

Supplementary Data

Influence of Aerosolization on Endothelial Cells for Efficient Cell Deposition in Biohybrid and Regenerative Applications

Maria Cheremkhina ^{1,2,†}, Sarah Klein ^{1,2,†}, Aaron Babendreyer ³, Andreas Ludwig ³, Thomas Schmitz-Rode ¹, Stefan Jockenhoevel ^{1,2,*}, Christian G. Cornelissen ^{1,4} and Anja Lena Thiebes ^{1,2,*}

¹ Department of Biohybrid & Medical Textiles (BioTex), Institute of Applied Medical Engineering, Helmholtz Institute Aachen, RWTH Aachen University, Forckenbeckstraße 55, 52074 Aachen, Germany

² Aachen-Maastricht Institute for Biobased Materials, Faculty of Science and Engineering, Maastricht University, Brightlands Chemelot Campus, 6167 RD, Geleen, The Netherlands

³ Institute of Molecular Pharmacology, University Hospital RWTH Aachen, Wendlingweg 2, 52074 Aachen, Germany

⁴ Department of Pneumology and Internal Intensive Care Medicine, Medical Clinic V, University Hospital RWTH Aachen, Pauwelsstraße 30, 52074 Aachen, Germany

* Correspondence: jockenhoevel@ame.rwth-aachen.de (S.J.); thiebes@ame.rwth-aachen.de (A.L.T.); Tel.: +49-241-80-47478 (S.J.); +49-241-80-47472 (A.L.T.)

† These authors contributed equally to this work.

Table S1. Used qPCR primers and their annealing temperature.

Gene	Sequence	Annealing temperature
EDN1	forward: CCTAAGACAAACCAGGTCGG reverse: CTTGCCAGTCAGGAACCA	60 °C
GAPDH	forward: CGGGGCTCTCCAGAACATCATCC reverse: CCAGCCCCAGCGTCAAAGGTG	66 °C
HMOX1 (HO1)	forward: CAGTGCCACCAAGTTCAAGC reverse: GTTGAGCAGGAACGCAGTCTT	63 °C
CXCL8 (IL8)	forward: GACATACTCCAAACCTTTCC reverse: AACTTCTCCACAACCCCTC	60 °C
KLF2	forward: AAAGACCACGATCCTCT reverse: CTTATTCTCACAGGCATCAC	59 °C
MCP1	forward: ATGAAAGTCTCTGCCGCC reverse: CTTCTTGGGACACTGCT	57 °C
NOS3	forward: CGAGTGAACCGCGACAATCCT reverse: GCTGCAAAGCTCTCCATT	60 °C
NQO1	forward: CGTCCTTCAACTATGCCA reverse: TTTACCTGTGATGTCCTTCTG	57 °C
TBP	forward: GAGCCAAGAGTGAAGAACAGTC reverse: GCTCCCCACCATATTCTGAATCT	60 °C
THBD (TM)	forward: AGAGAAGAGACAAACACCT reverse: TCCACAAGACCACTAGAG	57 °C
PLAT (TPA)	forward: TGCTACTTGGGAATGGG reverse: GTTCTGTGCTGTAAACCT	57 °C
VCAM1	forward: GCAAGTCTACATATCACCC reverse: AATCTTCATCCTCATAGCA	57 °C

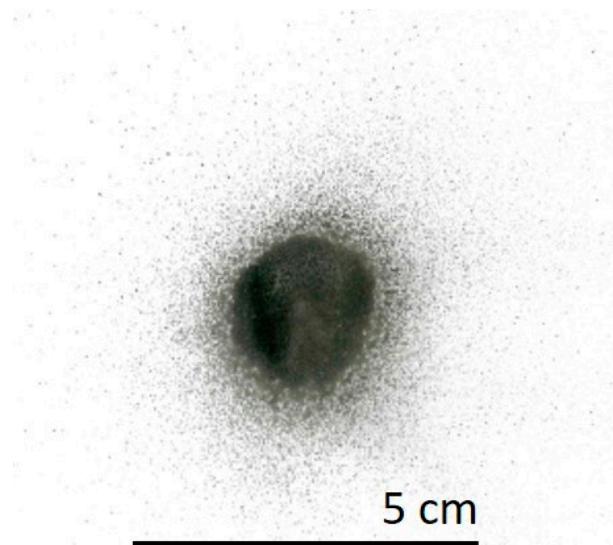


Figure S1. Representative picture of a spray pattern. Following parameters have been used: high flow rate, working distance – 9 cm.

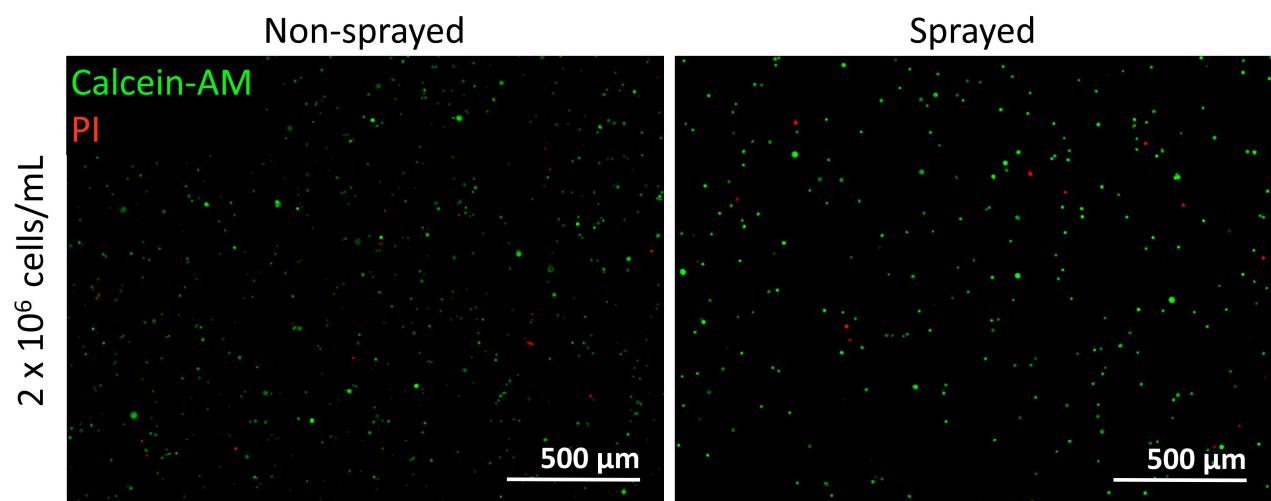


Figure S2. Representative pictures of the Calcein-AM (green) and PI (red) staining for the evaluation of cell survival. Sprayed cell (right) have been aerosolized with following parameters: high flow rate, working distance – 9 cm, cell concentration – 2×10^6 cells/mL.