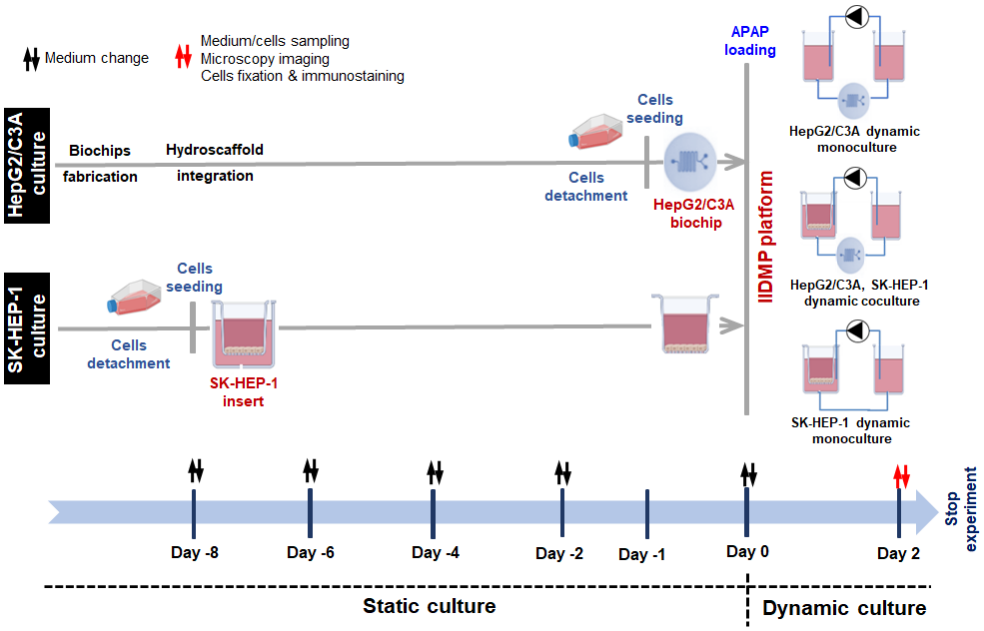

Figure 1. Experimental procedures for SK-HEP-1 and HepG2/C3A monoculture and coculture.

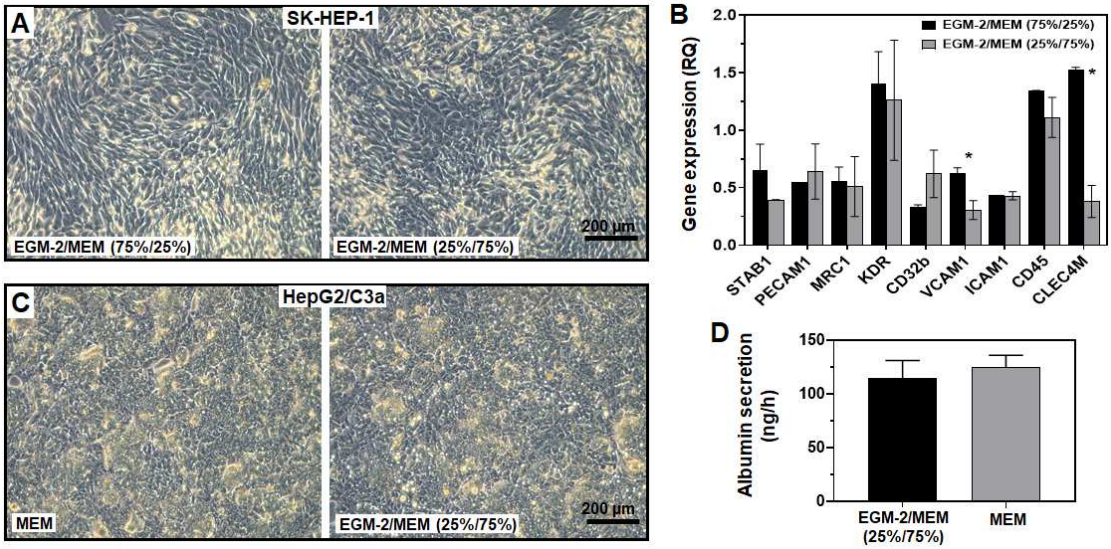

Figure 2. Effect of culture medium composition on SK-HEP-1 and HepG2/C3a cells. (A) morphology of SK-HEP-1 after 7 days of culture in different culture media mixtures; (B) gene expression of several LSECs markers in SK-HEP-1 cultured in different mixtures of MEM and EGM-2; (C) HepG2/C3a cell morphology after 4 days of culture in MEM and MEM/EGM-2 mixture media; (D) albumin secretion by HepG2/C3a cultured in MEM and EGM-2/MEM (25%/75%) media, * $P < 0.05$.

