

Curriculum Vitae – Status: 05.2024

NAME Katja Schenke-Layland		POSITION Professor of Medical Technologies and Regenerative Medicine	
EDUCATION/ TRAINING			
INSTITUTION AND LOCATION	DEGREE(s)	YEAR(s)	FIELD(s) OF STUDY
UCLA, Cardiovascular Research Laboratories, Los Angeles/CA, USA	Postdoctoral Research Fellow	2005-2008	Stem Cell Research/ Cardiovascular Tissue Engineering
Children's Hospital Los Angeles, Saban Research Institute, Los Angeles/CA, USA	Postdoctoral Research Fellow	2004-2005	Cardiovascular Tissue Engineering
Friedrich Schiller University (FSU) Jena, Germany	Dr.rer.nat.	2001-2004 (23.9.2004)	Biology/ Cardiovascular Tissue Engineering
Friedrich Schiller University (FSU) Jena, Germany	M.Sc.	1995-2000	Biology, Sociology, Psychology

Personal Information:

Birth Date/Place: March 21st 1977; Eisenach, Germany
 Citizenship: Dual Nationality: German and U.S.A.
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**Professional Experience:**

since 04/2018 **Director**, Natural and Medical Sciences Institute at the University of Tübingen, Reutlingen, Germany (www.nmi.de/en)

since 11/2011 **Full Professor** (W3), Eberhard Karls University Tübingen (EKUT), Medical Faculty, Tübingen, Germany

since 01/2020 **CEO**, NMI-Technology Transfer (NMI-TT) GmbH, Reutlingen, Germany

since 01/2018 **Co-Editor-in-Chief**, Tissue Engineering, Part B (Mary Ann Liebert)

since 01/2012 **Executive Editor**, Advanced Drug Delivery Reviews (ADDR) (Elsevier)

08/2018-06/2022 **Visiting Project Scientist/Scholar**, University of California Los Angeles (UCLA), Dept. of Medicine/ Cardiology, Cardiovascular Research Laboratories (CVRL), Los Angeles, CA, USA

11/2013-07/2018 **Adjunct Associate Professor**, UCLA, Dept. of Medicine/ Cardiology, Los Angeles, CA, USA

01/2016-03/2018 **Director** (interim, executive), Fraunhofer Institute for Interfacial Engineering and Biotechnology (IGB), Stuttgart, Germany

04/2013-03/2018 **Department Head**, Fraunhofer IGB, Dept. of Cell and Tissue Engineering, Stuttgart, Germany

01/2010-09/2013 **Visiting Associate Professor**, UCLA, Dept. of Medicine/ Cardiology, Los Angeles, CA, USA

01/2010-12/2014 **ATTRACT-Group Leader**, Fraunhofer IGB, Stuttgart, Germany

01/2010-03/2013 **Deputy Department Head**, Fraunhofer IGB, Dept. of Cell and Tissue Engineering, Stuttgart, Germany

11/2008-12/2009 **Assistant Research Professor**, UCLA, Dept. of Medicine/ Cardiology, Los Angeles, CA, USA

Overview of Peer-Reviewed Publications:

Peer-Reviewed Articles	Original Articles:	174
	Review Articles, Editorials, Commentaries, etc.:	33
	Senior/First Authorships:	66/25
	Book Chapters:	6
Citations <small>Web of Science</small>	Sum of the times cited:	8,603
Citations <small>Scopus</small>		9,667
Total Impact Factor Points		1024
h-Index <small>Web of Science</small>		50
h-Index <small>Scopus</small>		53

Patents:

- "Glycosylated protein of an extra-cellular matrix for use in a method of treating diabetes in a human or animal subject", EP3027201B1
- "A method and apparatus for providing a desired target protein expression cell line", DE102017207262A1
- "Markers for human cardiac stem cells for regenerative therapies", USA, *US Prov App Serial No. 61/828,502*
- "Glycosylated protein of an extra-cellular matrix for use in a method of treating an ischemic heart of a human or animal subject in need thereof", PCT/EP2014/066497

Selected Research Awards/Prizes and Teaching Awards:

- **Rosalind Franklin Society Awards in Science** (2022)
- **Hilde Mangold Award**, German Stem Cell Network (GSCN) (2021)
- **RPB Harold F. Spalter International Scholar Award** (2016)
- **Tissue Engineering and Regenerative Medicine International Society (TERMIS)-EU Young Investigator Award** (2014)
- **Young Investigator Morphological Sciences Award**, American Association of Anatomists (2010)
- **Best Young Researcher Award/ Family Klee Prize**, German Society for Biomedical Engineering (2004)
- **Teaching Award Best Module - Vital Implants**, Eberhard Karls University Tübingen (2016)
- **Teaching Award Best Module - Vital Implants**, Eberhard Karls University Tübingen (2014)
- **Teaching Award Best Module - Vital Implants**, Eberhard Karls University Tübingen (2013)

Leadership I: Selected Academic Institutional Responsibilities and Affiliations

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|--------------|---|
| 2019-present | University Senate , Elected Member of the Medical Faculty, EKUT, Germany |
| 2018-present | Dean of Studies - Medical Technology , Medical Faculty, EKUT, Germany |
| 2018-present | Committee for Core Facilities , Member (<i>NMI</i>), EKUT, Germany |
| 2016-present | Committee for Research Strategy and Coordination , Member (<i>Fh-IGB²⁰¹⁶⁻²⁰¹⁸</i> , <i>NMI^{since 2018}</i>), EKUT, Germany |
| 2014-present | Task Force Technology Transfer, Deputy Chair , Medical Faculty, EKUT, Germany |
| 2014-present | Research Commission , Member, Medical Faculty, EKUT, Germany |
| 2012-present | Member of the Faculty of Science , EKUT, Germany |
| 2011-present | Member of the Medical Faculty , EKUT, Germany |
| 2016-2018 | Deputy Dean of Studies - Medical Technology , Medical Faculty, EKUT, Germany |
| 2016-2018 | Klinikumsrat (Hospital Senate) , Medical Faculty, EKUT, Germany |
| 2014-2018 | Habilitation Committee , Medical Faculty, EKUT, Germany |
| 2013-2022 | Member David Geffen School of Medicine/ Medical Faculty , UCLA, USA |

Leadership II: Selected National and International Elected/ Awarded Fellowships, Committees and Boards

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|--------------|---|
| 2022-present | Executive Board, National Academy of Science and Engineering (acatech) |
| 2022-present | Jury, State Research Award, Landesforschungspreis Baden-Württemberg , Ministry of Science, Research and Arts Baden-Württemberg |
| 2021-present | International Fellow of TERMIS (FTERM) |
| 2020-present | Member, National Academy of Science and Engineering (acatech) |
| 2020-present | Council Member, International Society for Matrix Biology (ISMB) |
| 2020-present | Deputy Chair, Innovationsallianz Baden-Württemberg e.V. (InnBW) |
| 2020-present | Deputy Chair Research, German Central Ethics Committee for Stem Cell Research (ZES) |
| 2019-present | Speaker Forum Gesundheitsstandort Baden-Württemberg for the Ministry of Economic Affairs Baden-Württemberg |
| 2018-present | Deputy Chair (Biology), German Central Ethics Committee for Stem Cell Research (ZES) |
| 2018-present | Editorial Board, Matrix Biology (Elsevier) |
| 2018-present | Editorial Board, Current Opinion in Biomedical Engineering (Elsevier) |
| 2017-present | German-Israeli Foundation (GIF) Advisory Board – Cancer and Biomedical Research Committee |
| 2017-present | Board Member, Health-i Initiative |
| 2017-present | TERMIS-European Chapter, Strategic Alliance Committee |
| 2016-present | Board Member, German Society for Matrix Biology e.V. (DGMB) |
| 2016-present | Editorial Board, Journal of 3D Printing in Medicine (Future Medicine) |
| 2015-present | Editorial Board, Tissue Engineering , Parts A, B and C (Mary Ann Liebert) |
| 2015-present | Fellow, European Alliance for Medical and Biological Engineering and Science (EAMBES) |
| 2014-present | Advisory Board, Journal of Materials Chemistry B (Wiley) |
| 2005-present | International Society for Stem Cell Research (ISSCR) |
| 2018-2024 | TERMIS-European Chapter Continental Council Member |
| 2016-2018 | Member, Fraunhofer Alliance for Life Sciences |
| 2015-2017 | Fraunhofer Vintage Class, Fraunhofer-Gesellschaft |
| 2012-2015 | American Association of Anatomist (AAA) Postdoctoral Awards Committee |
| 2011-2015 | AAA Scientific Affairs Committee |

Leadership III: Scientific Advisory Boards / Board of Trustees

- 2023-present **International Scientific Advisory Board, MERLN**, Institute for Technology-Inspired Regenerative Medicine, Maastricht University, The Netherlands
- 2022-present **International Scientific Advisory Board, CURAM**, SFI Research Centre for Medical Devices, University of Galway, Ireland
- 2021-present **Board of Trustees, Fraunhofer Institute for Mechanics of Materials IWM**, Freiburg, Germany
- 2021-present **Scientific Advisory Board, Leibniz Institute for Interactive Materials DWI**, Aachen, Germany
- 2020-present **Board of Trustees, Fraunhofer Institute for Photonic Microsystems IPMS**, Dresden, Germany
- 2019-present **Board of Trustees, Hertie Institute for Clinical Brain Research (HIH)**, Tübingen, Germany
- 2017-present **Scientific Advisory Council, Leibniz Institute of Photonic Technology IPHT**, Jena, Germany
- 2018-2021 **Board of Trustees, Center for Art and Media - ZKM**, Karlsruhe, Germany

Leadership IV: Invited Mentoring Programs for Early-Stage Researchers

- **Leibniz-Mentoring Program (2017-2018)**
- **TERMIS America SYIS (2013)**, Atlanta, USA
- **TERMIS Europe SYIS (2010)**, Galway, Ireland
- **MINT and WISP Program**, Germany

Conference Leadership:

- **Conference Host (2018)** Annual Meeting of the German Society of Matrix Biology (DGMB), Stuttgart, Germany
- **Conference Host (2016)** 9th European Elastin Meeting 2016, Stuttgart, Germany
- **Conference Host (2015)** bone-tec, Stuttgart, Germany
- **Conference Co-Host (2013)** Annual Meeting DGMB, Tübingen, Germany

Special Issue Editorships (selection):

- "Future Directions" **Advanced Drug Delivery Reviews** (2022)
- "Biomechanics" **Matrix Biology** 85-86 (2020)
- "The Future of Tissue Engineering" **Current Opinion in Biomedical Engineering** 6 (2018)
- "Extracellular Matrix Proteins and Mimics in Regenerative Medicine and Tissue Engineering" **Acta Biomaterialia** 52 (2017)
- "Strategies in Tissue Engineering" **Biotechnology Journal** 8(3) (2013)
- "From Tissue Engineering to Regenerative Medicine – The Potentials and the Pitfalls" **Advanced Drug Delivery Reviews** 63(4-5) (2011)

International Journal Reviewer (selection, alphabetically listed):

