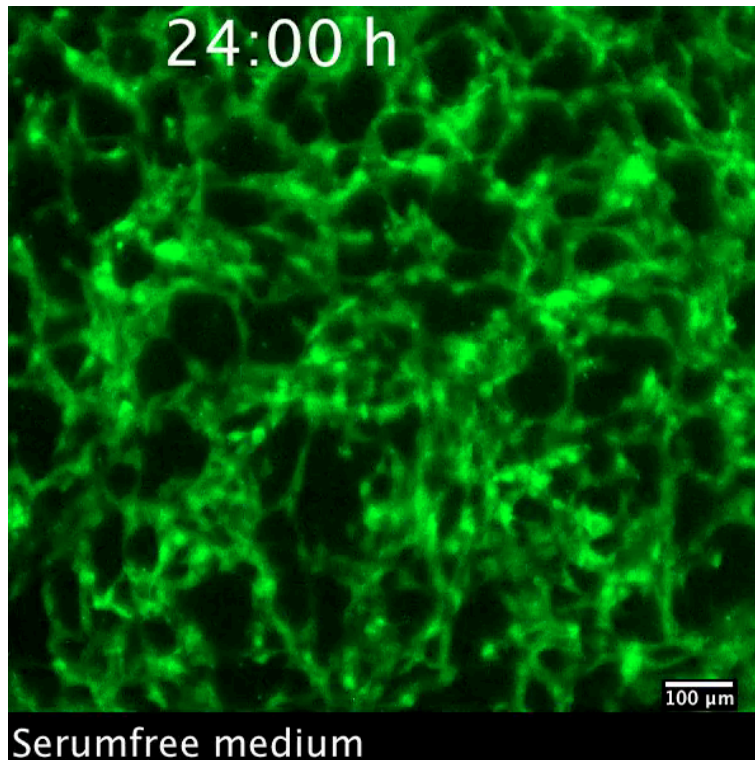


Formation of three-dimensional tubular endothelial cell networks under defined serum-free cell culture conditions in human collagen hydrogels

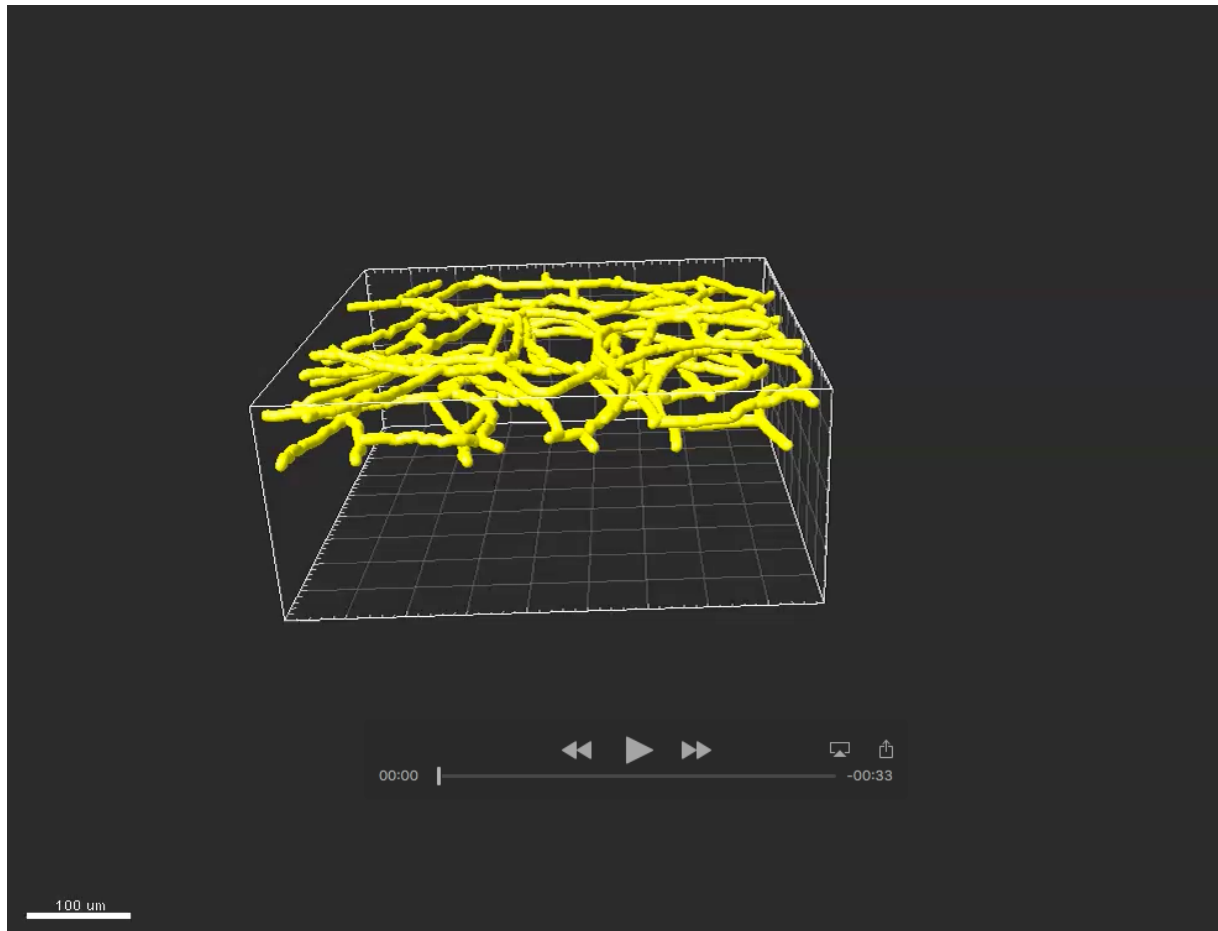
Birgit Andrée^{a,1}, Houda Ichanti^{a,1}, Stefan Kalies^{b,c}, Alexander Heisterkamp^{b,c}, Sarah Strauß^d, Peter-Maria Vogt^d, Axel Haverich^a, Andres Hilfiker^{a*}



