

## Supplementary Data

Methylcellulose as a scaffold in the culture of liver-organoids for the potential of treating acute liver failure

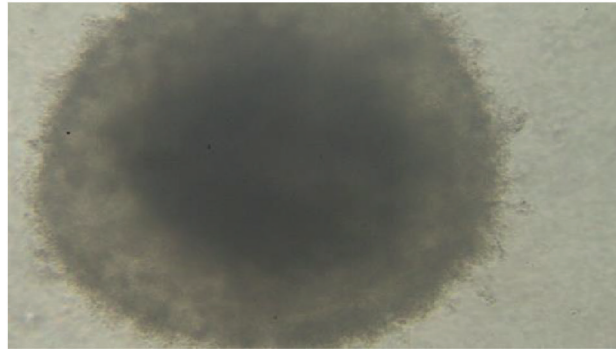
Anil Chandrashekran, Ragai R Mitry, Tharindu Premachandra, Chris Starling, Sharon Lehec, Valeria Iansante, Emer Fitzpatrick, Celine Filippi, Maesha Deheragoda, David Hay & Anil Dhawan

*Cell & Gene Therapy Insights* 2019; 4(11), 1087–1104  
DOI: 10.18609/cgti.2018.111

Submitted for Peer Review: 8 Aug 2018 ► Published: 18 Dec 2018

Supplementary figure 1

A



B

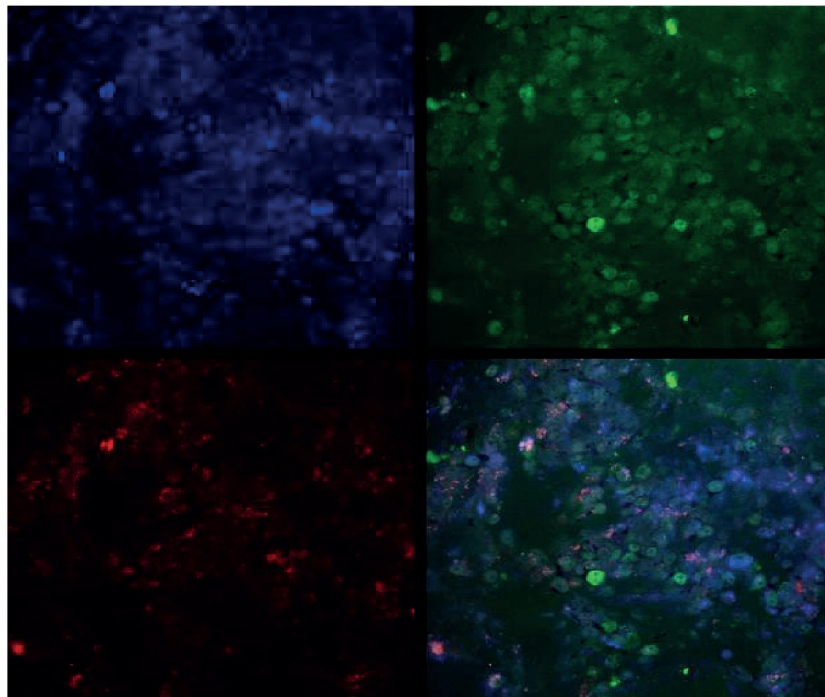


Figure S1 Organoids cultured in matrigel

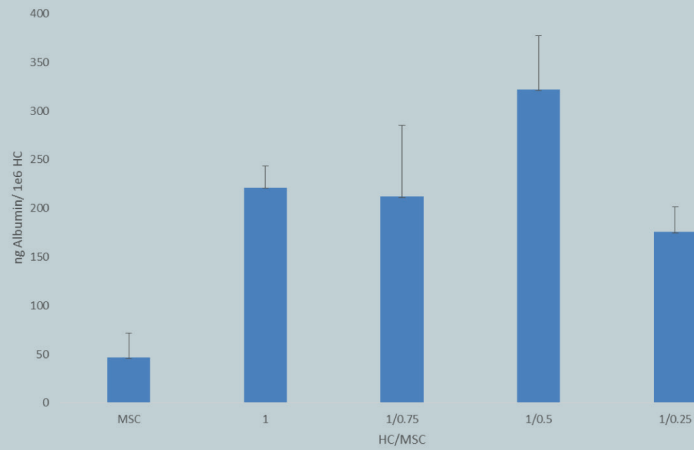
A. Morphology of organoids from a 96-well plate

B. Confocal imaging of hepatocyte (top right panel, in green) and CD105 marker (bottom left panel-in red and merged image (bottom right panel). Dapi stain of nuclei (Top left panel-in blue)

