

RESEARCH ARTICLE

Digital light processing-printed macroencapsulated human liver organoids preserve hepatic stellate cell quiescence for transplantation in immunocompetent mice

Supplementary Files

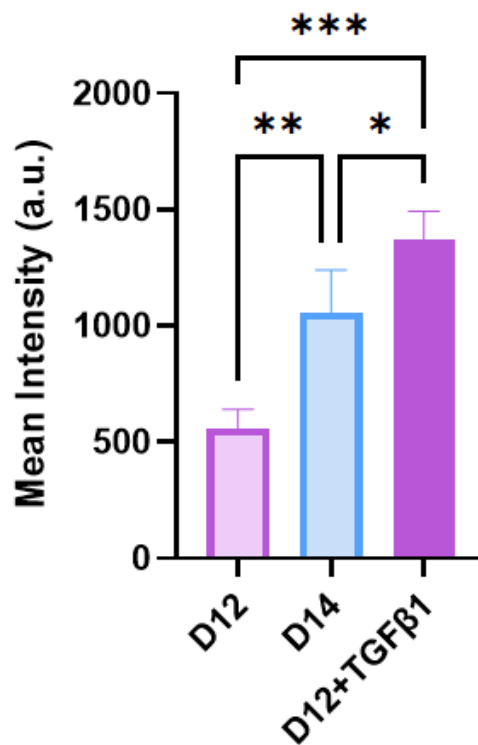


Figure S1. Quantitative analysis of immunofluorescence intensity of α -SMA staining for HSCs at different days

Notes: Data are mean \pm SD. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Abbreviations: α -SMA: Alpha-smooth muscle actin; HSC: Hepatic stellate cell; TGF- β 1: Transforming growth factor-beta 1.