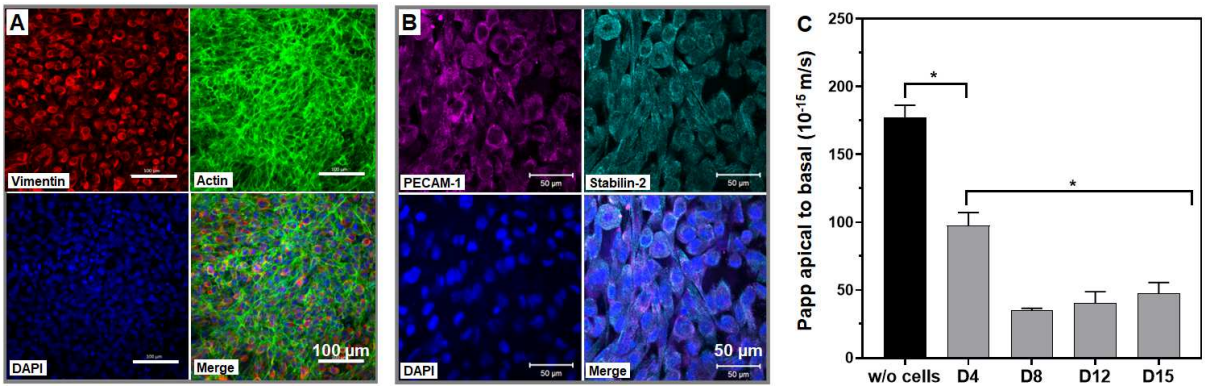

Figure 3. Characterisation of the SK-HEP-1 endothelial barrier. (A) vimentin, actin, and nuclei staining of the SK-HEP-1 cells after 8 days of culture on inserts; (B) PECAM-1, stabilin-2, and nuclei staining at Day 8; (C) apparent permeability measured using Lucifer Yellow, * $P < 0.05$.

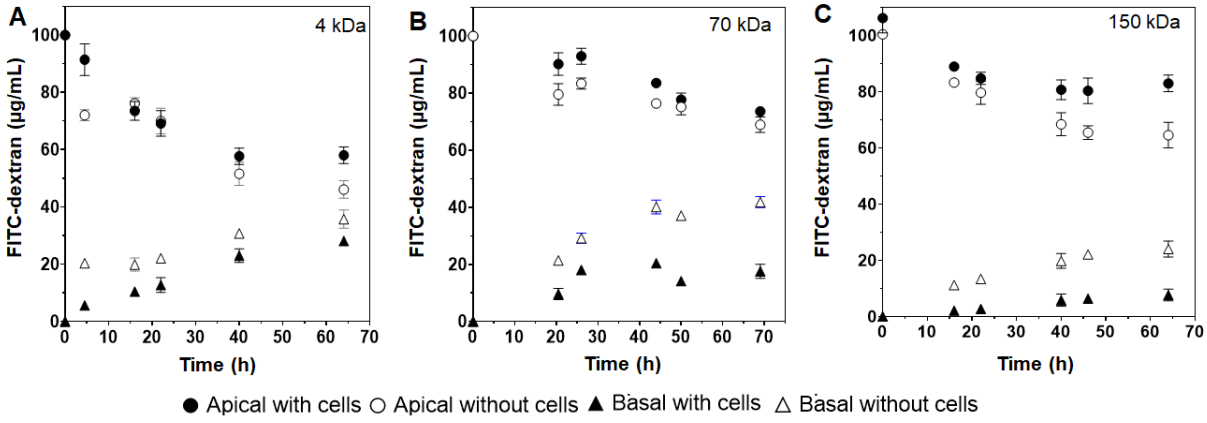

Figure 4. Diffusion of FITC-dextran through the SK-HEP-1 barrier and insert without cells: (A) FITC-dextran 4 kDa; (B) FITC-dextran 70 kDa; (C) FITC-dextran 150 kDa.

