

Heike Walles

List of Publications by Year in descending order

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107
papers

3,535
citations

147801

31
h-index

161849

54
g-index

111
all docs

111
docs citations

111
times ranked

5608
citing authors

#	ARTICLE	IF	CITATIONS
1	Establishment of a Human Blood-Brain Barrier Co-culture Model Mimicking the Neurovascular Unit Using Induced Pluri- and Multipotent Stem Cells. <i>Stem Cell Reports</i> , 2017, 8, 894-906.	4.8	225
2	Integrating biological vasculature into a multi-organ-chip microsystem. <i>Lab on A Chip</i> , 2013, 13, 3588.	6.0	155
3	“Human-on-a-chip”™ Developments: A Translational Cutting-edge Alternative to Systemic Safety Assessment and Efficiency Evaluation of Substances in Laboratory Animals and Man?. <i>ATLA Alternatives To Laboratory Animals</i> , 2012, 40, 235-257.	1.0	153
4	ROR1-CAR T cells are effective against lung and breast cancer in advanced microphysiologic 3D tumor models. <i>JCI Insight</i> , 2019, 4, .	5.0	139
5	Non-animal models of epithelial barriers (skin, intestine and lung) in research, industrial applications and regulatory toxicology. <i>ALTEX: Alternatives To Animal Experimentation</i> , 2015, 32, 327-378.	1.5	108
6	Development of an Advanced Primary Human <i>In Vitro</i> Model of the Small Intestine. <i>Tissue Engineering - Part C: Methods</i> , 2016, 22, 873-883.	2.1	103
7	The physiological performance of a three-dimensional model that mimics the microenvironment of the small intestine. <i>Biomaterials</i> , 2011, 32, 7469-7478.	11.4	102
8	Cross-linked Collagen Hydrogel Matrix Resisting Contraction To Facilitate Full-Thickness Skin Equivalents. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 20417-20425.	8.0	94
9	Bioreactors in tissue engineering—principles, applications and commercial constraints. <i>Biotechnology Journal</i> , 2013, 8, 298-307.	3.5	87
10	In Vitro Generation of Functional Liver Organoid-Like Structures Using Adult Human Cells. <i>PLoS ONE</i> , 2015, 10, e0139345.	2.5	86
11	Stem cell- and growth factor-based regenerative therapies for avascular necrosis of the femoral head. <i>Stem Cell Research and Therapy</i> , 2012, 3, 7.	5.5	83
12	A first vascularized skin equivalent for as an alternative to animal experimentation. <i>ALTEX: Alternatives To Animal Experimentation</i> , 2016, 33, 415-422.	1.5	77
13	Stem Cell Microenvironments—Unveiling the Secret of How Stem Cell Fate is Defined. <i>Macromolecular Bioscience</i> , 2010, 10, 1302-1315.	4.1	74
14	Establishment of a human 3D lung cancer model based on a biological tissue matrix combined with a Boolean <i>in silico</i> model. <i>Molecular Oncology</i> , 2014, 8, 351-365.	4.6	74
15	Raman Spectroscopy: A Noninvasive Analysis Tool for the Discrimination of Human Skin Cells. <i>Tissue Engineering - Part C: Methods</i> , 2011, 17, 1027-1040.	2.1	73
16	Activation of Myenteric Glia during Acute Inflammation In Vitro and In Vivo. <i>PLoS ONE</i> , 2016, 11, e0151335.	2.5	69
17	EZH2 Inhibition in Ewing Sarcoma Upregulates GD2 Expression for Targeting with Gene-Modified T Cells. <i>Molecular Therapy</i> , 2019, 27, 933-946.	8.2	69
18	Raman spectroscopy for the non-contact and non-destructive monitoring of collagen damage within tissues. <i>Journal of Biophotonics</i> , 2012, 5, 47-56.	2.3	68