Acta Biomaterialia • Advanced Biomaterials • Advanced Drug Delivery Reviews • Advanced Functional Materials • American Journal of Transplantation • Biofabrication • Biomaterials • Biomedical Materials • Cardiovascular Pathology • Circulation • Circulation Research • eLife • EMBO Journal • International Journal of Pharmaceutics • Journal of Anatomy • Journal of Biophotonics • Journal of Investigative Dermatology • Journal of the Royal Society Interface • Journal of Structural Research • Macromolecular Bioscience • Matrix Biology • Molecular Therapy • PLoSOne • PNAS • Scientific Reports • Tissue Engineering Part A, B and C

International Grant Reviewer (selection, alphabetically listed):

- **Australia** – Australian Research Council (ARC)
- **Austria** – Austrian Science Fund (FWF)
- **Belgium** – Research Council: Katholieke Universiteit Leuven
- **Canada** – ALS Society of Canada
– Québec Consortium for Drug discovery (CQDM)
- **EU** – ERC Starting Grant and Consolidator Grant
- **Finland** – Academy of Finland
- **France** – L'Agence nationale de la recherche (ANR)
- **Germany** – Deutsche Forschungsgemeinschaft/ German Research Foundation (DFG)
– Bundesministerium für Bildung und Forschung/ Fed. Min. of Education and Research (BMBF)
– Alexander von Humboldt Foundation
– Helmholtz Association (Young Investigator Groups)
– VolkswagenStiftung
– Deutsche Krebshilfe
- **Iceland** – Icelandic Research Fund
- **Ireland** – Science Foundation Ireland (SFI)
- **Israel** – Israeli Ministry of Science, Technology and Space
– Advisor, German-Israeli Foundation (GIF)
- **Netherlands** – Dutch Technology Foundation STW
– Dutch Burns Foundation
- **UK** – Arthritis Research and UK Regenerative Medicine

Certifications:

- FELASA B and C (EU certified animal safety instructor/supervisor)
- Laser Safety Officer (VBG 93/BGV B2)
- Certificate, Training for project leaders in biological safety (§ 15 Abs. 2 GenTSV)

Other Notable Accomplishments:

- Handelsblatt magazine's Top 100 Innovators in Germany (2017)
- Academia.net top 100 female scientists in Germany (2010)
- Nominee UCLA Chancellor's Award for Postdoctoral Research (2007)

Ongoing Support as PI (only own contribution is listed):

DFG (Co-PI) <i>Cluster of excellence iFIT (EXC 2180)</i>	390900677	since 2019	~€325.000
DFG GRK 2543/1 (Co-PI, Project A3) <i>Intraoperative multi-sensor tissue identification in oncology</i>	40947457	since 2020	~€238.000
EU Horizon 2021-MSCA-ITN-DN-01 <i>flIMAGIN3D (EKUT)</i>	101073507	2023-2026	€260.539
University Hospital Teaching Program PROFIL		2023/24	€30.000

Completed Support as PI:

EU Horizon 2020-MSCA-ITN-EID <i>DELIVER (EKUT)</i>	812865	2019-2022	€505.576
Ministry of Economic Affairs Baden-Württemberg <i>MDR/ IVDR Competency Center (NMI, PI/Coordinator)</i>		2021-2022 <i>Project</i>	€2.835.000 €3.361.270
Ministry of Economic Affairs Baden-Württemberg <i>SolidCAR-T (NMI, Co-PI)</i>		2021-2022	€1.666.800
Ministry of Economic Affairs Baden-Württemberg <i>Predictive diagnosis of immune-associated diseases for personalized medicine (NMI, PI/Coordinator)</i>		2020-2022	€4.309.464
Ministry of Economic Affairs Baden-Württemberg <i>Large Instrument Grant- Infrastructure for Corona-Research EFRE EVI-2014-2020 (NMI)</i>		2020/2021	€2.000.000
DFG <i>Blood vessel tissue engineering (EKUT)</i>	SCHE701/14-1	2016-2020	€217.150
EU Horizon 2020 NMP-10-2014 <i>DRIVE (EKUT)</i>	645991	2015-2019	€679.153
Ministry of Economic Affairs Baden-Württemberg <i>Large Instrument Grant- Raman/CARS Microspectrometer (NMI)</i>	3-4332.62-NMI/65	2020	€700.000
University Hospital Teaching Program PROFIL		2020	€30.000
Ministry of Economic Affairs Baden-Württemberg <i>Large Instrument Grant</i>		2018	€700.000
Ministry of Economic Affairs Baden-Württemberg <i>Large Instrument Grant</i>		2018	€200.000
Fraunhofer MAVO <i>OptisCell (Fh-IGB)</i>	122610	2015-2018	€306.876
EU FP7 NMP3-SME-2013-604531 <i>AMCARE (Fh-IGB)</i>	604531	2014-2017	€733.000
DFG <i>Ice Free Heart Valve Cryopreservation (EKUT)</i>	SCHE701/10-1	2014-2017	€125.250
ZIM – AiF <i>Artificial Heart Development (EKUT)</i>	KF3349501CR4	2015-2017	€174.756
DFG Large Instrument Grant <i>Raman Microspectroscopy</i>	INST 2388/64-1	01.2017	€195.000
Industry-on-campus Fonds, MWK Baden-Württemberg <i>Raman Spectroscopy for intraoperative tissue differentiation (Fh-IGB/ IGVP)</i>	83820131	2012-2016	€133.173
MWK Baden-Württemberg <i>(EKUT)</i>	33-729.55-3/214	2015-2016	€200.000

University Hospital Teaching Program PROFIL		2015	€30.000
BMBF-CIRM Collaborative Grant	0316059	2012-2015	€1.072.042
DFG Optical Cellular Reprogramming	SCHE701/7-1	2012-2015	€304.425
DFG Large Instrument Grant Fluorescence Microscope	INST 2388/34-1	05.2013	€127.758
DFG Large Instrument Grant 5D Multiphoton System	INST 2388/30-1	02.2013	€275.000
DFG Large Instrument Grant ImageStreamX	INST 2388/33-1	01.2013	€265.000
MWK Baden-Württemberg	SI-BW 01222-91	08.2011	€750.000
MWK Baden-Württemberg	33-729.55-3/214	2012-2014	€300.000
Fraunhofer Attract Group Leader Grant	Attract 692263	2010-2014	€2.704.413
DFG Research Grant, Co-Investigator	STO 359/7-1	2007-2010	€240.000
NIH-Ruth L. Kirschstein Training Grant	5T32HL007895-10	2007-2009	\$165.000
DFG - Postdoctoral Research Fellowship	SCHE 701/2-1	2005-2007	€52.800

Complete List of Peer-Reviewed Publications (without book chapters: *authors contributed equally):

2024

1. MYCT1 controls environmental sensing in human hematopoietic stem cells. Aguadé-Gorgorió J, Jami-alahmadi Y, Calvanese V, Kardouh M, Fares I, Johnson H, Rezek V, Ma F, Magnusson M, Wang Y, Shin JE, Nance KJ, Goodridge HS, Liebscher S, **Schenke-Layland K**, Crooks GM, Wohlschlegel JA, Mikkola HKA. *Nature* (*in press*)
2. Characteristics associated with COVID-19 breakthrough infections after booster vaccination in healthcare workers: Insights from the TüSeRe:exact Study. Uzun G, Bareiß A, Becker M, Althaus K, Dulovic A, Junker D, **Schenke-Layland K**, Martus P, Borst O, Schneiderhan-Marra N, Bakchoul T. *J Clin Med* 13(6): 1571 (2024)
3. Deciphering UVA/Riboflavin collagen crosslinking: A pathway to improve biomedical materials. Fan L, Jung O, Herrmann M, Shirokikh M, Stojanovic S, Najman S, Körte F, Xiong X*, **Schenke-Layland K***, Barbeck M*. *Adv Funct Mater* 2401742 (2024)
4. Human tissue-resident peritoneal macrophages reveal resistance towards oxidative cell stress induced by non-invasive physical plasma. Schultze-Rhonhof L, Marzi J, Carvajal Berrio DA, Holl M, Braun T, Schäfer-Ruoff F, Andress J, Bachmann C, Templin M, Brucker SY, **Schenke-Layland K**, Weiss M. *Front Immunol* 15: 1357340 (2024)
5. Functionally-instructed modifiers of response to ATR inhibition in experimental glioma. Walter B, Hirsch S, Kuhlburger L, Stahl A, Schnabel L, Wissner S, Haeusser LA, Tsiami F, Plöger S, Aghaallaei N, Dick AM, Skokowa J, Schmees C, Templin M, **Schenke-Layland K**, Tatagiba M, Nahnsen S, Merk DJ, Tabatabai G. *J Exp Clin Cancer Res* 43(1): 77 (2024)
6. Microphysiological pancreas-on-chip platform with integrated sensors to model endocrine function and metabolism. Schlünder K, Cipriano M, Zbinden A, Fuchs S, Mayr T, **Schenke-Layland K**, Loskill P. *Lab Chip* 24(7): 2080-2093 (2024)
7. 30 Years of Tissue Engineering. Fisher JP, Mikos AG, **Schenke-Layland K**, Shin H, Jansen JA, Wang X. *Tissue Eng Part A* 30 (1-2): 3-4 (2024) (*Editorial*)
8. The extracellular matrix as hallmark of cancer and metastasis: from biomechanics to therapeutic targets. Sleeboom JJF, van Tienderen GS, **Schenke-Layland K**, van der Laan LJW, Khalil AA, Versteegen MMA. *Science Transl Med* 16(728):eadg3840 (2024) (*Review*)
9. "Future Directions" – Novel breakthrough developments in the fields of Drug Development & Delivery, and Regenerative Medicine. **Schenke-Layland K**, MacKay A. *Adv Drug Deliv Rev* 205: 115159 (2024) (*Editorial*)

2023

10. On the reproducibility of extrusion-based bioprinting: round robin study on standardization in the field. Grijalva Garces D, Strauß S, Gretzinger S, Schmiege B, Juengst T, Groll J, Meinel L, Schmidt I, Hartmann H, **Schenke-Layland K**, Brandt N, Selzer M, Zimmermann S, Koltay P, Southan A, Tovar GEM, Schmidt S, Weber A, Ahlfeld T, Gelinsky M, Scheibel T, Detsch R, Boccaccini AR, Naolou T, Lee-Thedieck C, Willems C, Groth T, Allgeier S, Köhler B, Friedrich T, Briesen H, Buchholz J, Paulus D, von Gladiss A, Hubbuch J. *Biofabrication*. 16(1): 015002 (2023)
11. Translating genomic tools to Raman spectroscopy analysis enables high-dimensional tissue characterization on molecular resolution. Sigle M, Rohlfing AK, Kenny M, Scheuermann S, Sun N, Graefßner U, Haug V, Sudmann J, Seitz C, Heinzmann D, **Schenke-Layland K**, Maguire PB, Walch A, Marzi J, Gawaz MP. *Nat Commun* 14(1):5799 (2023)
12. Breast cancer patient-derived microtumors resemble tumor heterogeneity and enable protein-based stratification and functional validation of individualized drug treatment. Anderle N, Schäfer-Ruoff F, Staebler A, Kersten N, Koch A, Önder C, Keller AL, Liebscher S, Hartkopf A, Hahn M, Templin M, Brucker SY, **Schenke-Layland K**, Schmees C. *J Exp Clin Cancer Res* 42(1):210 (2023)
13. Exploring the relationship between epigenetic DNA methylation and cardiac fibrosis through Raman microspectroscopy. Becker L, Montes-Mojarro IA, Layland SL, Nsair A, Fend F, Marzi J, **Schenke-Layland K**. *Am J Physiol Cell Physiol* 325(1): C332-C343 (2023)

