

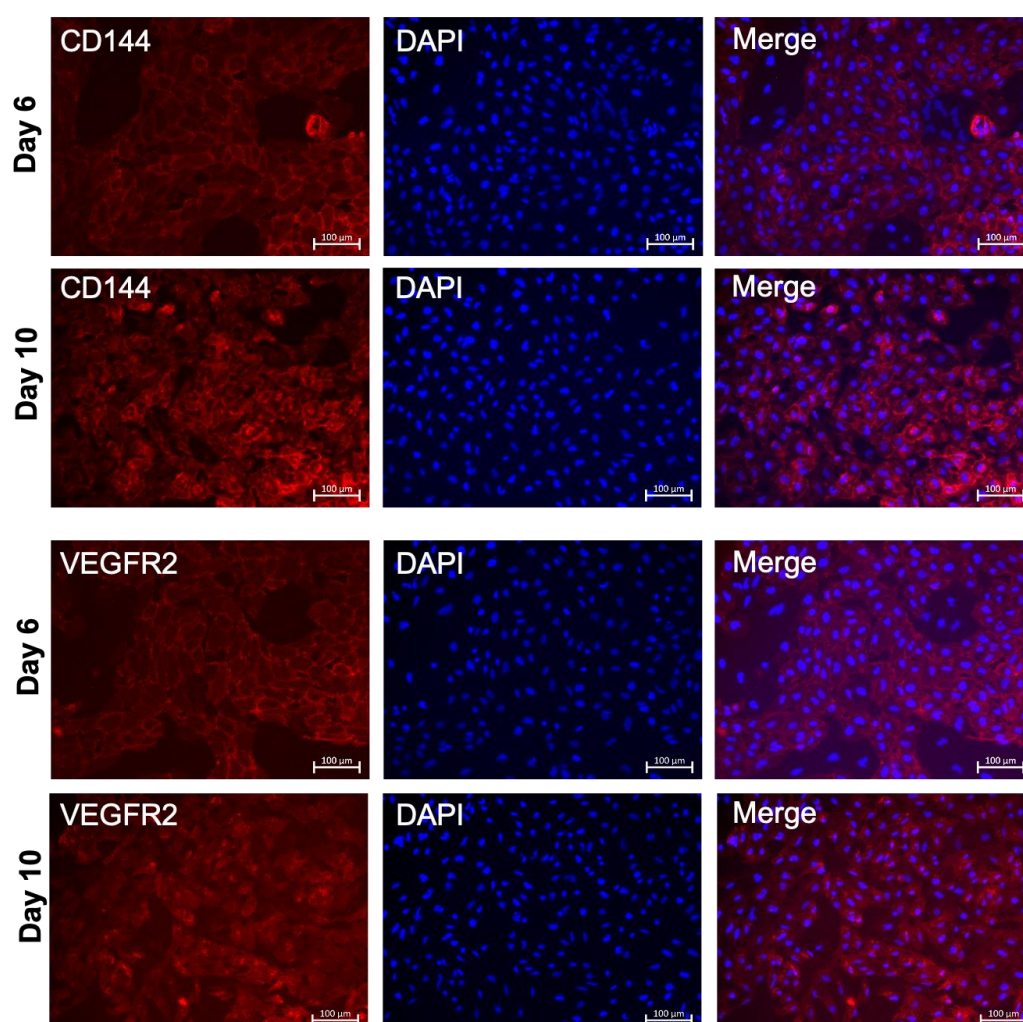
Supplementary Material

# Development of an In Vitro Blood Vessel Model Using Autologous Endothelial Cells Generated from Footprint-Free hiPSCs to Analyze Interactions of the Endothelium with Blood Cell Components and Vascular Implants

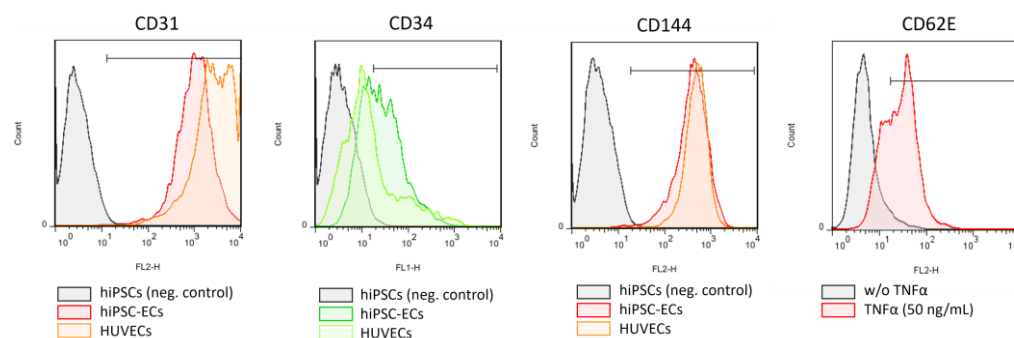
Josefin Weber, Marbod Weber, Adrian Feile, Christian Schlensak and Meltem Avci-Adali \*

Department of Thoracic and Cardiovascular Surgery University Hospital Tuebingen, , Calwerstraße 7/1, 72076 Tuebingen, Germany