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19	An engineered 3D human airway mucosa model based on an SIS scaffold. <i>Biomaterials</i> , 2014, 35, 7355-7362.	11.4	59
20	Inhibitor of Apoptosis Protein-1 Regulates Tumor Necrosis Factor- α Mediated Destruction of Intestinal Epithelial Cells. <i>Gastroenterology</i> , 2017, 152, 867-879.	1.3	54
21	Bone tissue engineering in osteoporosis. <i>Maturitas</i> , 2013, 75, 118-124.	2.4	50
22	Advanced Therapy Medicinal Products: A Guide for Bone Marrow-derived MSC Application in Bone and Cartilage Tissue Engineering. <i>Tissue Engineering - Part B: Reviews</i> , 2018, 24, 155-169.	4.8	50
23	A perfusion bioreactor system efficiently generates cell-loaded bone substitute materials for addressing critical size bone defects. <i>Biotechnology Journal</i> , 2015, 10, 1727-1738.	3.5	44
24	Differential Regulation of SOX9 Protein During Chondrogenesis of Induced Pluripotent Stem Cells Versus Mesenchymal Stromal Cells: A Shortcoming for Cartilage Formation. <i>Stem Cells and Development</i> , 2016, 25, 598-609.	2.1	44
25	Mimicking Metastases Including Tumor Stroma: A New Technique to Generate a Three-Dimensional Colorectal Cancer Model Based on a Biological Decellularized Intestinal Scaffold. <i>Tissue Engineering - Part C: Methods</i> , 2016, 22, 621-635.	2.1	42
26	Electrospun poly(d/l-lactide-co-l-lactide) hybrid matrix: a novel scaffold material for soft tissue engineering. <i>Journal of Materials Science: Materials in Medicine</i> , 2010, 21, 2665-2671.	3.6	41
27	Human barrier models for the in vitro assessment of drug delivery. <i>Drug Delivery and Translational Research</i> , 2017, 7, 217-227.	5.8	41
28	An adherent mucus layer attenuates the genotoxic effect of colibactin. <i>Cellular Microbiology</i> , 2018, 20, e12812.	2.1	37
29	Tissue Mimicry in Morphology and Composition Promotes Hierarchical Matrix Remodeling of Invading Stem Cells in Osteochondral and Meniscus Scaffolds. <i>Advanced Materials</i> , 2018, 30, e1706754.	21.0	37
30	Generation of a Three-dimensional Full Thickness Skin Equivalent and Automated Wounding. <i>Journal of Visualized Experiments</i> , 2015, , .	0.3	36
31	Ex vivo culture platform for assessment of cartilage repair treatment strategies. <i>ALTEX: Alternatives To Animal Experimentation</i> , 2017, 34, 267-277.	1.5	30
32	Ammonia plasma treatment of polystyrene surfaces enhances proliferation of primary human mesenchymal stem cells and human endothelial cells. <i>Biotechnology Journal</i> , 2013, 8, 327-337.	3.5	29
33	Osteogenesis and mineralization of mesenchymal stem cells in collagen type I-based recombinant peptide scaffolds. <i>Journal of Biomedical Materials Research - Part A</i> , 2017, 105, 1856-1866.	4.0	29
34	Non-Coding RNAs in Lung Cancer: Contribution of Bioinformatics Analysis to the Development of Non-Invasive Diagnostic Tools. <i>Genes</i> , 2017, 8, 8.	2.4	28
35	Raman Spectroscopy as a Tool for Quality and Sterility Analysis for Tissue Engineering Applications like Cartilage Transplants. <i>International Journal of Artificial Organs</i> , 2010, 33, 228-237.	1.4	27
36	Investigation of Migration and Differentiation of Human Mesenchymal Stem Cells on Five-Layered Collagenous Electrospun Scaffold Mimicking Native Cartilage Structure. <i>Advanced Healthcare Materials</i> , 2016, 5, 2191-2198.	7.6	27