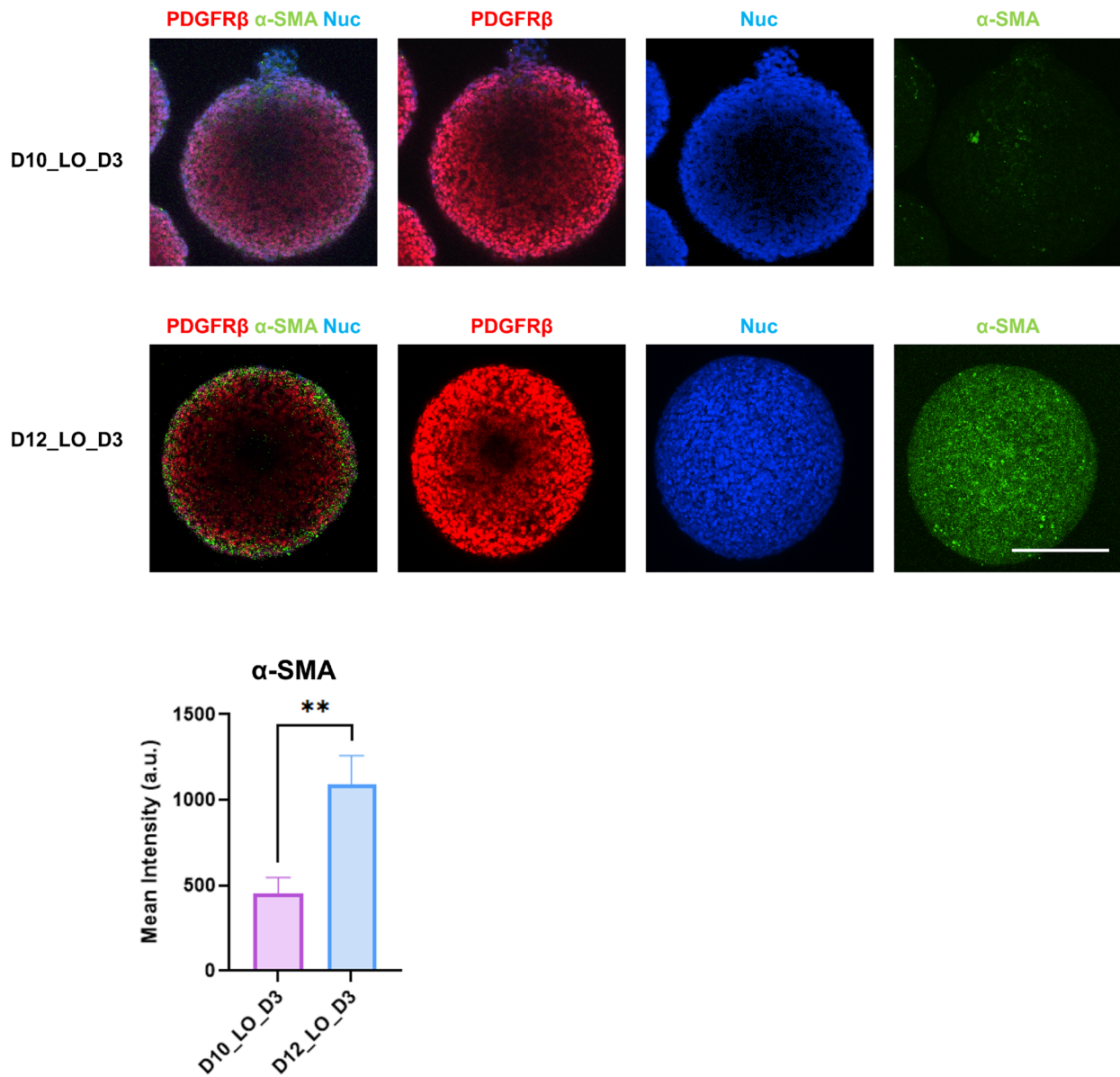


Figure S2. Quantitative analysis of immunofluorescence intensity of α-SMA staining for HSCs at different days. (A) Single immunofluorescence images of Figure 2B. Scale bars: 50 μm; magnifications: 40×. (B) α-SMA fluorescence quantification.

Notes: Data are mean ± SD. **p < 0.01.

Abbreviations: α-SMA: Alpha-smooth muscle actin; HSC: Hepatic stellate cell; LO: Liver organoid; Nuc: Nucleus; PDGFRβ: Platelet-derived growth factor receptor beta.

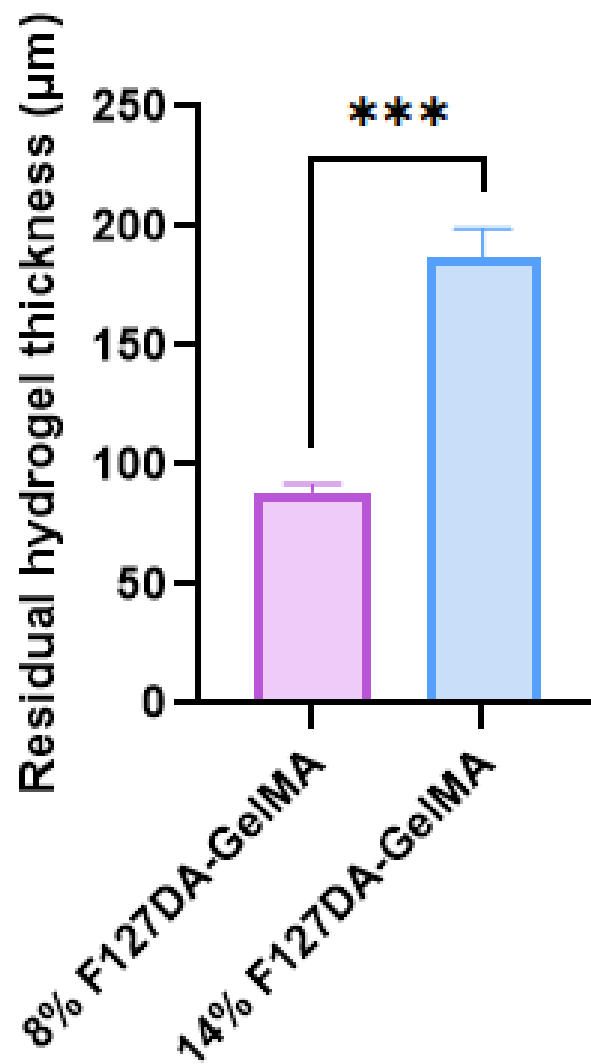


Figure S3. Quantitative analysis of the residual hydrogel scaffolds after in vivo implantation

Notes: Data are mean \pm SD. *** $p < 0.001$.

Abbreviations: GelMA: Gelatin methacryloyl; F127DA: Pluronic F127 diacrylate.