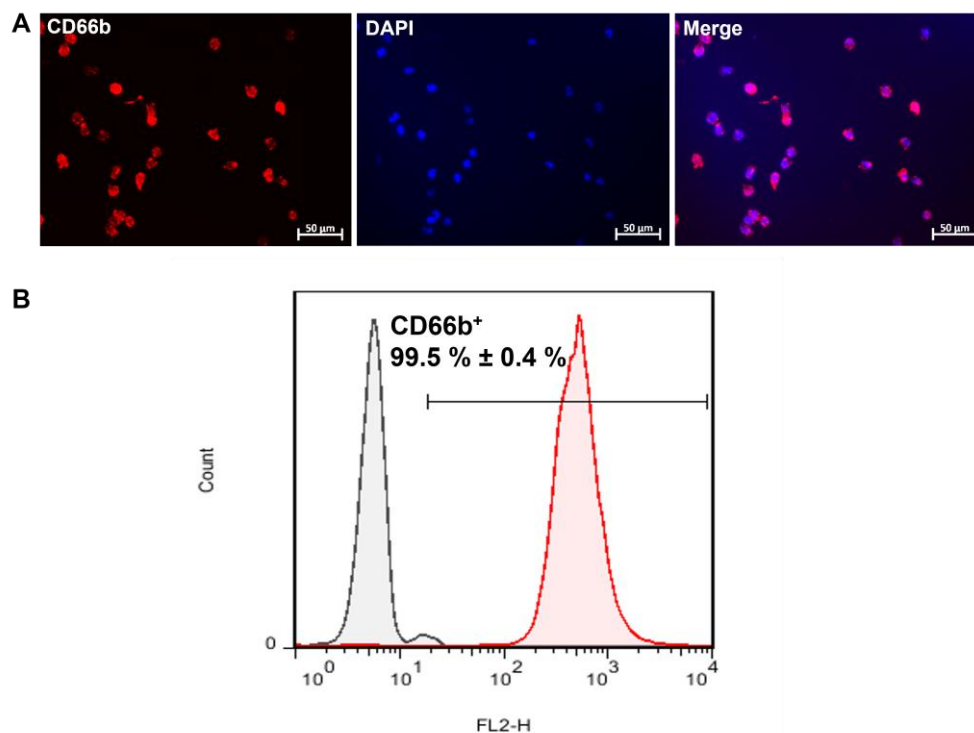
\* Correspondence: meltem.avci-adali@uni-tuebingen.de



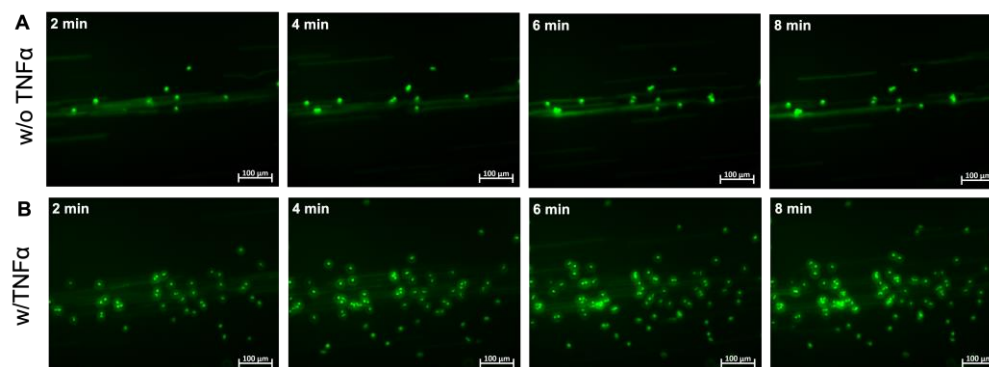
**Figure S1.** Representative immunofluorescence microscopy images of hiPSC-ECs. The cells were stained with PE-labeled CD144- and VEGFR2-specific antibodies on day 6 (before separation) and 10 of differentiation. Scale bars represent 100 µm.



**Figure S2.** Characterization of hiPSC-ECs. Representative flow cytometry histograms of the markers used for cell characterization (CD31, CD34, CD144, and CD62E).



**Figure S3.** Characterization of isolated granulocytes from human blood. (A) Representative immunofluorescence microscopy images of granulocytes stained with a CD66b-specific antibody. Scale bars represent 50  $\mu$ m. (B) Flow cytometry analysis of isolated neutrophil granulocytes expressing CD66b ( $n = 3$ ).



**Figure S4.** Interaction of fluorescently labeled granulocytes with hiPSC-ECs under flow conditions. (A) Interaction of fluorescently labeled granulocytes (calcein AM, green) with unstimulated and (B) 50 ng/ml TNF- $\alpha$ -stimulated hiPSC-ECs in a PDMS model during perfusion. Granulocytes were perfused with a flow rate of 150  $\mu$ L/min for 10 min over the ECs, corresponding to a shear stress of 0.4 dyne/cm<sup>2</sup>. Images were acquired after 2, 4, 6, and 8 min of perfusion.