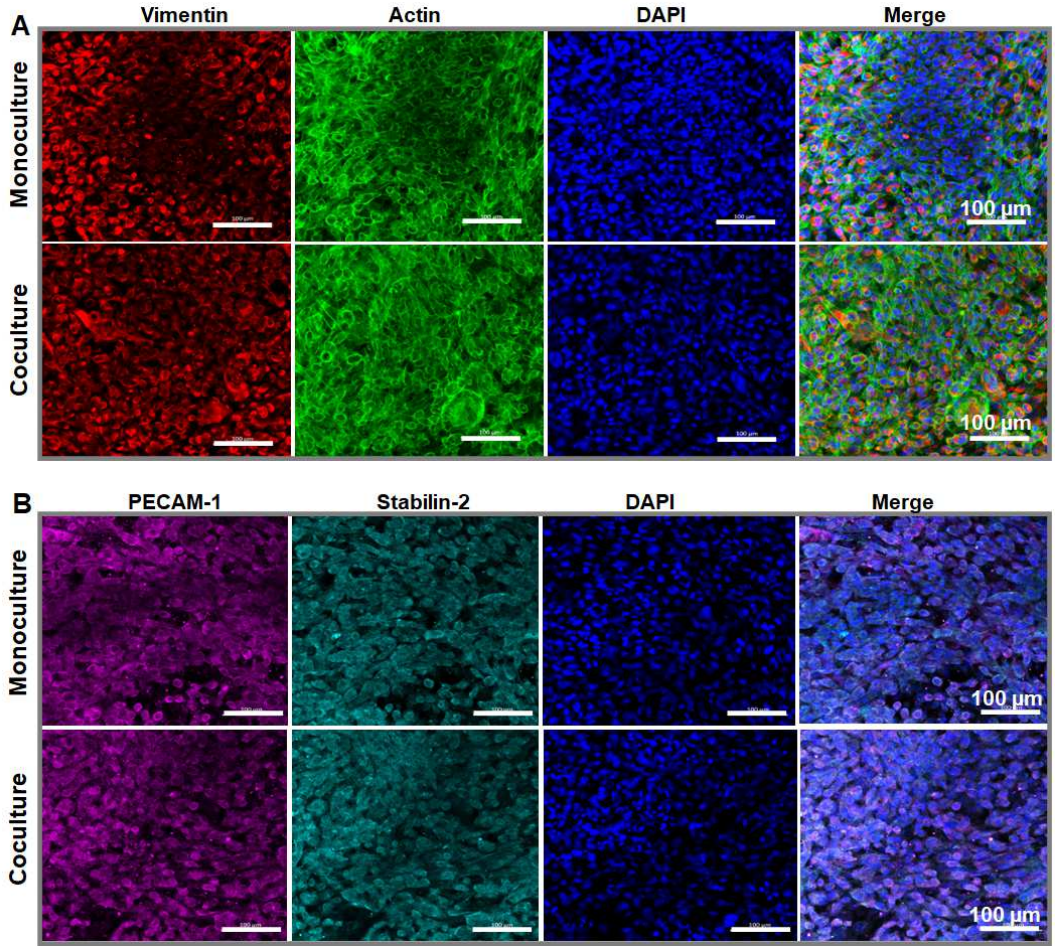

Figure 5. Characterisation of the SK-HEP-1 endothelial barrier in dynamic monoculture and coculture (8 days of maturation followed by 2 days in the IIDMP platform). (A) vimentin, actin, and nuclei staining; (B) PECAM-1, stabilin-2 and nuclei staining.