14. Monitoring the macrophage response towards biomaterial implants using label-free imaging. Lu Chuan-en, Levey RE, Gherzi G, Schueller N, Liebscher S, Layland SL, **Schenke-Layland K**, Duffy GP, Marzi J. *Materials Today Bio* 21: 100696 (2023)
15. Raman Microspectroscopy Identifies Fibrotic Tissues in Collagen-related Disorders via Deconvoluted Collagen Type I Spectra. Becker L*, Lu C*, Montes-Mojarro IA, Layland SL, Khalil S, Nsair A, Duffy GP, Fend F, Marzi J, **Schenke-Layland K**. *Acta Biomater* 162: 278-291 (2023)
16. Electrospinning of collagen: Enzymatic and spectroscopical analyses reveal solvent-independent disruption of the triple-helical structure. Visser D, Rogg K, Fuhrmann E, Marzi J, **Schenke-Layland K**, Hartmann H. *J Mater Chem B* 11(10): 2207-2218 (2023)
17. The use of collagen-based materials in bone tissue engineering. Fan L, Ren Y, Emmert S, Vuckovic I, Stojanovic S, Najman S, Schnettler R, Barbeck M, **Schenke-Layland K***, Xiong X*. *Int J Mol Sci* 24(4): 3744 (**Review**) (2023)
18. Bright and photostable TADF-emitting zirconium(IV) pyridinedipyrrolide complexes: efficient dyes for decay time-based temperature sensing and imaging. Russegger A, Debruyne AC, Carvajal Berrio D, Fuchs S, Marzi J, **Schenke-Layland K**, Dmitriev RI, Borisov SM. *Adv Optical Mat* 2202720 (2023)
19. Antibody binding and ACE2 binding inhibition is significantly reduced for both the BA1 and BA2 omicron variants. Junker D*¹, Becker M*¹, Wagner TR*¹, Kaiser PD, Maier S, Grimm TM, Griesbaum J, Marsall P, Gruber J, Traenkle B, Heinzl C, Pinilla YT, Held J, Fendel R, Kreidenweiss A, Nelde A, Maringer Y, Schroeder S, Walz JS, Althaus K, Uzun G, Mikus M, Bakchoul T, **Schenke-Layland K**, Bunk S, Haeberle H, Göpel S, Bitzer M, Renk H, Remppis J, Engel C, Franz AR, Harries M, Kessel B, Lange B, Strengert M, Krause G, Zeck A, Rothbauer U, Dulovic A*², Schneiderhan-Marra N*². *Clin Infect Dis* 76(3): e240-e249 (2023)
20. Decorin improves human pancreatic β -cell function and regulates ECM expression in vitro. Urbanczyk M*, Jeyagaran A*, Zbinden A, Lu C, Marzi J, Kuhlburger L, Nahnsen S, Layland SL, Duffy G, **Schenke-Layland K**. *Matrix Biology* 115: 160-183 (2023)
21. Generation and characterization of three induced pluripotent stem cell lines from an 86-year old female individual diagnosed with an invasive lobular mammary carcinoma. Keller AL, Greis D, Eybe J, Plöger S, Weiss M, Koch A, Brucker SY, **Schenke-Layland K**, Schmees C. *Stem Cell Res* 66:102988 (2023)
22. Vaccine side effects in health workers after vaccination against SARS-CoV-2: Data from TüSeRe:exact study. Bareiß A, Uzun G, Mikus M, Becker M, Althaus K, Schneiderhan-Marra N, Fürstberger A, Schwab JD, Kestler HA, Holderried M, **Schenke-Layland K**, Bakchoul T. *Viruses* 15(1): 65 (2023)

2022

23. Green chemistry for biomimetic materials: Synthesis and electrospinning of high-molecular-weight polycarbonate-based nonisocyanate polyurethans. Visser D*, Bakhshi H*, Rogg K, Fuhrmann E, Wieland F, **Schenke-Layland K**, Meyer W, Hartmann H. *ACS Omega* 7(44): 39772-39781 (2022)
24. Protein profiling of breast carcinomas reveals expression of immune-suppressive factors and signatures relevant for patient outcome. Ruoff F, Kersten N, Anderle N, Jerbi S, Stahl A, Koch A, Staebler A, Hartkopf A, Brucker SY, Hahn M, **Schenke-Layland K**, Schmees C, Templin MF. *Cancers* 14(18): 4542 (2022)
25. Establishment of Four Induced Pluripotent Stem Cell Lines from CD34+ Hematopoietic Stem and Progenitor Cells from a Patient Diagnosed with an Invasive Lobular Mammary Carcinoma. Keller AL, Binner A, **Schenke-Layland K**, Schmees C. *Stem Cell Res* 64: 102902 (2022)
26. A platform of patient-derived microtumors identifies individual treatment responses and therapeutic vulnerabilities in ovarian cancer. Anderle N, Koch A, Gierke B, Keller AL, Staebler A, Hartkopf A, Brucker SY, Pawlak M, **Schenke-Layland K**, Schmees C. *Cancers* 14(12): 2895 (2022)
27. Data-driven identification of biomarkers for in situ monitoring of drug treatment in bladder cancer organoids. Becker L, Fischer F, Fleck JL, Harland N, Herkommer A, Stenzl A, Aicher WK, **Schenke-Layland K**, Marzi J. *Int J Mol Sci* 23(13): 69956 (2022)
28. Autologous human immunocompetent white adipose tissue-on-chip. Rogal J, Roos J, Teufel C, Cipriano M, Xu R, Eisler W, Weiss M, **Schenke-Layland K**, Loskill P. *Adv Sci (Weinh)* 9: 2104451 (2022)
29. Organ-specific endothelial cell heterogeneity and its impact on regenerative medicine and biomedical engineering applications. Urbanczyk M, Zbinden A, **Schenke-Layland K**. *Adv Drug Deliv Rev* 186:114323 (**Review**) (2022)
30. Marker-independent monitoring of in vitro and in vivo degradation of supramolecular polymers applied in cardiovascular in situ tissue engineering. Marzi J, Munnig Schmidt EC, Brauchle EM, Wissing TB, Bauer H, Serrero A, Söntjens SHM, Bosman AW, Cox MAJ, Smits AIPM, **Schenke-Layland K**. *Front Cardiovasc Med* 9: 885873 (2022)
31. Raman microspectroscopy identifies biochemical activation fingerprints in THP-1- and PBMC-derived macrophages. Feuerer N, Carvajal Berrio DA, Billing F, Segan S, Weiss M, Rothbauer U, Marzi J, **Schenke-Layland K**. *Biomedicines* 10(5): 989 (2022)
32. Mapping human haematopoietic stem cells from haemogenic endothelium to birth. Calvanese V*, Capellera-Garcia S*, Ma F*, Fares I, Liebscher S, Ng ES, Ekstrand S, Aguadé-Gorgorió J, Vavilina A, Lefaudeux D, Nadel B, Li JY, Wang Y, Lee LK, Ardehali R, Iruela-Arispe ML, Pellegrini M, Stanley EG, Elefanty AG, **Schenke-Layland K**, Mikkola HKA. *Nature* 604: 534-540 (2022)
33. Cell type-specific anti-adhesion properties of peritoneal cell treatment with plasma-activated media (PAM). Holl M*, Rasch ML*, Becker L, Keller AL, Schulze-Rhonhoff L, Ruoff F, Templin M, Keller S, Neis F, Keßler F, Address J, Bachmann C, Krämer B, **Schenke-Layland K**, Brucker SY, Marzi J, Weiss M. *Biomedicines* 10(4): 927 (2022)

34. Noninvasive physical plasma as innovative and tissue-preserving therapy for women positive for cervical intraepithelial neoplasia. Marzi J, Stope MB, Henes M, Koch A, Wenzel T, Holl M, Layland SL, Neis F, Bösmüller H, Ruoff F, Templin M, Krämer B, Staebler A, Barz J, Carvajal Berrio DA, Enderle M, Loskill PM, Brucker SY, **Schenke-Layland K**, Weiss M. *Cancers* 14(8): 1933 (2022)
35. Development of a bi-layered cryogenic electrospun polylactic acid scaffold to study calcific aortic valve disease in a 3D co-culture model. Stadelmann K, Weghofer A, Urbanczyk M, Maulana TI, Loskill P, Jones PD, **Schenke-Layland K**. *Acta Biomaterialia* 140: 364-378 (2022)
36. Arachnoid membrane as a source of sphingosine-1-phosphate that regulates mouse middle cerebral artery tone. Jiménez-Altayó F, Marzi J, Galán M, Dantas AP, Ortega ML, Rojas S, Egea G, **Schenke-Layland K**, Jiménez-Xarrié E, Planas A. *J Cereb Blood Flow Metab* 42(1): 162-174 (2022)
37. Basement membrane proteins improve human islet survival in hypoxia: implications for islet inflammation. Bandhorst D, Brandhorst H, Layland S, Acreman S, **Schenke-Layland K**, Johnson PRV. *Acta Biomater* 137: 92-102 (2022)

