

## **Supporting Information**

### **Functionalized Vascular Structure in Bioengineered Liver Identified with Proteomics**

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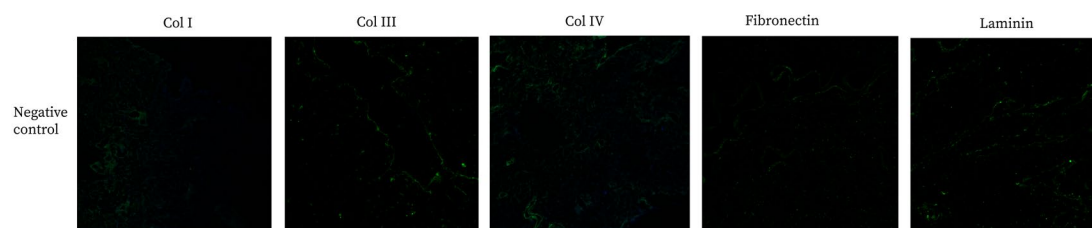
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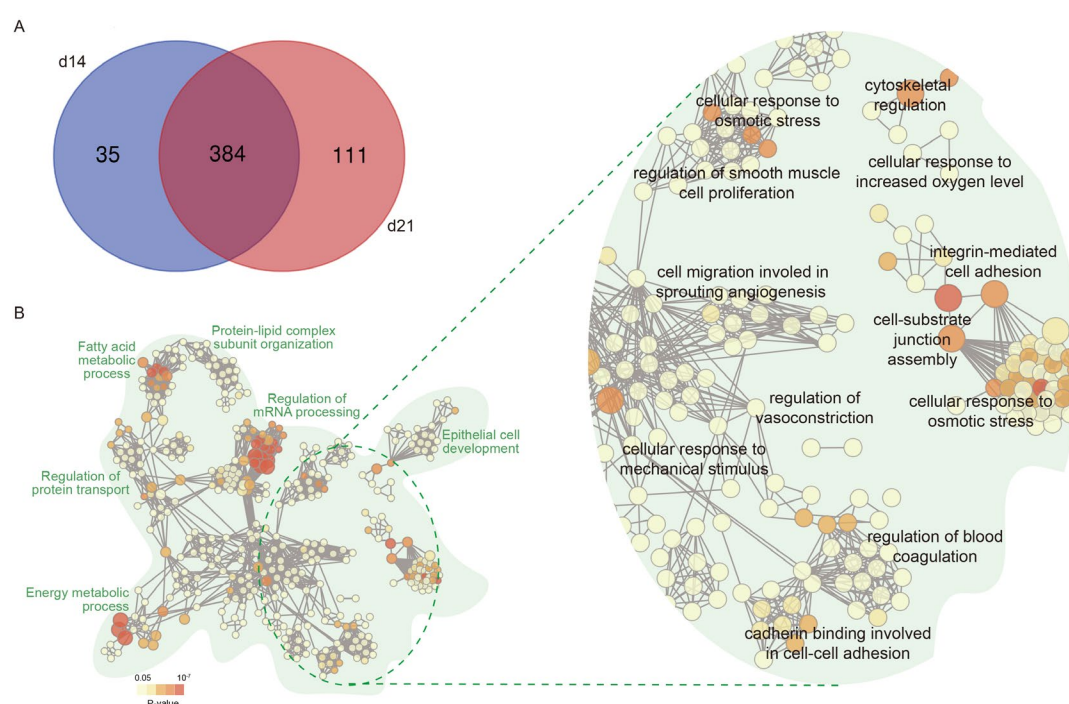
Total pages: 5, Figure numbers: 2, Table numbers: 4

**Contents:**

1. Figure S1. Negative control of immunofluorescence staining of the decellularized liver scaffolds.
2. Figure S2. Functional enrichment analysis of the coexpressed proteins identified in the vascularized liver scaffolds at days 14 and 21.
3. Table S1. List of antibodies.
4. Table S2. List of proteins identified in decellularized liver scaffolds.
5. Table S3. List of all proteins identified in the vascularized liver scaffolds at different time points.
6. Table S4. Gene Ontology biological process terms at different time points.



**Figure S1.** Negative control of immunofluorescence staining of collagens, fibronectin and laminin in the decellularized liver scaffolds. The results showed non-specific fluorescence of the collagen and matrix staining in negative control. And the fluorescence intensity was obviously lower than that of native livers and decellularized liver scaffolds.



**Figure S2.** Functional enrichment analysis of the vascularized liver scaffolds at days 14 and 21. (A) Venn diagram summarizing 384 human-derived proteins coexpressed at days 14 and 21. (B) Functional enrichment analysis diagram of the main biological processes related to vascularization.

**Table S1. List of antibodies.**

Antibodies	Company	Cat. No.	Species Specific test
anti-collagen I	Abcam, Cambridge, UK	#ab84956	Rat
anti-collagen III	Abcam, Cambridge, UK	#ab7778	Rat and Human
anti-collagen IV	Abcam, Cambridge, UK	#ab19808	Rat
anti-fibronectin	Abcam, Cambridge, UK	#ab199056	Rat
anti-laminin	Abcam, Cambridge, UK	#ab11575	Rat and Human
anti- vWF	Abcam, Cambridge, UK	#ab9378	Human
anti-VEGF2	Abcam, Cambridge, UK	#ab2349	Human
anti-Ki67	Abcam, Cambridge, UK	#ab245113	Human
anti-VE Cadherin	Abcam, Cambridge, UK	#ab232880	Human
anti-ICAM1	Abcam, Cambridge, UK	#ab53013	Human
anti-MYPC1	Abcam, Cambridge, UK	#ab113814	Human
anti-MYH4	Abcam, Cambridge, UK	#ab111442	Human
anti- $\alpha$ -SMA	Invitrogen Corp., Carlsbad, CA	#PA532587	Human
anti-TGM2	Abcam, Cambridge, UK	#ab137378	Human

## **Supporting Information Table legends**

**Table S1.** List of antibodies.

vWF: von Willebrand Factor, VEGFR2: vascular endothelial growth factor receptor 2, VE-cadherin: vascular endothelial-cadherin, ICAM-1: intercellular adhesion molecule 1, MYPC1: myosin-binding protein C,  $\alpha$ -SMA: alpha-smooth muscle actin, TGM2: transglutaminase 2.

**Table S2.** List of proteins identified in decellularized liver scaffolds. Identifications were based on a 1% false discovery rate at both the peptide and the protein level.

**Table S3.** All proteins identified in the vascularized liver scaffolds at different time points. Identifications were based on a 1% false discovery rate at both the peptide and the protein level.

**Table S4.** Gene Ontology biological process terms at different time points.  $P < 0.01$  were set to filter Gene Ontology terms. Protein number is the count of proteins that was clustered in a certain Gene Ontology term. Protein IDs showed the proteins that were clustered into each Gene Ontology term.