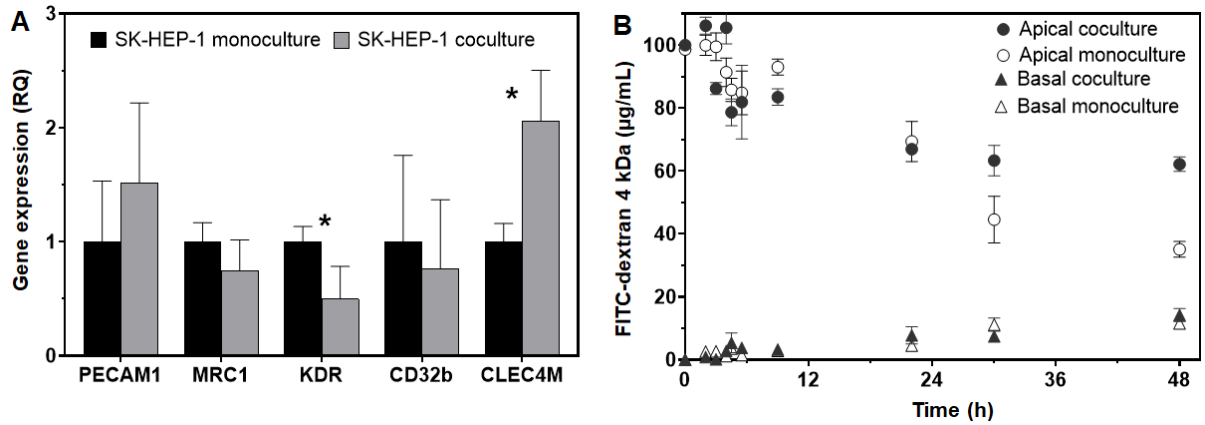

Figure 6. Comparison of the SK-HEP-1 barrier in dynamic monoculture and coculture. (A) gene expression of LSECs markers in SK-HEP-1 monoculture and coculture; (B) FITC-dextran 4 kDa diffusion through SK-HEP-1 barriers in dynamic monoculture and coculture.

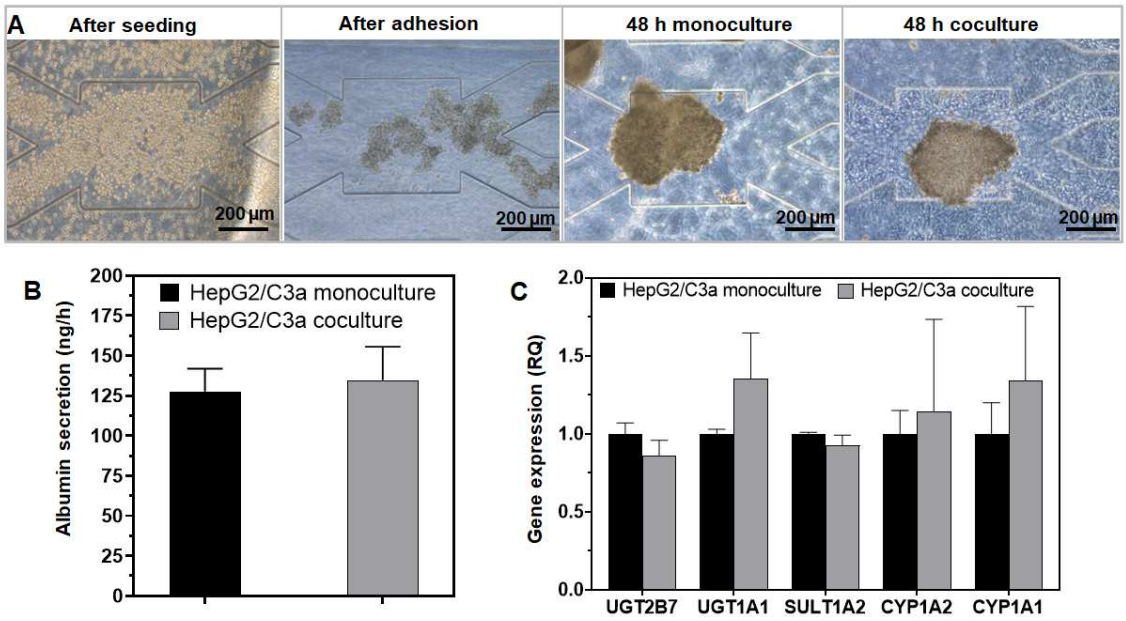

Figure 7. Characterisation of HepG2/C3a cells cultured in the biochip, in monoculture, and coculture with the SK-HEP-1 endothelial barrier. (A) cell morphology after seeding, 24 h of adhesion in static conditions, 48 h of dynamic monoculture, and 48 h of dynamic coculture in the presence of SK-HEP-1; (B) albumin secretion by HepG2/C3a after 48 h of monoculture and coculture with SK-HEP-1; (C) gene expression levels of markers in HepG2/C3a monocultures and cocultures.