2021

38. Lipidome profiling with Raman microspectroscopy identifies macrophage response to surface topographies of implant materials. Feuerer N, Marzi J, Brauchle EM, Carvajal Berrio DA, Billing F, Weiss M, Jakobi M, Schneiderhan-Marra N, Shipp C, **Schenke-Layland K**. *Proc Natl Acad Sci USA* 118(52): e2113694118 (2021)
39. Three water restriction schedules used in rodent behavioral tasks transiently impair growth and differentially evoke a stress hormone response without causing dehydration. Vasilev D, Havel D, Liebscher S, Slesiona-Kuenzel S, Logothetis N, **Schenke-Layland K**, Totah N. *eNeuro* 10.1523/ENEURO.0424-21.2021 (2021)
40. Long-term repair of porcine articular cartilage using cryopreservable, clinically compatible human embryonic stem cell-derived chondrocytes. Petrigliano FA*, Liu NQ*, Lee S*, Tassej J*, Sarkar A, Lin Y, Li L, Yu Y, Geng D, Zhang J, Shkhyan R, Bogdanov J, Van Handel B, Ferguson GB, Lee Y, Hinderer S, Tseng KC, Kavanaugh A, Crump JG, Pyle AD, **Schenke-Layland K**, Billi F, Wang L, Lieberman J, Hurtig M, Evseenko D. *NPJ Regen Med* 6(1): 77 (2021)
41. Hyaluronic acid-functionalized hybrid gelatin-poly-L-lactide scaffolds with tunable hydrophilicity. Piccirillo G, Feuerer N, Carvajal-Berrio D, Layland SL, Hinderer S, Bochicchio B, **Schenke-Layland K**. *Tissue Eng Part C Methods* 27(11): 589-604 (2021)
42. Targeted protein profiling of in vivo NIPP-treated tissues using DigiWest Technology. Ruoff F, Henes M, Templin M, Enderle M, Bösmüller H, Wallwiener D, Brucker SY, **Schenke-Layland K**, Weiss M. *Appl. Sci.* 11(23): 11238 (2021)
43. Raman imaging and fluorescence lifetime imaging microscopy for diagnosis of cancer state and metabolic monitoring. Becker L, Janssen N, Layland SL, Mürdter TE, Nies AT, **Schenke-Layland K**, Marzi J. *Cancers* 13: 5682 (2021) (**Review**)
44. Inflammatory and regenerative processes in bioresorbable synthetic pulmonary valves up to two years in sheep: Spatiotemporal insights augmented by Raman microspectroscopy. De Kort BJ, Marzi J, Brauchle E, Lichauco AM, Bauer HS, Serrero A, Dekker S, Cox MAJ, Schoen FJ, **Schenke-Layland K**, Bouten CVC, Smits AIPM. *Acta Biomater* 135: 243-259 (2021)
45. Distinct effects of heparin and interleukin-4 functionalization on macrophage polarization and in situ arterial tissue regeneration using resorbable supramolecular vascular grafts in rats. Bonito V, Koch SE, Krebber MM, Carvajal-Berrio DA, Marzi J, Duijvelshoff R, Lurier EB, Buscone S, Dekker S, de Jong SMJ, Mes T, Vaessen KR, Brauchle EM, Bosman AW, **Schenke-Layland K**, Verhaar MC, Dankers PYW, Smits AIPM, Bouten CVC. *Adv Healthc Mater* 10(21): e21011103 (2021)
46. The foreign body response to an implantable therapeutic reservoir in a diabetic rodent model. Beatty R, Lu CE, Marzi J, Levey RE, Carvajal-Berrio D, Lattanzi G, Wylie R, O'Connor R, Wallace E, Ghersi G, Salamone M, Dolan E, Layland S, **Schenke-Layland K**, Duffy G. *Tissue Eng Part C Methods* 27(10): 515-528 (2021)
47. Complement factor H loss in RPE cells causes retinal degeneration in a human RPE-porcine retinal explant co-culture model. Armento A, Murali A, Marzi J, Almansa-Garcia AC, Arango-Gonzalez B, Kilger E, Clark SJ, **Schenke-Layland K**, Ramlogan-Steel CA, Stell JC, Ueffing M. *Biomolecules* 11(11): 1621 (2021)
48. Imaging of α -Synuclein aggregates in a rat model of Parkinson's disease using Raman micro-spectroscopy. Sevgi F, Brauchle EM, Carvajal Berrio DA, **Schenke-Layland K**, Casadei N, Salker MS, Riess O, Singh Y. *Front Cell Dev Biol* 9: 664365 (2021)
49. [Organoids for the advancement of intraoperative diagnostic procedures.] Harland N, Amend B, Lipke N, Brucker SY, Fend F, Herkommer A, Lensch H, Sawodny O, Schäffer TE, **Schenke-Layland K**, Tarin Sauer C, Aicher W, Stenzl A. *Urologe A* 60(9): 1159-1166 (2021) (**Review**)
50. Generation and characterization of the human induced pluripotent stem cell line NMli010-A from peripheral blood mononuclear cells of a healthy 49-year old male individual. Keller AL, Binner A, Breitmeyer R, Vogel S, Anderle N, Rothbauer U, **Schenke-Layland K**, Schmees C. *Stem Cell Res* 54: 102427 (2021)
51. Integration of electrospun membranes into low-absorption thermoplastic organ-on-chip. Chuchuy J, Rogal J, Ngo T, Stadelmann K, Antkowiak L, Achberger K, Liebau S, **Schenke-Layland K**, Loskill P. *ACS Biomater Sci Eng* 7(7): 3006-3017 (2021)
52. Argyrin F treatment-induced vulnerabilities lead to a novel combination therapy in experimental glioma. Walter B, Canjuga D, Yüz SG, Ghosh M, Bozko P, Przystal JM, Govindarajan P, Anderle N, Keller, AL, Tatagiba M, **Schenke-Layland K**, Rammensee HG, Stevanovic S, Malek NP, Schmees C, Tabatabai G. *Advanced Therapeutics* 2100078 (2021)

53. Human heart-forming organoids recapitulate early heart and foregut development. Drakhlis L, Biswanath S, Farr CM, Lupanow V, Teske J, Ritzenhoff K, Franke A, Manstein F, Bolesani E, Kempf H, Liebscher S, **Schenke-Layland K**, Hegermann J, Nolte L, Meyer H, de la Roche J, Thiemann S, Wahl-Schott C, Martin U, Zweigerdt R. *Nat Biotechnol* 39(6): 737-746 (2021)
54. Multiplexed serum antibody screening platform using virus extracts from endemic coronaviridae and SARS-CoV-2. Fink S, Ruoff F, Stahl A, Becker M, Kaiser P, Traenkle B, Junker D, Weise F, Ruetalo N, Hörber S, Peter A, Nelde A, Walz J, Krause G, Baillet A, **Schenke-Layland K**, Joos TO, Rothbuer U, Schneiderhan-Marra M, Schindler M, Templin MF. *ACS Infect Dis* 7(6): 1596-1606 (2021)
55. Raman microspectroscopy and Raman imaging reveal biomarkers specific for thoracic aortic aneurysms. Sugiyama K^{*1}, Marzi J^{*1}, Alber J, Brauchle EM, Ando M, Yamashiro Y, Ramkhelawon B, **Schenke-Layland K**^{*2}, Yanagisawa H^{*2}. *Cell Reports Medicine* 2: 100261 (2021)
56. Immune response to SARS-CoV-2 variants of concern in vaccinated individuals. Becker M, Dulovic A, Junker D, Ruetalo N, Kaiser PD, Pinilla YT, Heinzl C, Haering J, Traenkle B, Wagner TR, Layer M, Mehrlaender M, Mirakaj V, Held J, Planatscher H, **Schenke-Layland K**, Krause G, Strengert M, Bakchoul T, Althaus K, Fendel R, Kreidenweiss A, Koeppen M, Rothbauer U, Schindler M, Schneiderhan-Marra N. *Nat Commun* 12(1):3109 (2021)
57. NeutrobodyPlex-monitoring SARS-CoV-2 neutralizing immune responses using nanobodies. Wagner TR, Ostertag E, Kaiser PD, Gramlich M, Ruetalo N, Junker D, Haering J, Traenkle B, Becker M, Dulovic A, Schweizer H, Nueske S, Scholz A, Zeck A, **Schenke-Layland K**, Nelde A, Strengert M, Walz JS, Zocher G, Stehle T, Schindler M, Schneiderhan-Marra N, Rothbauer U. *EMBO Rep* 22(5): e52325 (2021)
58. Exploring beyond clinical routine SARS-CoV-2 serology using MultiCoV-Ab to evaluate endemic coronavirus cross-reactivity. Becker M, Strengert M, Junker D, Kaiser PD, Kerrinnes T, Traenkle B, Dinter H, Häring J, Ghoszi S, Zeck A, Weise F, Peter A, Hörber S, Fink S, Ruoff F, Dulovic A, Bakchoul T, Baillet A, Lohse S, Cornberg M, Illig T, Gottlieb J, Smola S, Karch A, Berger K, Rammensee HG, **Schenke-Layland K**, Nelde A, Märklin M, Heitmann JS, Walz JS, Templin M, Joos TO, Rothbauer U, Krause G, Schneiderhan-Marra N. *Nat Commun* (12 (1): 1152 (2021)
59. Nidogen-1 mitigates ischemia and promotes tissue survival and regeneration. Zbinden A*, Layland SL*, Urbanczyk M, Carvajal Berrio DA, Marzi J, Zauner M, Hammerschmidt A, Brauchle EM, Sudrow K, Fink S, Templin M, Liebscher S, Klein G, Deb A, Duffy GP, Crooks GM, Eble JA, Mikkola HKA, Nsair A, Seifert M, **Schenke-Layland K**. *Adv Sci (Weinh)* 8(4): 2002500 (2021)
60. Fibronectin adsorption on oxygen plasma-treated polyurethane surfaces modulates endothelial cell response. Daum R, Mrcic I, Hutterer J, Junginger A, Hinderer S, Meixner AJ, Gauglitz G, Chassé T, **Schenke-Layland K**. *J Mater Chem B* 9: 1647 (2021)
61. Laparoscopic peritoneal wash cytology-derived primary human mesothelial cells for in vitro cell culture and simulation of human peritoneum. Holl M, Becker L, Keller AL, Feuerer N, Marzi J, Carvajal Berrio DA, Jakubowski P, Neis F, Pauluschke-Fröhlich J, Brucker SY, **Schenke-Layland K**, Krämer B, Weiss M. *Biomedicines* 9(2): 176 (2021)
62. Elastin-like hydrogel stimulates angiogenesis in a severe model of Critical Limb Ischemia (CLI): An insight into the glyco-host response. Marsico G, Jin C, Abbah SA, Brauchle EM, Thomas D, Rebelo AL, Orbanic D, Chantepie S, Contessotto P, Papy-Garcia D, Rodriguez-Cabello C, Kilcoyne M, **Schenke-Layland K**, Karlsson NG, McCullagh KJA, Pandit A. *Biomaterials* 269: 120641 (2021)
63. Macrophage retrieval from 3D biomaterials: A detailed comparison of common dissociation methods. Feuerer N, Morschl J, Daum R, Weiss M, Hinderer S, **Schenke-Layland K**, Shipp C. *J Immunol Regen Med* 11: 100035 (2021)
64. Collagen and endothelial cell co-culture improves beta-cell functionality and rescues pancreatic ECM. Zbinden A, Urbanczyk M, Layland SL, Becker L, Marzi J, Bosch M, Loskill P, Duffy G, **Schenke-Layland K**. *Tissue Eng Part A* 27 (13-14): 977-991 (2021)
- 2020**
65. Nanocellulose and elastin act as plasticizers of electrospun bio-inspired scaffolds. Ciarfaglia N, Pepe A, Piccirillo G, Laezza, A, Daum R, **Schenke-Layland K**, Bochicchio B. *ACS Appl Polym Mater* 2, 11: 4836-4847 (2020)
66. Fluorescence lifetime metabolic mapping of hypoxia-induced damage in pancreatic pseudo-islets. Zbinden A*, Carvajal Berrio DA*, Urbanczyk M, Layland SL, Bosch M, Fliri S, Lu CE, Jeyagaran A, Loskill P, Duffy GP, **Schenke-Layland K**. *J Biophotonics* 13(12): e202000375 (2020)
67. Advanced drug delivery 2020 - Parts 1, 2 and 3. Ghandehari H, Chan HK, Harashima JA, MacKay JA, Minko T, **Schenke-Layland K**, Vincent MJ. *Adv Drug Deliv Rev* 156: 1-2 (2020) (**Preface/ Editorial**)
68. Female human primordial germ cells display X-chromosome dosage compensation despite the absence of X-inactivation. Chitiashvili T, Dror I, Kim R, Hsu FM, Chaudhari R, Pandolfi E, Chen D, Liebscher S, **Schenke-Layland K**, Plath K, Clark A. *Nat Cell Biol* 22(12): 1436-1446 (2020)
69. Comparability of Raman spectroscopic configurations: A large scale cross-laboratory study. Guo S, Beleites C, Neugebauer U, Abalde-Cela S, Afseth NK, Alsamad F, Anand S, Araujo-Andrade C, ..., **Schenke-Layland K**, ..., Popp J, and Bocklitz T. *Anal Chem* 92(24): 15745-15756 (2020)
70. Towards automation in biologicals production via Raman microspectroscopy, laser-induced forward cell transfer and surface-enhanced Raman spectroscopy. Jaeckle E, Brauchle E, Nottrodt N, Wehner M, Lensing R, Gillner A, **Schenke-Layland K**, Bach M, Burger-Kentnischer A. *J Biotechnol* 323: 313-321 (2020)