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37	Three-Dimensional Coculture of Meniscal Cells and Mesenchymal Stem Cells in Collagen Type I Hydrogel on a Small Intestinal Matrix—A Pilot Study Toward Equine Meniscus Tissue Engineering. <i>Tissue Engineering - Part A</i> , 2017, 23, 390-402.	3.1	27
38	Non-contact discrimination of human bone marrow-derived mesenchymal stem cells and fibroblasts using Raman spectroscopy. <i>Medical Laser Application: International Journal for Laser Treatment and Research</i> , 2011, 26, 119-125.	0.3	26
39	Host-Integration of a Tissue-Engineered Airway Patch: Two-Year Follow-Up in a Single Patient. <i>Tissue Engineering - Part A</i> , 2015, 21, 573-579.	3.1	26
40	Preparation of a Three-Dimensional Full Thickness Skin Equivalent. <i>Methods in Molecular Biology</i> , 2017, 1612, 191-198.	0.9	26
41	NELL-1, HMGB1, and CCN2 Enhance Migration and Vasculogenesis, But Not Osteogenic Differentiation Compared to BMP2. <i>Tissue Engineering - Part A</i> , 2018, 24, 207-218.	3.1	26
42	Tissue Engineering of a Human 3D &in vitro Tumor Test System. <i>Journal of Visualized Experiments</i> , 2013, , .	0.3	25
43	Alternative methods for the replacement of eye irritation testing. <i>ALTEX: Alternatives To Animal Experimentation</i> , 2016, 33, 55-67.	1.5	25
44	In situ guided tissue regeneration in musculoskeletal diseases and aging. <i>Cell and Tissue Research</i> , 2012, 347, 725-735.	2.9	24
45	A Human <i>In Vitro</i> Model That Mimics the Renal Proximal Tubule. <i>Tissue Engineering - Part C: Methods</i> , 2014, 20, 599-609.	2.1	24
46	Applicability of second-generation upcyte [®] human hepatocytes for use in CYP inhibition and induction studies. <i>Pharmacology Research and Perspectives</i> , 2015, 3, e00161.	2.4	24
47	A comparative multi-parametric in vitro model identifies the power of test conditions to predict the fibrotic tendency of a biomaterial. <i>Scientific Reports</i> , 2017, 7, 1689.	3.3	23
48	A versatile modular bioreactor platform for Tissue Engineering. <i>Biotechnology Journal</i> , 2017, 12, 1600326.	3.5	23
49	Matrix decoded — A pancreatic extracellular matrix with organ specific cues guiding human iPSC differentiation. <i>Biomaterials</i> , 2020, 244, 119766.	11.4	21
50	A three-dimensional intestinal tissue model reveals factors and small regulatory RNAs important for colonization with <i>Campylobacter jejuni</i> . <i>PLoS Pathogens</i> , 2020, 16, e1008304.	4.7	21
51	An Advanced Human Intestinal Coculture Model Reveals Compartmentalized Host and Pathogen Strategies during <i>Salmonella</i> Infection. <i>MBio</i> , 2020, 11, .	4.1	21
52	A bioreactor system for interfacial culture and physiological perfusion of vascularized tissue equivalents. <i>Biotechnology Journal</i> , 2013, 8, 308-316.	3.5	20
53	A Combined 3D Tissue Engineered <i>In Vitro</i> / <i>In Silico</i> Lung Tumor Model for Predicting Drug Effectiveness in Specific Mutational Backgrounds. <i>Journal of Visualized Experiments</i> , 2016, , e53885.	0.3	20
54	Upcyte [®] Microvascular Endothelial Cells Repopulate Decellularized Scaffold. <i>Tissue Engineering - Part C: Methods</i> , 2013, 19, 57-67.	2.1	19