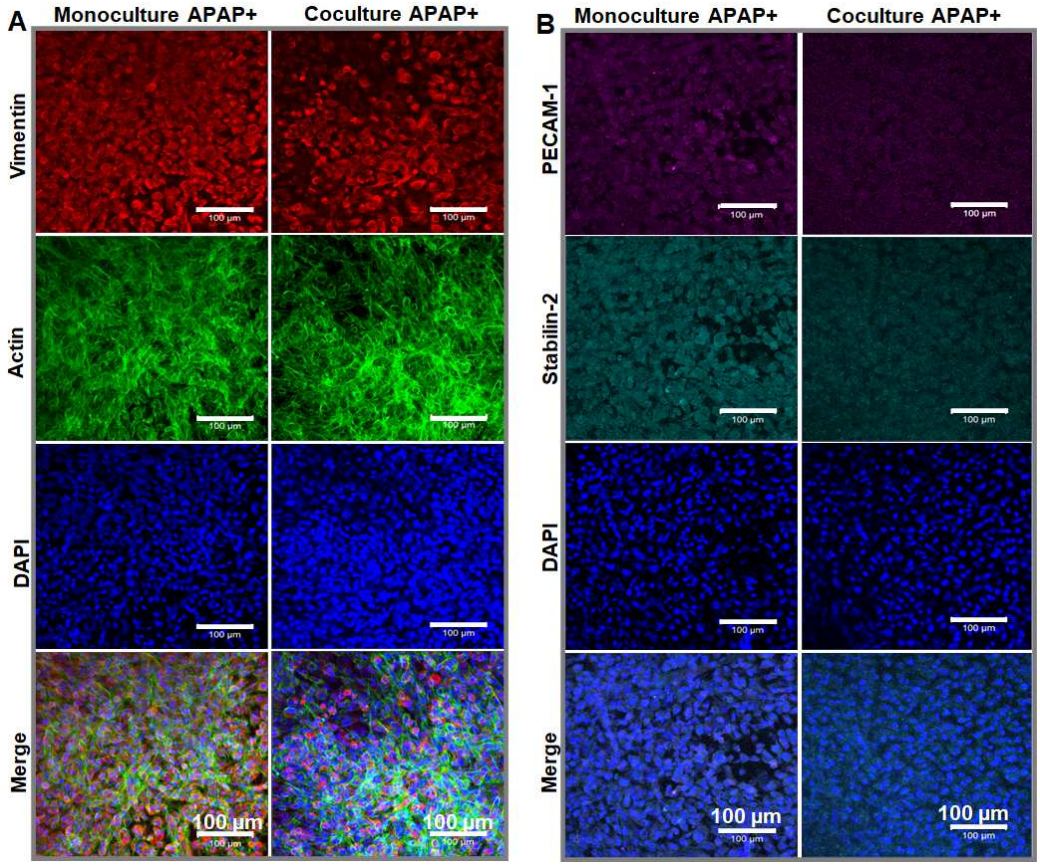

Figure 8. Characterisation of the SK-HEP-1 endothelial barrier exposed to APAP in dynamic monoculture and coculture (8 days of maturation followed by 2 days in the IIDMP platform with APAP exposure). (A) vimentin, actin, and nuclei staining; (B) PECAM-1, stabilin-2 and nuclei staining.