71. Tenascin-C orchestrates an immune suppressive tumor microenvironment in oral squamous cell carcinoma. Spenlé C, Loustau T, Murdamoothoo D, Erne W, Beghelli-de la Forest Divonne S, Veber R, Petti L, Bourdely P, Mörgelin M, Brauchle EM, Crémel G, Randrianarisoa V, Camara A, Rekima S, Schaub S, Nouhen K, Imhof T, Hansen U, Paul N, Carapito R, Pythoud N, Hirschler A, Carapito C, Dumortier H, Mueller CG, Koch M, **Schenke-Layland K**, Kon S, Sudaka A, Anjuere F, Van Obberghen-Schilling E, Orend G. *Cancer Immunol Res* 8(9): 1122-1138 (2020)
 72. HepaChip-MP – a twenty-four chamber microplate for a continuously perfused liver coculture model. Busche M, Tomilova O, Schütte J, Werner S, Beer M, Groll N, Hagemeyer B, Pawlak M, Jones PD, Schmees C, Becker H, Schnabel J, Gakk K, Hemmler R, Matz-Soja M, Damm G, Beuck S, Klaasen T, Moer J, Ullrich A, Runge D, **Schenke-Layland K**, Gebhardt R, Stelzle M. *Lab Chip* 20(16): 2911-2926 (2020)
 73. Developmental trajectory of human skeletal muscle progenitor and stem cells across development and from pluripotent stem cells. Xi H, Langerman J, Sabri S, Chien P, Young CS, Younesi S, Hicks M, Gonzalez K, Fujiwara W, Marzi J, Liebscher S, Spencer M, van Handel B, Evseenko D, **Schenke-Layland K**, Plath K, Pyle AD. *Cell Stem Cell* 27(1): 158-176.e10. (2020)
 74. WAT-on-a-chip integrating human mature white adipocytes for mechanistic research and pharmaceutical applications. Rogal J, Binder C, Kromidas E, Roos J, Probst C, Schneider S, **Schenke-Layland K**, Loskill P. *Sci Rep* 10(1): 6666 (2020)
 75. Fibronectin adsorption on electrospun synthetic vascular grafts attracts endothelial progenitor cells and promotes endothelialization in dynamic in vitro culture. Daum R, Visser D, Wild C, Kutuzova L, Schneider M, Lorenz G, Weiss M, Hinderer S, Stock UA, Seifert M, **Schenke-Layland K**. *Cells* 9(3): pii:E778 (2020)
 76. Trans-mucosal efficacy of non-thermal plasma treatment on cervical cancer tissue and human cervix uteri by a next generation electrosurgical argon plasma device. Wenzel T, Carvajal Berrio DA, Reisenauer C, Layland S, Koch A, Wallwiener D, Brucker SY, **Schenke-Layland K**, Brauchle EM, Weiss M. *Cancers* 12(2): pii: E267 (2020)
 77. The role of extracellular matrix in biomechanics and its impact on bioengineering of cells and 3D tissues. Urbanczyk M, Layland SL, **Schenke-Layland K**. *Matrix Biology* 85-86: 1-14 (2020) (**Review**)
 78. Non-invasive marker-independent high content analysis of a microphysiological human pancreas-on-a-chip model. Zbinden A, Marzi J, Schlünder K, Probst C, Urbanczyk M, Black S, Brauchle EM, Layland SL, Kraushaar U, Duffy G, **Schenke-Layland K***, Loskill P*. *Matrix Biology* 85-86: 205-220 (2020)
 79. Controlled heterotypic pseudo-islet assembly of human beta-cells and HUVECs using magnetic levitation. Urbanczyk M, Zbinden A, Layland SL, Duffy G, **Schenke-Layland K**. *Tissue Eng Part A* 26(7-8): 387-399 (2020)
- 2019**
80. Molecular effects and tissue penetration depth of physical plasma in human mucosa analyzed by contact- and marker-independent Raman microspectroscopy. Wenzel T, Carvajal Berrio DA, Daum R, Reisenauer C, Weltmann KD, Wallwiener D, Brucker SY, **Schenke-Layland K**, Brauchle EM, Weiss M. *ACS Appl Mater Interfaces* 11(46): 42885-42895 (2019)
 81. Hyaluronic acid as a macromolecular crowding agent for production of cell-derived matrices. Shendi D, Marzi J, Linthicum W, Rickards AJ, Dolivo DM, Keller S, Kauss MA, Wen Q, McDevitt TC, Dominko T, **Schenke-Layland K**, Rolle MW. *Acta Biomater* 100: 292-305 (2019)
 82. Donor age significantly influences the Raman spectroscopic biomolecular fingerprint of human pancreatic extracellular matrix proteins following collagenase-based digestion. Spiers RM, Marzi J, Brauchle EM, Cross SE, Vaughan RH, Bateman PA, Hughes SJ, **Schenke-Layland K**, Johnson PRV. *Acta Biomater* 99: 269-283 (2019)
 83. Merging organoid and organ-on-a-chip technology to generate complex multi-layer tissue models in a human Retina-on-a-Chip platform. Achberger K, Probst C, Haderspeck J, Bolz S, Rogal J, Chuchuy J, Nikolova M, Cora V, Antkowiak L, Haq W, Shen N, **Schenke-Layland K**, Ueffing M, Liebau S, Loskill P. *Elife* 27; 8 pii: e46188 (2019)
 84. A bioresorbable biomaterial carrier and passive stabilization device to improve heart function post-myocardial infarction. Dolan EB, Hofmann B, da Vaal MH, Bellavia G, Straino S, Kovarova L, Pravda M, Velebny V, Daro D, Braun N, Monahan DS, Levey RE, O'Neill H, Hinderer S, Greensmith R, Monaghan MG, **Schenke-Layland K**, Dockery P, Murphy BP, Kelly HM, Wildhirt S, Duffy GP. *Mater Sci Eng C Mater Biol Appl* 103: 109751 (2019)
 85. Cardiac fibrosis – A short review of causes and therapeutic strategies. Hinderer S, **Schenke-Layland K**. *Adv Drug Deliv Rev* 146: 77-82 (2019) (**Review**)
 86. Why, When, Who, What, How, and Where for trainees writing literature review articles. Koons GL, **Schenke-Layland K**, Mikos AG. *Ann Biomed Eng* 47 (11): 2334-2340 (2019)
 87. Dose-dependent tissue-level characterization of a medical atmospheric pressure argon plasma jet. Weiss M, Barz J, Ackermann M, Utz R, Ghouli A, Weltmann KD, Stope MB, Wallwiener D, **Schenke-Layland K**, Oehr C, Brucker S, Loskill P. *ACS Appl Mater Interfaces* 11(22): 19841-19853 (2019)
 88. Non-invasive detection of DNA methylation states in carcinoma and pluripotent stem cells using Raman microspectroscopy and imaging. Daum R, Brauchle EM, Carvajal Berrio DA, Jurkowski TP, **Schenke-Layland K**. *Sci Rep* 9(1):7014 (2019)
 89. Tissue Engineering: Celebrating 25 years in publication and collaboration. Mikos AG, Fisher JP, **Schenke-Layland K**, Shin H, Jansen JA, Wang XM, Liebert MA. *Tissue Eng Part A* 25 (7, 8): 513-514 (2019) (**Editorial**)
 90. Non-invasive functional molecular phenotyping of human smooth muscle cells utilized in cardiovascular tissue engineering. Marzi J, Brauchle EM, **Schenke-Layland K***, Rolle MW*. *Acta Biomater* 89: 193-205 (2019)

91. Controlled and tuneable drug release from electrospun fibers and a non-invasive approach for cytotoxicity testing. Piccirillo G, Carvajal Berrio DA, Laurita A, Pepe A, Bochicchio B, **Schenke-Layland K**, Hinderer S. *Sci Rep* 9(1): 3446 (2019)
92. Marker-independent in situ quantitative assessment of residual cryoprotectants in cardiac tissues. Marzi J, Biermann AC, Brauchle E, Brockbank KGM, Stock UA, **Schenke-Layland K**. *Anal Chem* 91(3): 2266-2272 (2019)
93. Imaging fibrosis in inflammatory diseases: Targeting exposed extracellular matrix. Beziere N, Fuchs K, Maurer A, Reischl G, Brück J, Ghoreschi K, Carvajal Berrio D, **Schenke-Layland K**, Kohlhofer U, Quintanilla-Martinez L, Gawaz M, Kneilling M, Pichler B. *Theranostics* 9(10): 2868-2881 (2019)
94. Improved long-term durability of allogeneic heart valves in the orthotopic sheep model. Biermann AC, Marzi J, Brauchle E, Wichmann JL, Arendt CT, Puntmann V, Nagel E, Abdelaziz S, Winter AG, Brockbank KGM, Layland S, **Schenke-Layland K**, Stock UA. *Eur J Cardiothorac Surg* 55(3): 484-493 (2019)
95. Stem cell-based organ-on-a-chip models for diabetes research. Rogal J, Zbinden A, **Schenke-Layland K***, Loskill P*. *Adv Drug Deliv Rev* 140: 101-128 (2019) (*Review*)