Supplementary figure 2

Albumin secretion from HC-MSC derived Organoids

A



Urea production from HC-MSC derived Organoids

B

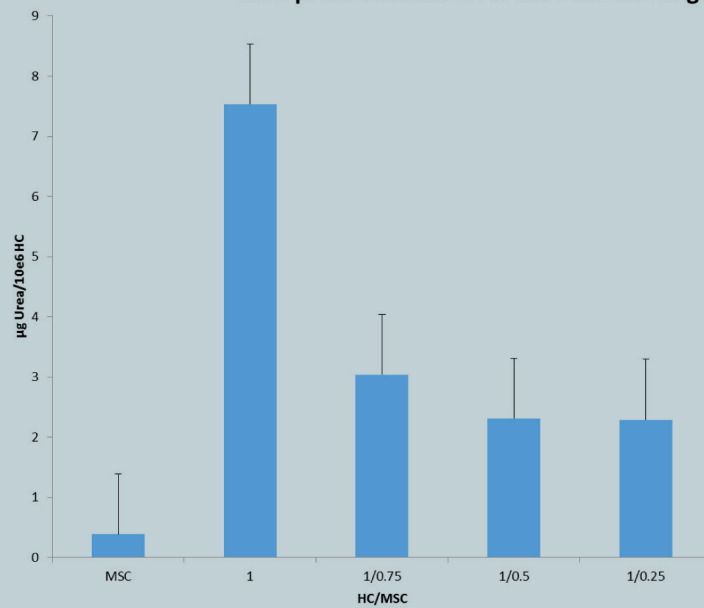


Figure S2 Cell ratio analysis for organoid development

A. Albumin ELISA demonstrating that a 2:1 hepatocyte: MSC ratio gave rise to the highest expression

B. Urea production was highest using a 1:1 hepatocyte: MSC ratio

Supplementary figure 3

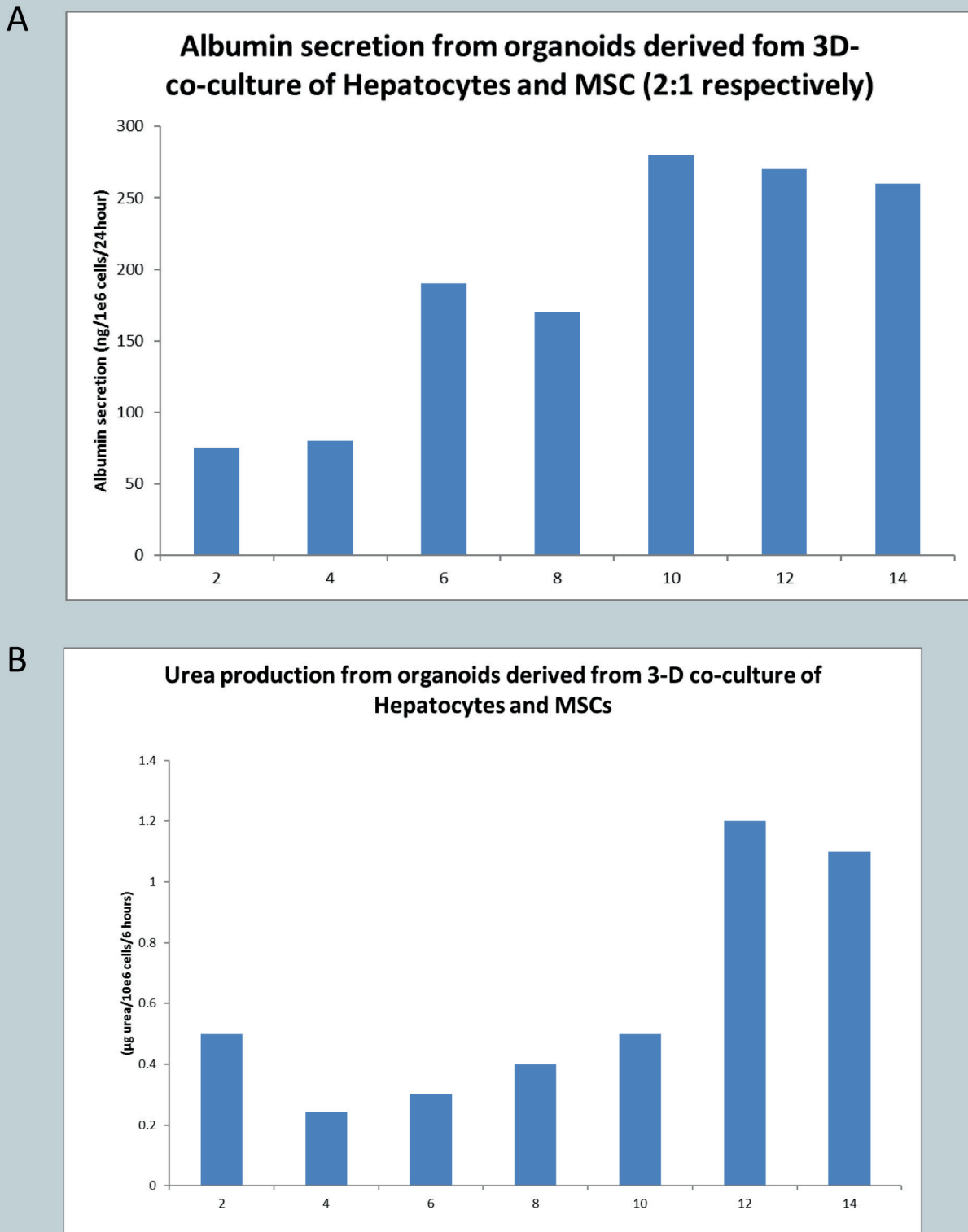


Figure S3 Time function of organoids

A. Albumin production was detected from day two in culture and peaking at day 10

B. Urea production was like albumin production except that a slightly higher level was noted on day 2. Urea production peaked at day 12