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55	Feasibility Study on a Microwave-Based Sensor for Measuring Hydration Level Using Human Skin Models. <i>PLoS ONE</i> , 2016, 11, e0153145.	2.5	19
56	Isotropic Versus Bipolar Functionalized Biomimetic Artificial Basement Membranes and Their Evaluation in Long-Term Human Cell Culture. <i>Advanced Healthcare Materials</i> , 2016, 5, 1939-1948.	7.6	19
57	Biomimetic Human Tissue Model for Long-Term Study of <i>Neisseria gonorrhoeae</i> Infection. <i>Frontiers in Microbiology</i> , 2019, 10, 1740.	3.5	19
58	Reepithelialization in focus: Non-invasive monitoring of epidermal wound healing in vitro. <i>Biosensors and Bioelectronics</i> , 2019, 142, 111555.	10.1	19
59	An Injectable Recombinant Collagen I Peptide-Based Macroporous Microcarrier Allows Superior Expansion of C2C12 and Human Bone Marrow-Derived Mesenchymal Stromal Cells and Supports Deposition of Mineralized Matrix. <i>Tissue Engineering - Part A</i> , 2017, 23, 946-957.	3.1	18
60	Evaluation of a Miniaturized Biologically Vascularized Scaffold in vitro and in vivo. <i>Scientific Reports</i> , 2018, 8, 4719.	3.3	18
61	Oligonucleotide and Parylene Surface Coating of Polystyrene and ePTFE for Improved Endothelial Cell Attachment and Hemocompatibility. <i>International Journal of Biomaterials</i> , 2012, 2012, 1-14.	2.4	16
62	Follistatin Effects in Migration, Vascularization, and Osteogenesis in vitro and Bone Repair in vivo. <i>Frontiers in Bioengineering and Biotechnology</i> , 2019, 7, 38.	4.1	16
63	Comparative Evaluation on Impacts of Fibronectin, Heparin-Chitosan, and Albumin Coating of Bacterial Nanocellulose Small-Diameter Vascular Grafts on Endothelialization In Vitro. <i>Nanomaterials</i> , 2021, 11, 1952.	4.1	15
64	Generation of a Human Cardiac Patch Based on a Reendothelialized Biological Scaffold (BioVaSc). <i>Advanced Biology</i> , 2017, 1, 1600005.	3.0	14
65	Linking two worlds in polymer chemistry: The influence of block uniformity and dispersity in amphiphilic block copolypeptoids on their self-assembly. <i>Biopolymers</i> , 2019, 110, e23259.	2.4	14
66	Connecting Cancer Pathways to Tumor Engines: A Stratification Tool for Colorectal Cancer Combining Human In Vitro Tissue Models with Boolean In Silico Models. <i>Cancers</i> , 2020, 12, 28.	3.7	14
67	In vitro chemotaxis and tissue remodeling assays quantitatively characterize foreign body reaction. <i>ALTEX: Alternatives To Animal Experimentation</i> , 2017, 34, 253-266.	1.5	14
68	Deformation strain is the main physical driver for skeletal precursors to undergo osteogenesis in earlier stages of osteogenic cell maturation. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2018, 12, e1474-e1479.	2.7	13
69	Development of Human Salivary Gland-Like Tissue <i>In Vitro</i> . <i>Tissue Engineering - Part A</i> , 2018, 24, 301-309.	3.1	13
70	Structure-Function relationships of equine menisci. <i>PLoS ONE</i> , 2018, 13, e0194052.	2.5	12
71	An in vitro model mimics the contact of biomaterials to blood components and the reaction of surrounding soft tissue. <i>Acta Biomaterialia</i> , 2019, 89, 227-241.	8.3	12
72	A coculture system composed of THP-1 cells and 3D reconstructed human epidermis to assess activation of dendritic cells by sensitizing chemicals after topical exposure. <i>Toxicology in Vitro</i> , 2019, 57, 62-66.	2.4	12