2018

96. Comparative study of MSCA-1 and CD146 isolated periosteal cell subpopulations. Umrath F, Thomalla C, Pöschel S, **Schenke-Layland K**, Reinert S, Alexander D. *Cell Physiol Biochem* 51(3): 1193-1206 (2018)
97. Influence of aflibercept on platelet activation profile. Sobolewska B, Golenko J, Poeschel S, Grimm C, Gatsiou A, Sopova K, Biedermann T, **Schenke-Layland K**, Stellos K, Ziemssen F. *Exp Eye Res* 175: 166-172 (2018)
98. Biomechanical and biomolecular characterization of ECM in human colon carcinomas. Brauchle E, Kasper J, Daum R, Schierbaum N, Falch C, Kirschniak A, Schäffer T, **Schenke-Layland K**. *Matrix Biology* 68-69: 180-193 (2018)
99. Electroconductive biohybrid collagen/pristine graphene composite biomaterials with enhanced biological activity. Ryan AJ, Kearny CJ, Shen N, Khan U, Kelly AG, Probst C, Brauchle E, Biccai S, Garciarena CD, Vega-Mayoral V, Loskill P, Kerrigan SW, Kelly DJ, **Schenke-Layland K**, Coleman JN, O'Brien FJ. *Adv Mater* 30(15): 1706442 (2018)
100. Surface functionalization of electrospun scaffolds using recombinant human decorin attracts circulating endothelial progenitor cells. Hinderer S, Sudrow K, Schneider M, Holeiter M, Layland SL, Seifert M, **Schenke-Layland K**. *Sci Rep* 8(1): 110 (2018)
101. Impact of T-cell-mediated immune response on xenogeneic heart valve transplantation: short-term success and mid-term failure. Biermann AC, Marzi J, Brauchle E, Schneider M, Kornberger A, Abdelaziz S, Wichmann JL, Arendt CT, Nagel E, Brockbank KGM, Seifert M, **Schenke-Layland K**, Stock UA. *Eur J Cardiothorac Surg* 53(4): 784-792 (2018)
102. A flow bioreactor system compatible with real-time two-photon fluorescence lifetime imaging microscopy. Shen N, Riedl JA, Carvajal-Berrio DA, Davis Z, Monaghan MG, Layland SL, Hinderer S, **Schenke-Layland K**. *Biomed Mater* 13(2): 024101 (2018)
103. Exogenous miR-29B delivery via a hyaluronan-based injectable system yields functional maintenance of the infarcted myocardium. Monaghan MG, Holeiter M, Brauchle E, Layland SL, Lu Y, Deb A, Pandit A, Nsair A, **Schenke-Layland K**. *Tissue Eng Part A* 24(1-2): 57-67 (2018)

2017

104. Metformin reverses TRAP1 mutation-associated alterations in mitochondrial function in Parkinson's disease. Fitzgerald JC, Zimprich A, Carvajal Berrio DA, Schindler KM, Maurer B, Schulte C, Bus C, Hauser AK, Kübler M, Lewin R, Bobbili DR, Schwarz LM, Vartholomaiou E, Brockmann K, Wüst R, Madlung J, Nordheim A, Riess O, Martins LM, Glaab E, May P, **Schenke-Layland K**, Picard D, Sharma M, Gasser T, Krüger R. *Brain* 140(9): 2444-2459 (2017)
105. Self-organized cerebral organoids with human-specific features predict effective drugs to combat Zika virus infection. Watanaba M, Buth JE, Vishlaghi N, de la Torre-Ubieta L, Taxis J, Khakh B, Coppola G, Pearson CA, Yamauchi K, Gong D, Dai X, Damoiseaux R, Aliyari R, Liebscher S, **Schenke-Layland K**, Caneda C, Huang EJ, Zhang Y, Cheng G, Geschwind DH, Golshani P, Sun R, Novitsch BG. *Cell Reports* 21(2): 517-532 (2017)
106. Steps towards maturation of embryonic stem cell-derived cardiomyocytes by defined physical signals. Shen N, Knopf A, Westendorf C, Kraushaar U, Riedl J, Bauer H, Pöschel S, Layland SL, Monika Holeiter M, Knolle S, Brauchle E, Nsair A, Hinderer S, **Schenke-Layland K**. *Stem Cell Reports* 9(1): 122-135 (2017)
107. In vivo human somitogenesis guides somite development from hPSCs. Xi H, Fujiwara W, Gonzales K, Jan M, Liebscher S, Van Handel B, **Schenke-Layland K**, Pyle A. *Cell Reports* 18(6): 1573-1585 (2017)
108. Raman spectroscopic analyses of jaw periosteal cell mineralization. Brauchle E, Carvajal Berrio D, Rieger M, **Schenke-Layland K**, Reinert S, Alexander-Friedrich D. *Stem Cells Int* 2017: 1651376 (2017)
109. Allograft Heart Valves: Current Aspects and Future Applications. Lisy M, Kalender G, **Schenke-Layland K**, Brockbank KG, Biermann A, Stock UA. *Biopreserv Biobank* 15(2): 148-157 (2017)
110. Special Issue "Extracellular matrix proteins and mimics." **Schenke-Layland K**. *Acta Biomater* 52 (2017) (Editorial)
111. Enhanced elastin synthesis and maturation in human vascular smooth muscle tissue derived from induced-pluripotent stem cells. Eoh JH, Shen N, Burke JA, Hinderer S, Xia Z, **Schenke-Layland K**, Gerecht S. *Acta Biomater* 52: 49-59 (2017)
112. Raman microspectroscopy as diagnostic tool for the non-invasive analysis of fibrillin-1 deficiency in skin and in vivo skin models. Brauchle E, Bauer H, Fernes P, Zuk A, **Schenke-Layland K**, Sengle G. *Acta Biomater* 52: 41-48 (2017)

113. Electrospun poly-L-lactide scaffold for the controlled and targeted delivery of a synthetically obtained Diclofenac prodrug to treat actinic keratosis. Piccirillo G, Bochicchio B, Pepe A, **Schenke-Layland K**, Hinderer S. *Acta Biomater* 52: 187-196 (2017)
114. Applying phasor approach analysis of multiphoton FLIM measurements to probe the metabolic activity of three-dimensional in vitro cell culture models. Lakner PH, Monaghan M, Möller Y, Olayioye M, **Schenke-Layland K**. *Sci Rep* 7: 42730 (2017)
115. Invited Commentary: Label-free live cell imaging by Confocal Raman Microscopy identifies CHO host and producer cell lines. Brauchle E, **Schenke-Layland K**. *Biotechnol J* 12(1): 1600412 (2017) (**Commentary**)
- 2016**
116. Differentiation of human embryonic stem cells to HOXA⁺ hemogenic vasculature that resembles the aorta-gonad-mesonephros. Ng ES, Azzola L, Bruveris FF, Calvanese V, Phipson B, Vlahos K, Hirst C, Jokubaitis VJ, Yu QC, Maksimovic J, Liebscher S, Januar V, Zhang Z, Williams B, Conscience A, Durnall J, Jackson S, Costa M, Elliott D, Haylock DN, Nilsson SK, Saffery R, **Schenke-Layland K**, Oshlack A, Mikkola HKA, Stanley EG, Elefanty AG. *Nat Biotechnol* 34(11): 1168-1179 (2016)
117. Enabling multiphoton and second harmonic generation imaging in paraffin-embedded and histologically stained sections. Monaghan M, Kroll S, Brucker SY, **Schenke-Layland K**. *Tissue Eng Part C Methods* 22(6): 517-523 (2016)
118. Mononuclear phagocytes contribute to intestinal invasion and dissemination of *Yersinia enterocolitica*. Drechsler-Hake D, Alamir H, Günter M, Wagner S, Schütz M, Bohn E, **Schenke-Layland K**, Pisano F, Dersch P, Autenrieth IB, Autenrieth SE. *Int J Med Microbiol pii: S1438-4221(16)30040-6* (2016)
119. Cardiomyocyte generation from somatic sources – current status and future directions. Monaghan MG, Holeiter M, Layland SL, **Schenke-Layland K**. *Curr Opin Biotechnol* 40: 49-55 (2016) (**Review**)
120. Endocardial-to-mesenchymal transformation and mesenchymal cell colonization at the onset of human cardiac valve development. Monaghan MG, Linneweh M, Liebscher S, Van Handel B, Layland SL, **Schenke-Layland K**. *Development* 143(3): 473-482 (2016)
121. Non-invasive Chamber-Specific Identification of Cardiomyocytes in Differentiating Pluripotent Stem Cells. Brauchle E, Knopf A, Bauer H, Shen N, Linder S, Monaghan MG, Ellwanger K, Layland SL, Brucker SY, Nsair A, **Schenke-Layland K**. *Stem Cell Reports* 6(2): 188-199 (2016)
122. Visualizing tropoelastin in a long-term human elastic fibre cell culture model. Halm M, **Schenke-Layland K**, Jaspers S, Wenck H, Fischer F. *Sci Rep* 6: 20378 (2016)
123. ECM and ECM-like materials – Biomaterials for applications in regenerative medicine and cancer therapy. Hinderer S, Layland SL, **Schenke-Layland K**. *Adv Drug Deliv Rev* 97: 260-269 (2016) (**Review**)
124. Loss of spatial organization and destruction of the pericellular matrix in early osteoarthritis in vivo and in a novel in vitro methodology. Felka T, Rothdiener M, Bast S, Uynuk-Ool T, Zouhair S, Ochs BG, De Zwart P, Stoeckle U, Aicher WK, Hart ML, Shiozawa T, Grodzinsky AJ, **Schenke-Layland K**, Venkatesan JK, Cucchiari M, Madry H, Kurz B, Rolaufts B. *Osteoarthritis Cartilage pii: S1063-4584(16)01020-7* (2016)
125. PSM Peptides of *Staphylococcus aureus* Activate the p38-CREB Pathway in Dendritic Cells, Thereby Modulating Cytokine Production and T Cell Priming. Armbruster NS, Richardson JR, Schreiner J, Klenk J, Günter M, Kretschmer D, Pöschel S, **Schenke-Layland K**, Kalbacher H, Clark K, Autenrieth SE. *J Immunol* 196(3): 1284-1292 (2016)
- 2015**
126. Prospects for regenerative medicine approaches in women's health. **Schenke-Layland K**, Brucker SY. *J Anat* 227: 781-785 (2015) (**Review**)
127. Optical reprogramming and optical characterization of cells using femtosecond lasers. Uchugonova A, Breunig HG, Augspurger C, Monaghan M, **Schenke-Layland K**, König K. *Optically Induced Nanostructures: Biomedical and Technical Applications*. Berlin: De Gruyter; Chapter 1 (2015)
128. Modulation of inflammation and angiogenesis and changes in ECM GAG-activity via dual delivery of nucleic acids. Browne S, Monaghan MG, Brauchle E, Carvajal Berrio D, Chantepie-Laborde S, Papy-Garcia D, **Schenke-Layland K**, Pandit A. *Biomaterials* 69: 133-147 (2015)
129. In vitro elastogenesis – Instructing human vascular smooth muscle cells to generate an elastic fiber-containing extracellular matrix scaffold. Hinderer S, Shen N, Ringuette LJ, Hansmann J, Reinhardt DP, Brucker SY, Davis EC, **Schenke-Layland K**. *Biomed Mater* 10(3): 034102 (2015)
130. Fluorescent Ly6G antibodies determine macrophage phagocytosis of neutrophils and alter the retrieval of neutrophils in mice. Bucher K, Schmitt F, Autenrieth SE, Dillmann I, Nürnberg B, **Schenke-Layland K**, Beer-Hammer S. *J Leukoc Biol*. 98(3): 365-72 (2015)
131. Generation and Assessment of Functional Biomaterial Scaffolds for the Application in Cardiovascular Tissue Engineering and Regenerative Medicine. Hinderer S, Brauchle E, **Schenke-Layland K**. *Adv Healthc Mater* 10(3):034102 (2015) (**Review**)
132. Drug and cell delivery for cardiac regeneration. Hastings CL, Roche ET, Ruiz-Hernandez E, **Schenke-Layland K**, Walsh CJ, Duffy GP. *Adv Drug Deliv Rev* 84: 85-106 (2015) (**Review**)
- 2014**
133. Human eye development is characterized by coordinated expression of fibrillin isoforms. Hubmacher D, Reinhardt DP, Plesec T, **Schenke-Layland K**, Apte SS. *Invest Ophthalmol Vis Sci* 55(12): 7934-44 (2014)