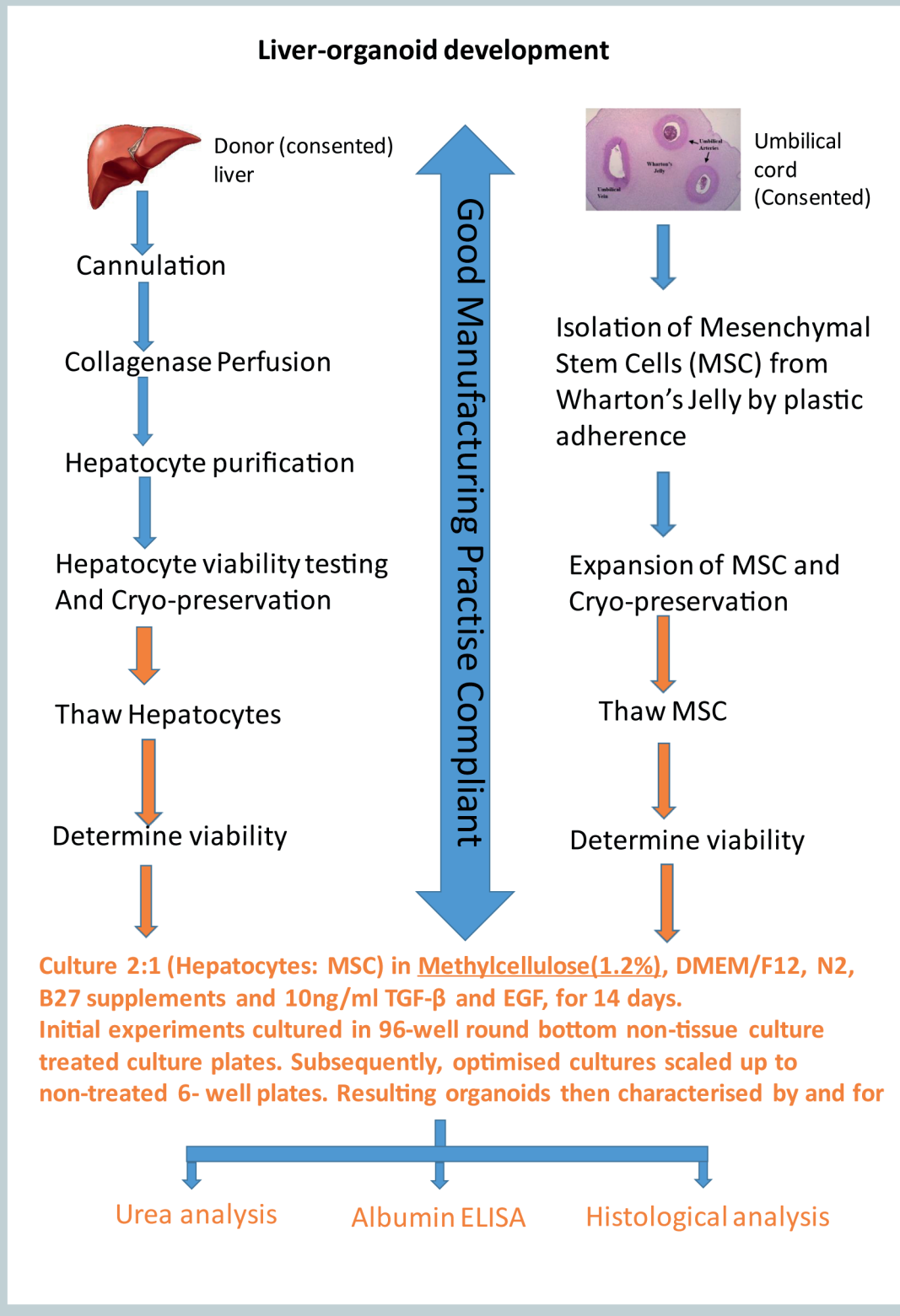


Figure S4 Schematic production for developing organoids suitable for transplantation

Table S1. Antibodies used in this study							
Antibody	Supplier	Catalogue #	Pretreatment	Dilution	Bond Protocol	Control	Result
cMOAT (F)	Abcam	Ab3373-250	ER2	1:40	F	Normal liver	Canaliculi +ve
CK 7	Dako	M7018	ER1	1:200	F	Normal liver	Bile ducts +ve
OCH1E5	Dako	M7158	ER1	1:100	F	Normal liver	Hepatocytes +ve
Cytokeratin 19	Abcam	ab52625	-	1:200	-	Normal liver	Bile ducts +ve
CD31	Abcam	ab28364	-	1:50	-	-	Endothelial cells +ve
CD105-PE	Biolegend	323205	-	1:50	-	MSC-P1	MSC +ve