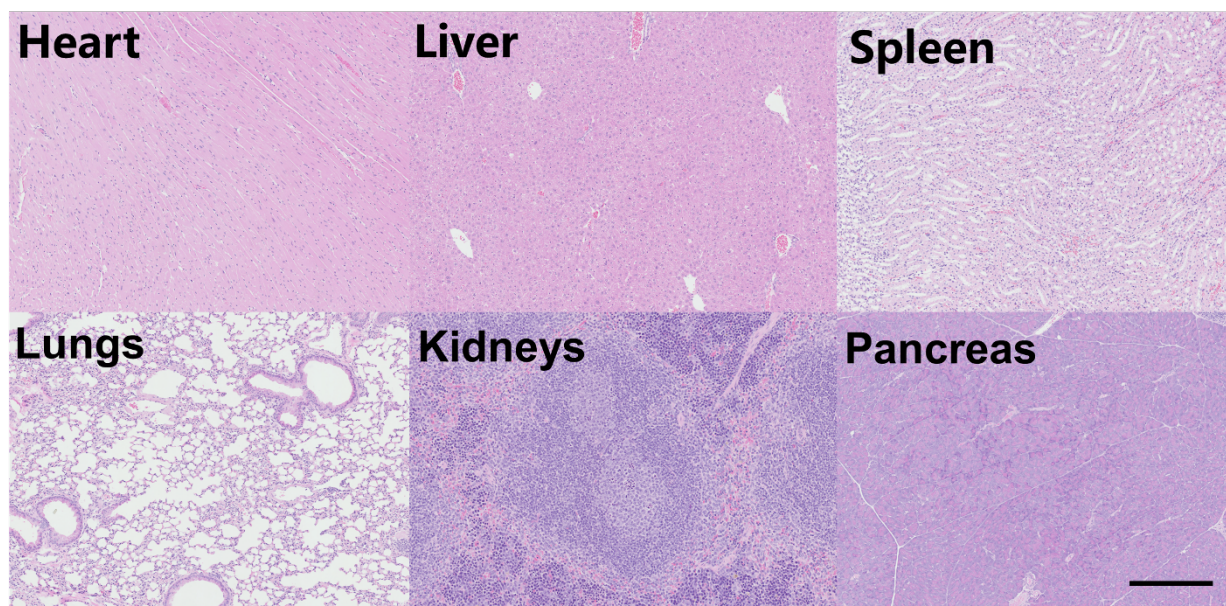


Figure S4. Images of the representative histological HE staining of major tissues after in vivo implantation of F127DA. Scale bars: 200 μ m; magnifications: 4 \times .

Table S1. Primer list

Symbol	Forward sequence (5'-3')	Reverse sequence (5'-3')
<i>KDR</i>	GGAACCTCACTATCCGCAGAGT	CCAAGTTCGTCTTTTCTGGGC
<i>ACTA2</i>	CTATGCCTCTGGACGCACAAC	CAGATCCAGACGCATGATGGCA
<i>VIM</i>	AGGCAAAGCAGGAGTCCACTGA	ATCTGGCGTTCCAGGGACTCAT
<i>PDGFRB</i>	TGCAGACATCGAGTCCTCCAAC	GCTTAGCACTGGAGACTCGTTG
<i>NGFR</i>	CCTCATCCCTGTCTATTGCTCC	GTTGGCTCCTTGCTTGTCTGC
<i>ALCAM</i>	TCCAGAACACGATGAGGCAGAC	GTAGACGACACCAGCAACAAGG
<i>RELN</i>	GTCTACCTTCCACTCTCCACCA	GTCCAGCATCACAATCCCTCG
<i>HGF</i>	GAGAGTTGGGTTCTTACTGCACG	CTCATCTCCTCTCCGTGGACA
<i>COL1A1</i>	GATTCCCTGGACCTAAAGGTGC	AGCCTCTCCATCTTTGCCAGCA
<i>PPARG</i>	AGCCTGCGAAAGCCTTTTGGTG	GGCTTCACATTAGCAAACTGG
<i>LOXL2</i>	TGACTGCAAGCACACGGAGGAT	TCCGAATGTCCTCCACCTGGAT
<i>NCAM1</i>	CATCACCTGGAGGACTTCTACC	CAGTGTACTGGATGCTCTCAGG
<i>TIMP1</i>	GGAGAGTGTCTGCGGATACTTC	GCAGGTAGTGATGTGCAAGAGTC
<i>GFAP</i>	CTGGAGAGGAAGATTGAGTCGC	ACGTCAAGCTCCACATGGACCT
<i>PCDH7</i>	GAGGAGTCAGAAACACCAAGCAG	TCAGGGTACATCTGGAAGAGG
<i>GAPDH</i>	GTCTCCTCTGACTTCAACAGCG	ACCACCTGTTGCTGTAGCCAA
<i>P75NTR</i>	CCTCATCCCTGTCTATTGCTCC	GTTGGCTCCTTGCTTGTCTGC