134. Preserved bioactivity and tunable release of a SDF1-GPVI bi-specific protein using photo-crosslinked PEGda hydrogels. Schesny M, Monaghan M, Bindermann A, Freund D, Seifert M, Eble JA, Vogel S, Gawaz MP, Hinderer S, **Schenke-Layland K**. *Biomaterials* 35(25): 7180-87 (2014)
135. Raman spectroscopy as analytical tool for melanoma research. Brauchle E, Noor S, Holthorff E, Gerbe C, **Schenke-Layland K**, Busch C. *Clin Exp Dermatol* 39(5): 636-45 (2014)
136. Cell death stages in single apoptotic and necrotic cells monitored by Raman microspectroscopy. Brauchle E, Thude S, Brucker SY, **Schenke-Layland K**. *Sci Rep* 15(4): 4698 (2014)
137. A collagen-based scaffold delivering exogenous micro-RNA-29B to modulate extracellular matrix remodelling. Monaghan M, Browne S, **Schenke-Layland K**, Pandit A. *Mol Ther* 22(4): 786-96 (2014)
138. Engineering of a bio-functionalized hybrid off-the-shelf heart valve. Hinderer S, Seifert J, Votteler M, Shen N, Rheinlaender J, Schäffer TE, **Schenke-Layland K**. *Biomaterials* 35(7): 2130-39 (2014)
139. A human in vitro model that mimics the renal proximal tubule. Hoppensack A, Kazanecki CC, Colter D, Gosiewska A, Schanz J, Walles H, **Schenke-Layland K**. *Tissue Eng Part C Methods* 20(7): 599-609 (2014)

2013

140. Elastogenesis at the early onset of human cardiac valve development. Votteler M, Berrio DAC, Horke A, Sabatier L, Reinhardt DP, Nsair A, Aikawa E, **Schenke-Layland K**. *Development* 140: 2345-53 (2013)
141. Design and analysis of a squamous cell carcinoma in vitro model system. Brauchle E, Johannsen H, Nolan S, Thude S, **Schenke-Layland K**. *Biomaterials* 34(30): 7401-07 (2013)
142. Tracheal tissue engineering: building on a strong foundation. Hinderer S, **Schenke-Layland K**. *Expert Rev Med Devices*. 10(1): 33-35 (2013) (**Expert Opinion**)
143. Epigenetic regulation of myogenic gene expression by heterochromatin protein 1 alpha. Sdek P, Oyama K, Angelis E, Chan SS, **Schenke-Layland K**, MacLellan WR. *PLoS One* 8(3): e58319 (2013)
144. Non-invasive identification of proteoglycans and chondrocyte differentiation state by Raman microspectroscopy. Pudlas M*, Brauchle E*, Klein TJ, Hutmacher DW and **Schenke-Layland K**. *J Biophotonics* 6(3): 205-2011 (2013)
145. RNA isolation from Fetal and Adult Human Tissues for Transcription Profiling. Votteler M, Layland SL, Lill G, Brockbank KG, Horke A, **Schenke-Layland K**. *Biotechnol J* 8(3): 338-44 (2013)
146. Raman spectroscopy in biomedicine – non-invasive in vitro analysis of cells and extracellular matrix components in tissues. Brauchle E, **Schenke-Layland K**. *Biotechnol J* 8(3): 288-97 (2013) (**Review**)
147. Strategies in tissue engineering and regenerative medicine. **Schenke-Layland K**, Walles H. *Biotechnol J* 8(3): 278-79 (2013) (**Editorial**)

2012

148. Characterization and Therapeutic Potential of Induced Pluripotent Stem Cell-Derived Cardiovascular Progenitor Cells. Nsair A*, **Schenke-Layland K***, Van Handel B, Evseenko D, Kahn M, Zhao P, Mendelis J, Heydarkhan S, Votteler M, Geist S, Chyu J, Gago-Lopez N, Crooks GM, Goldhaber J, Mikkola HKA, MacLellan RW. *PLoS One* 7(10): e45603 (2012)
149. Engineering of fibrillar decorin matrices for a tissue-engineered trachea. Hinderer S, Schesny M, Bayrak A, Ibold B, Hampel M, Walles T, Stock UA, Seifert M, **Schenke-Layland K**. *Biomaterials* 33(21): 5259-66 (2012)
150. Re: Hedgehog/Wnt Feedback Supports Regenerative Proliferation of Epithelial Stem Cells in Bladder. Vaegler M, **Schenke-Layland K**, Stenzl A. *Eur Urol* 61(6): 1263-1264 (2012) (**Commentary**)
151. Raman spectroscopy enables the non-contact, label-free monitoring of cells and extracellular matrix. Votteler M, Berrio DAC, Pudlas M, **Schenke-Layland K**. *J Vis Exp* 29(63) pii: 3977 (2012)
152. Reply: Long-Term Storage of Human Heart Valves above the Glass Transition at -80°C. Brockbank KG, Stock UA, **Schenke-Layland K**. *Ann Thorac Surg* 93(2): 695 (2012) (**Commentary**)
153. Oligonucleotide and Parylene Surface Coating of Polystyrene and ePTFE for Improved Endothelial Cell Attachment and Hemocompatibility. Schleicher M, Hansmann J, Elkin B, Kluger PJ, Liebscher S, Huber AJ, Fritze O, Schille C, Müller M, **Schenke-Layland K**, Seifert M, Walles H, Wendel HP, Stock UA. *Int J Biomater* 2012:397813 (2012)
154. Raman spectroscopy for the non-contact and non-destructive monitoring of collagen damage within tissues. Votteler M, Berrio DAC, Pudlas M, Walles H, Stock UA, **Schenke-Layland K**. *J Biophotonics* 5(1): 47–56 Jan (2012)
155. Preclinical Evaluation of Ice-Free Cryopreserved Arteries: Structural Integrity and Hemocompatibility. Huber AJ, Brockbank KG, Riemann I, Schleicher M, **Schenke-Layland K**, Fritze O, Wendel HP, Stock UA. *Cells Tissues Organs* 196(3):262-70 (2012)
156. Ice-free cryopreservation of heart valve allografts: better extracellular matrix preservation in vivo and preclinical results. Brockbank KG, **Schenke-Layland K**, Greene ED, Chen Z, Fritze O, Schleicher M, Kaulitz R, Riemann I, Fend F, Albes JM, Stock UA, Lisy M. *Cell and Tissue Banking* DOI: 10.1007/s10561-011-9288-7 (2012)
157. Age-Related Changes in the Elastic Tissue of the Human Aorta. Fritze O, Romero B, Schleicher M, Jacob MP, Oh DY, Starcher B, **Schenke-Layland K**, Bujan J, Stock UA. *J Vasc Res* 49(1): 77–86 (2012)

2011

158. The physiological performance of a three-dimensional model that mimics the microenvironment of the small intestine. Pusch J, Votteler M, Göhler S, Engl J, Hampel M, Walles H, **Schenke-Layland K**. *Biomaterials* 32(30): 7469-7478 (2011)