Supplemental movie 1:

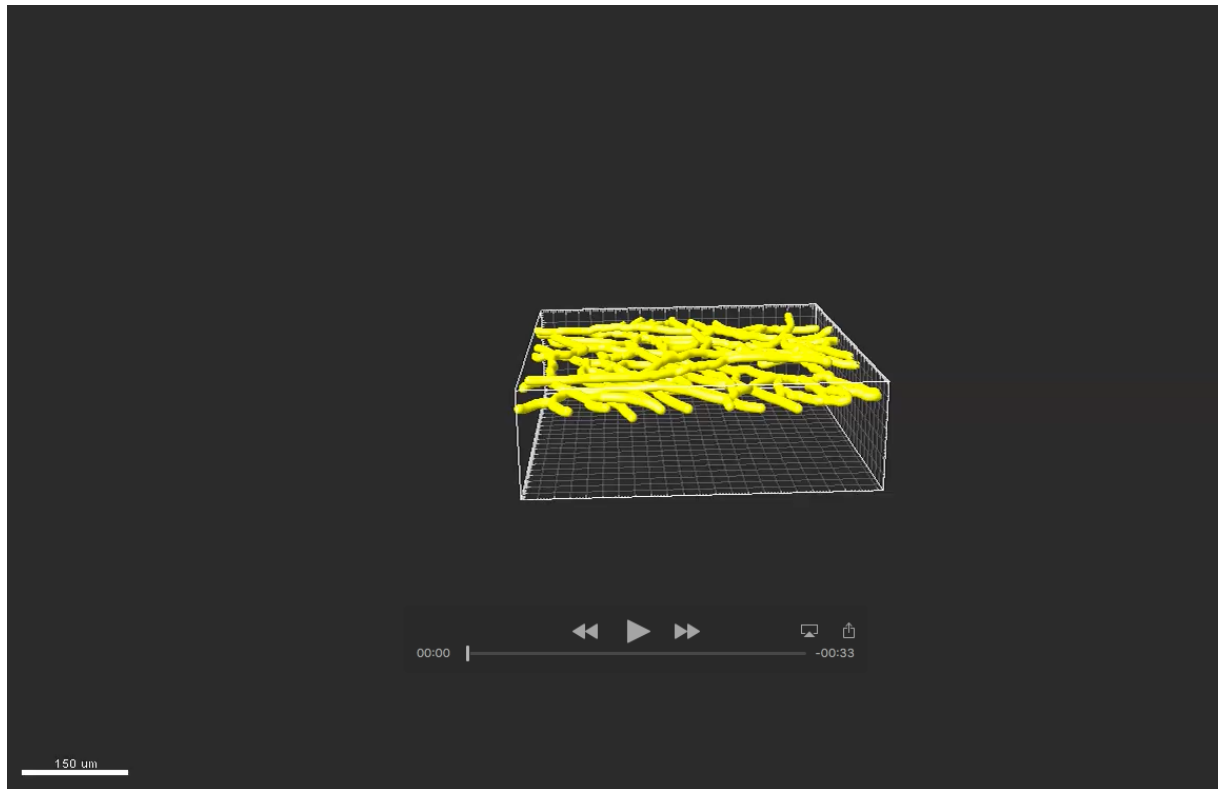
Network formation of GFP-HUVECs starts from day 3 onwards resulting in a stable and stationary spatial arrangement.

Time-lapse movie of network formation of GFP-HUVECs in 3D constructs containing hASCs, Matrigel/rCOL, and cultivation in SFM. Time-lapse was started 24 hours after construct generation and recorded for 7 days. Medium was exchanged every 3 days (jumps in movie). Initial network formation started at day 2-3. Re-arrangement of the initial network was very limited and GFP-HUVEC movement was only observed along the existing cords. Scale bar: 200 μm



Supplemental movie 2:

Movie of the 3D reconstruction of multiphoton images obtained from constructs containing GFP-HUVECs and hASCs and Matrigel/rCOL. The calculated mean diameter is displayed. A multi-layered network is visible. Scale bar: 100 μm



Supplemental movie 3:

Movie of the 3D reconstruction of multiphoton images obtained from constructs containing GFP-HUVECs and hASCs and hCOL. The calculated mean diameter is displayed. A multi-layered network is visible. Scale bar: 100 μm