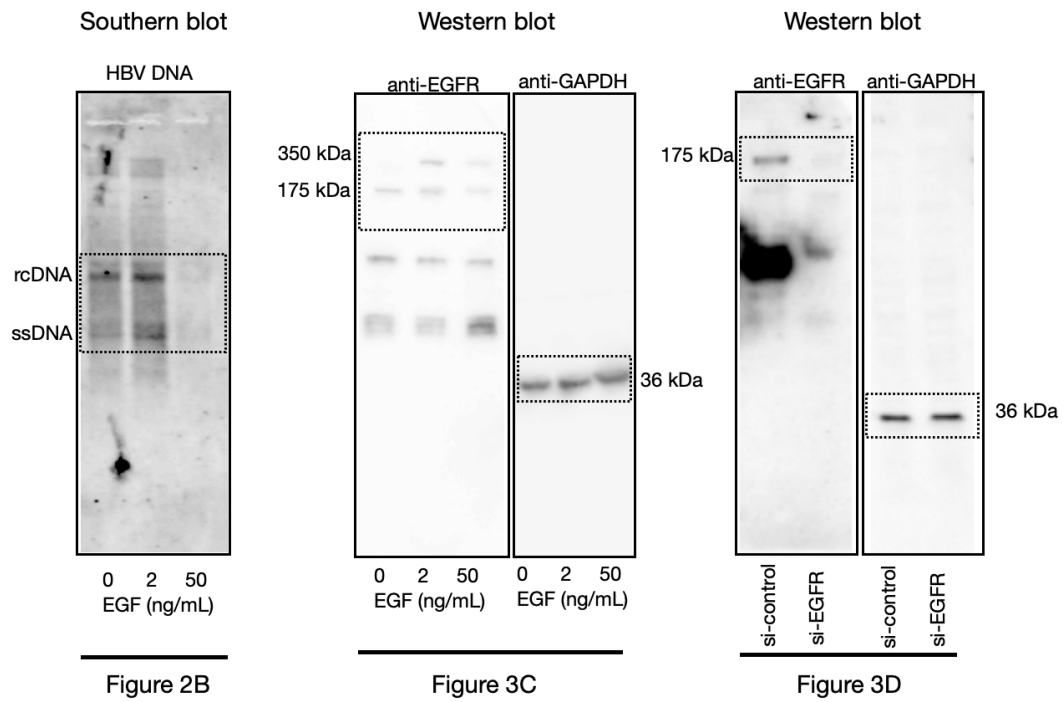


Supplementary Fig. 2.

HBV infection to HepG2-NTCP cells co-cultured with iPSC-derived LSECs in the trans-well system.

(A) Experimental design of the trans-well co-culture system of HepG2-NTCP cells with iPSC-derived LSECs.

(B) Experimental design of HBV infection using HBV/NL and wild type HBV in the trans-well co-culture system



Supplementary Fig. 3.

The images of full-length blots in figures

(Left) Southern blot analysis in Figure 2B, (Middle) Western blot analysis in Figure 3C,

(Right) Western blot analysis in Figure 3D.