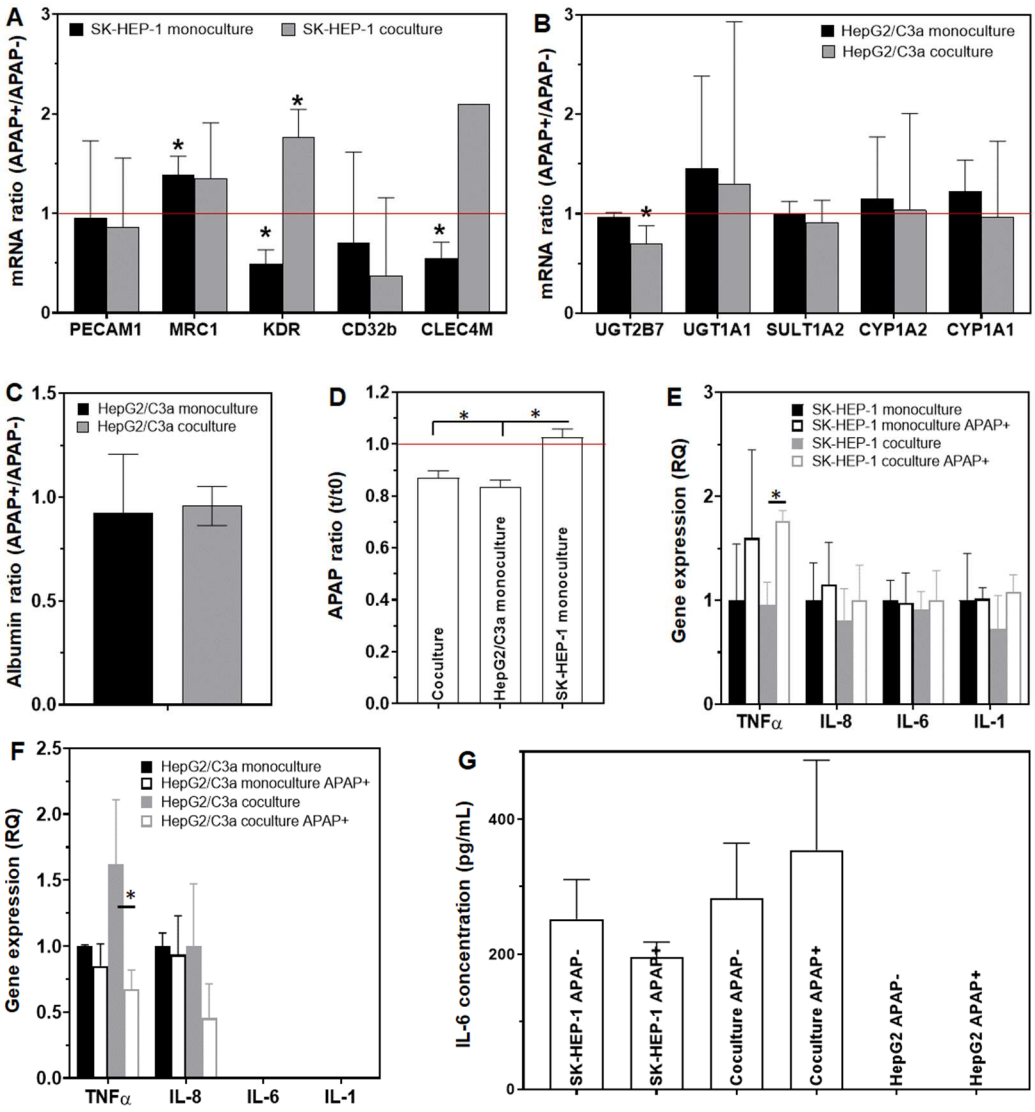

Figure 9. Characterisation of monocultures and cocultures with and without APAP treatment. (A) mRNA ratio (APAP+/APAP-) of selected markers in SK-HEP-1 monoculture and coculture (* $P < 0.05$, comparison APAP+ versus APAP-); (B) mRNA ratio (APAP+/APAP-) of selected markers in HepG2/C3a monoculture and coculture (* $P < 0.05$, comparison APAP+ versus APAP-); (C) ratio (APAP+/APAP-) of albumin secreted by HepG2/C3a monoculture and coculture; (D) ratio of APAP recovered at the end of the experiments for HepG2/C3a monoculture, SK-HEP-1 monoculture and coculture; (E) expression of inflammatory genes in SK-HEP-1 monoculture and coculture, with and without APAP; (F) expression of inflammatory genes in HepG2/C3a monoculture and coculture, with and without APAP; (G) IL-6 secreted in different culture conditions.