159. Recapitulation of the embryonic cardiovascular progenitor cell niche. **Schenke-Layland K**, Nsair A, Van Handel B, Angelis E, Gluck J, Votteler M, Goldhaber JI, Mikkola HK, Kahn M, MacLellan WR. *Biomaterials* 32(11): 2748-2756 (2011)
160. Raman spectroscopy - A Non-Invasive Analysis Tool for the Discrimination of Human Skin Cells. Pudlas M, Koch S, Bolwien C, Thude S, Jenne N, Hirth T, Walles H, **Schenke-Layland K**. *Tissue Eng Part C Methods* 17(10): 1027-1040 (2011)
161. In vitro human tissue models — moving towards personalized regenerative medicine. **Schenke-Layland K**, Nerem RM. *Adv Drug Deliv Rev* 63(4-5): 195-196 (2011) (**Editorial**)
162. Non-contact discrimination of human bone marrow-derived mesenchymal stem cells and fibroblasts using Raman spectroscopy. Pudlas M, Berrio DAC, Votteler M, Koch S, Thude S, Walles H, **Schenke-Layland K**. *Medical Laser Application* 26(3): 119-125 (2011)
163. Allogeneic Heart Valve Storage Above the Glass Transition at -80°C. Brockbank KG, Wright GJ, Yao H, Greene ED, Chen ZZ, **Schenke-Layland K**. *Ann Thorac Surg* 91(6): 1829-1835 (2011)
164. From tissue engineering to regenerative medicine — the potential and the pitfalls. **Schenke-Layland K**. *Adv Drug Deliv Rev* 26(3): 119-125 (2011) (**Preface**)
165. Skin Tissue Engineering – In vivo and in vitro applications. Groeber F*, Holeiter M*, Hampel M, Hinderer S, **Schenke-Layland K**. *Adv Drug Deliv Rev* 26(3): 119-125 (2011) (**Review**)
- 2010**
166. Stem cell microenvironments – Unveiling the secret of how stem cell fate is defined. Votteler M, Kluger P, Walles H, **Schenke-Layland K**. *Macromol Biosci* 10(11): 1302–1315 (2010) (**Review**)
167. Mapping the first stages of mesoderm commitment during differentiation of human embryonic stem cells. Evseenko D, Zhu Y, **Schenke-Layland K**, Kuo J, Latour B, Ge S, Scholes J, Dravid G, MacLellan WR, Crooks GM. *P Natl Acad Sci USA* 107(31): 13742–13747 (2010)
168. Guidance for Removal of Fetal Bovine Serum from Cryopreserved Heart Valve Processing. Brockbank KG, Heacox AE, **Schenke-Layland K**. *Cells Tissues Organs* 193(4) (2011)
169. Electrospun Poly(D/L-lactide-co-L-lactide) Hybrid Matrix – A Novel Scaffold Material for Soft Tissue Engineering. Kluger P, Wyrwa R, Weisser J, Maierle J, Votteler M, Rode C, Schnabelrauch M, Walles H, **Schenke-Layland K**. *J Mater Sci* 21(9): 2665–2671 (2010)
170. The performance of ice-free cryopreserved heart valve allografts in a orthotopic pulmonary sheep model. Lisy M, Pennecke J, Brockbank KGM, Fritze O, Schleicher M, **Schenke-Layland K**, Kaulitz R, Riemann I, Weber CN, Braun J, Mueller KE, Fend F, Scheunert T, Gruber AD, Albes JM, Huber AJ, Stock UA. *Biomaterials* 31(20): 5306-5311 (2010)
171. Increased expression of cathepsins and obesity-induced pro-inflammatory cytokines in lacrimal glands of male NOD mouse. Li X, Wu K, Edman M, **Schenke-Layland K**, MacVeigh-Aloni M, Janga S, Schulz B, Hamm-Alvarez S. *Invest Ophth Vis Sci* 51(10): 5019–5029 (2010)
172. Simplified Pulse Reactor for Real-Time Long-Term In Vitro Testing of Biological Heart Valves. Schleicher M, Sammler G, Schmauder M, Fritze O, Huber AJ, **Schenke-Layland K**, Ditze G, Stock UA. *Ann Biomed Eng* 38(5) (2010)
173. Impact of heart valve decellularization on 3-D ultrastructure, immunogenicity and thrombogenicity. Zhou J, Fritze O, Schleicher M, Wendel HP, **Schenke-Layland K**, Harasztosi C, Hu S, Stock UA. *Biomaterials* 31(9): 2549-2554 (2010)
174. Facilitated non-invasive visualization of collagen and elastin in blood vessels. Fritze O, Schleicher M, König K, **Schenke-Layland K**, Stock U, Harasztosi C. *Tissue Eng Part C Methods* 16(4): 705-710 (2010)
175. Lymphocytic infiltration leads to degradation of lacrimal gland extracellular matrix structures in NOD mice resembling Sjögren's syndrome-like exocrinopathy. **Schenke-Layland K**, Xie J, Magnusson M, Angelis E, Li X, Wu K, Reinhardt DP, MacLellan WR, Hamm-Alvarez SF. *Exp Eye Res* 90(2): 223-237 (2010)
- 2009-**
176. Induced Pluripotent Stem Cells. It's Like Deja Vu All Over Again. **Schenke-Layland K**, MacLellan WR. *Circulation* 120(15): 1462-1464 (2009) (**Editorial**)
177. Cardiomyopathy is associated with structural remodelling of heart valve extracellular matrix. **Schenke-Layland K**, Stock UA, Nsair A, Xie J, Angelis E, Fonseca CG, Larbig R, Mahajan A, Shivkumar K, Fishbein MC, MacLellan WR. *Eur Heart J* 30(18): 2254-2265 (2009)
178. The use of three-dimensional nanostructures to instruct cells to produce extracellular matrix proteins that can be used for regenerative medicine strategies. **Schenke-Layland K**, Rofail F, Heydarkhan S, Gluck JM, Ingle NP, Angelis E, Choi CH, MacLellan WR, Beygui RE, Shemin RJ, Heydarkhan-Hagvall S. *Biomaterials* 30(27): 4665-4675 (2009)
179. Invited Commentary: Differential Expression of Collagen Type V and XI alpha-1 in Human Ascending Thoracic Aortic Aneurysms. Nsair A, **Schenke-Layland K**. *Ann Thorac Surg*. 88(2): 513-514 (2009) (**Commentary**)
180. Adipose tissue-derived cells improve cardiac function following myocardial infarction. **Schenke-Layland K***, Strem BM*, Jordan MC, DeEmedio MT, Hedrick MH, Roos KP, Fraser JK, MacLellan WR. *J Surg Res* 153(2): 217-223 (2009)
181. Identification of the critical extracellular matrix proteins that promote human embryonic stem cell assembly. Evseenko Denis, **Schenke-Layland K**, Dravid G, Zhu J, Hao QL, Barsky L, Scholes J, Zielinska E, Chao X, Crooks G. *Stem Cells Dev* 18(6): 919-928 (2009)

182. Non-invasive multiphoton imaging of extracellular matrix structures. **Schenke-Layland K**. J Biophotonics 6: 451-462 (2008) (**Review**)
183. Quantitative Second Harmonic Generation Imaging of Cartilage Damage. Brockbank KGM, MacLellan WR, Xie J, Hamm-Alvarez SF, Chen ZZ, **Schenke-Layland K**. Cell Tissue Bank 9: 299-307 (2008)
184. Three-dimensional electrospun ECM-based hybrid scaffolds for cardiovascular tissue engineering. Heydarkhan-Hagvall S*, **Schenke-Layland K***, Dhanasopon A, Rofail F, Smith H, Wu BM, Shemin R, Beygui R, MacLellan WR. Biomaterials 29(19): 2907-2914 (2008)
185. Reprogrammed mouse fibroblasts differentiate into cells of the cardiovascular and hematopoietic lineages. **Schenke-Layland K**, Rhodes KE, Angelis E, Butylkova Y, Heydarkhan-Hagvall S, Gekas C, Zhang R, Goldhaber JI, Mikkola HK, Plath K, MacLellan WR. Stem Cells 26(6): 1537-1546 (2008)
186. A Cyclin D2-Rb Pathway Regulates Cardiac Myocyte Size and RNA Polymerase III After Biomechanical Stress in Adult Myocardium. Angelis E, Garcia A, Chan SS, **Schenke-Layland K**, Goodfellow SJ, Xu HJ, Jordan MC, Roos KP, White RJ, MacLellan WR. Circ Res 102(10): 1222-1229 (2008)
187. Human adipose stem cells: A potential source for cardiovascular tissue engineering. Heydarkhan-Hagvall S*, **Schenke-Layland K***, Yang JQ, Xu Y, Zuk PA, MacLellan WR, Beygui RE. Cells Tissues Organs 187(4): 263-274 (2008)
188. The Role of Cytoprotective Cytokines in Cardiac Ischemia/Reperfusion Injury. Anderson CD, Heydarkhan-Hagvall S, **Schenke-Layland K**, Yang JQ, Jordan MC, Kim JK, Brown DA, Zuk PA, Laks H, Roos KP, MacLellan WR, Beygui RE. J Surg Res 148(2): 164-171 (2008)
189. Increased degradation of extracellular matrix structures of lacrimal glands implicated in the pathogenesis of Sjögren's syndrome. **Schenke-Layland K***, Xie J*, Angelis E, Wu K, Riemann I, Starcher B, MacLellan WR, Hamm-Alvarez SF. Matrix Biology 27(1): 53-66 (2008)
190. Influence of systematically varied nano-scale topography on the cell morphology and adhesion. Heydarkhan-Hagvall S, Choi CH, Dunn J, Heydarkhan S, **Schenke-Layland K**, MacLellan WR, Beygui RE. Cell Communication and Adhesion 14(5): 181-194 (2007)
191. Phenotypical Plasticity of Vascular Smooth Muscle Cells – Impact of in vitro and in vivo Shear Stress for Tissue Engineering of Blood Vessels. Opitz F, **Schenke-Layland K**, Cohnert TU, Stock UA. Tissue Engineering 13(10): 2505-2514 (2007)
192. Optimized preservation of extracellular matrix in cardiac tissues: implications for long-term graft durability. **Schenke-Layland K**, Xie J, Heydarkhan-Hagvall S, Hamm-Alvarez SF, Stock UA, Brockbank KGM, MacLellan WR. Ann Thorac Surg 83(5): 1641-1650 (2007)
193. Reply: Can cryopreservation destroy the extracellular matrix of pulmonary allografts? **Schenke-Layland K**, Stock UA. Ann Thorac Surg 83(5): 1921-1922 (2007) (**Commentary**)
194. Collagen IV induces trophoectoderm differentiation of mouse embryonic stem cells. **Schenke-Layland K**, Angelis E, Rhodes KE, Heydarkhan-Hagvall S, Mikkola HK, MacLellan WR. Stem Cells 25(6): 1529-1538 (2007)
195. Two-photon microscopes and in vivo multiphoton tomographs - Novel diagnostic tools for tissue engineering and drug delivery. **Schenke-Layland K**, Riemann I, Damour O, Stock UA, König K. Adv Drug Deliv Rev. 58: 878-896 (2006) (**Review**)
196. Prevention of Device Related Tissue Damage during Percutaneous Deployment of Tissue Engineered Heart Valves. Stock UA, Degenkolbe I, Attmann T, **Schenke-Layland K**, Freitag S, Lutter G. J Thorac Cardiovasc Surg 131(6): 1323-1330 (2006)
197. Impact of cryopreservation on extracellular matrix structures of heart valve leaflets. **Schenke-Layland K**, Madershahian N, Riemann I, Starcher B, Halbhuber KJ, König K, Stock UA. Ann Thorac Surg 81(3): 918-926 (2006)
198. Performance of decellularized xenogeneic tissue in heart valve replacement. Stock UA, **Schenke-Layland K**. Biomaterials 27(1): 1-2 (2006) (**Expert Opinion**)
199. Imaging of cardiovascular structures using NIR femtosecond multiphoton laser scanning microscopy. **Schenke-Layland K**, Riemann I, Stock UA, König K. J Biomed Opt 10(2): 024017 (2005)
200. Tissue engineering of aortic tissue: dire consequence of suboptimal elastic fiber synthesis in vivo. Opitz F, **Schenke-Layland K**, Cohnert TU, Starcher B, Halbhuber KJ, Martin DP, Stock UA. Cardiovasc Res 63(4): 719-730 (2004)
201. Comparative Study of Cellular and Extracellular Matrix Composition of Native and Tissue Engineered Heart Valves. **Schenke-Layland K**, Riemann I, Opitz F, König K, Halbhuber KJ, Stock UA. Matrix Biology 23(2): 113-125 (2004)
202. Multiphoton Autofluorescence Imaging of Intratissue Elastic Fibers. König K*, **Schenke-Layland K***, Riemann I, Stock UA. Biomaterials 26(5), 495-500 (2005)
203. ProteinChip system technology - A powerful tool to analyze expression differences in tissue engineered blood vessels. Opitz F, Melle C, **Schenke-Layland K**, Degenkolbe I, Martin DP, von Eggeling F, Wahlers Th, Stock UA. Tissue Engineering 10(3/4): 611-620 (2004)
204. Tissue engineering of ovine aortic blood vessel substitutes using applied shear stress and enzymatically derived vascular smooth muscle cells. Opitz F, **Schenke-Layland K**, Richter W, Martin DP, Degenkolbe I, Wahlers T, Stock UA. Ann Biomed Eng 32(2): 212-222 (2004)
205. Complete dynamic repopulation of decellularized heart valves by application of defined physical signals-an in vitro study. **Schenke-Layland K**, Opitz F, Gross M, Doring C, Halbhuber KJ, Schirrmeister F, Wahlers T, Stock UA. Cardiovasc Res 60(3): 497-509 (2003)

206. Impact of decellularization of xenogeneic tissue on extracellular matrix integrity for tissue engineering of heart valves. **Schenke-Layland K**, Vasilevski O, Opitz F, König K, Riemann I, Halbhuber KJ, Wahlers T, Stock UA. *J Struct Biol* 143(3): 201-208 (2003)
207. cAMP-induced Interleukin-10 promoter activation depends on CCAAT/enhancer-binding protein expression and monocytic differentiation. Brenner S, Prösch S, **Schenke-Layland K**, Riese U, Gausmann U, Platzer C. *J Biol Chem* 278(8): 5597-5604 (2003)