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73	A standardized method based on pigmented epidermal models evaluates sensitivity against UV-irradiation. <i>ALTEX: Alternatives To Animal Experimentation</i> , 2018, 35, 390-396.	1.5	12
74	Rapid Analysis of Cell–Nanoparticle Interactions using Single-Cell Raman Trapping Microscopy. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 4946-4950.	13.8	11
75	Non-contact, Label-free Monitoring of Cells and Extracellular Matrix using Raman Spectroscopy. <i>Journal of Visualized Experiments</i> , 2012, , .	0.3	10
76	Nanostructured TiN-Coated Electrodes for High-Sensitivity Noninvasive Characterization of in Vitro Tissue Models. <i>ACS Applied Nano Materials</i> , 2018, 1, 2284-2293.	5.0	10
77	Triple co-culture and perfusion bioreactor for studying the interaction between <i>Neisseria gonorrhoeae</i> and neutrophils: A novel 3D tissue model for bacterial infection and immunity. <i>Journal of Tissue Engineering</i> , 2021, 12, 204173142098880.	5.5	10
78	In vitro skin culture media influence the viability and inflammatory response of primary macrophages. <i>Scientific Reports</i> , 2021, 11, 7070.	3.3	10
79	Raman spectroscopy as a tool for quality and sterility analysis for tissue engineering applications like cartilage transplants. <i>International Journal of Artificial Organs</i> , 2010, 33, 228-37.	1.4	10
80	Editorial: Strategies in tissue engineering and regenerative medicine. <i>Biotechnology Journal</i> , 2013, 8, 278-279.	3.5	9
81	Biomimetic in vitro test system for evaluation of dental implant materials. <i>Dental Materials</i> , 2020, 36, 1059-1070.	3.5	9
82	Human Organotypic Lung Tumor Models: Suitable For Preclinical 18F-FDG PET-Imaging. <i>PLoS ONE</i> , 2016, 11, e0160282.	2.5	9
83	Strategies and First Advances in the Development of Prevascularized Bone Implants. <i>Current Molecular Biology Reports</i> , 2016, 2, 149-157.	1.6	8
84	Recombinant Collagen I Peptide Microcarriers for Cell Expansion and Their Potential Use As Cell Delivery System in a Bioreactor Model. <i>Journal of Visualized Experiments</i> , 2018, , .	0.3	8
85	A combined tissue-engineered/ in-silico signature tool patient stratification in lung cancer. <i>Molecular Oncology</i> , 2018, 12, 1264-1285.	4.6	8
86	Nanotopographical Coatings Induce an Early Phenotype-Specific Response of Primary Material-Resident M1 and M2 Macrophages. <i>Materials</i> , 2020, 13, 1142.	2.9	8
87	Evaluation of Cell–Material Interactions on Newly Designed, Printable Polymers for Tissue Engineering Applications. <i>Advanced Engineering Materials</i> , 2011, 13, B467.	3.5	7
88	Calcium fluoride based multifunctional nanoparticles for multimodal imaging. <i>Beilstein Journal of Nanotechnology</i> , 2017, 8, 1484-1493.	2.8	7
89	Altered pancreatic islet morphology and function in SGLT1 knockout mice on a glucose-deficient, fat-enriched diet. <i>Molecular Metabolism</i> , 2018, 13, 67-76.	6.5	7
90	Obstructed defecation—“an enteric neuropathy? An exploratory study of patient samples. <i>International Journal of Colorectal Disease</i> , 2019, 34, 193-196.	2.2	7

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91	Sevoflurane Exerts Protective Effects in Murine Peritonitis-induced Sepsis via Hypoxia-inducible Factor 1 α /Adenosine A2B Receptor Signaling. <i>Anesthesiology</i> , 2021, 135, 136-150.	2.5	7
92	A Barrier to Defend - Models of Pulmonary Barrier to Study Acute Inflammatory Diseases. <i>Frontiers in Immunology</i> , 0, 13, .	4.8	7
93	Interactions of donor sources and media influence the histomorphological quality of full-thickness skin models. <i>Biotechnology Journal</i> , 2016, 11, 1352-1361.	3.5	6
94	Stem cell labeling with iron oxide nanoparticles: impact of 3D culture on cell labeling maintenance. <i>Nanomedicine</i> , 2016, 11, 1957-1970.	3.3	6
95	Biological Models of the Lower Human Airways – Challenges and Special Requirements of Human 3D Barrier Models for Biomedical Research. <i>Pharmaceutics</i> , 2021, 13, 2115.	4.5	6
96	Site-Directed Immobilization of Bone Morphogenetic Protein 2 to Solid Surfaces by Click Chemistry. <i>Journal of Visualized Experiments</i> , 2018, , .	0.3	5
97	Ciclopirox olamine promotes the angiogenic response of endothelial cells and mesenchymal stem cells. <i>Clinical Hemorheology and Microcirculation</i> , 2019, 73, 317-328.	1.7	5
98	Physical contact between mesenchymal stem cells and endothelial precursors induces distinct signatures with relevance to the very early phase of regeneration. <i>Journal of Cellular Biochemistry</i> , 2018, 119, 9122-9140.	2.6	3
99	Regulatory-Compliant Validation of a Highly Sensitive qPCR for Biodistribution Assessment of Hemophilia A Patient Cells. <i>Molecular Therapy - Methods and Clinical Development</i> , 2020, 18, 176-188.	4.1	3
100	Rapid Analysis of Cell-Nanoparticle Interactions using Single-Cell Raman Trapping Microscopy. <i>Angewandte Chemie</i> , 2018, 130, 5040-5044.	2.0	2
101	Raman spectroscopy: a powerful tool for the non-contact discrimination of bone marrow mesenchymal stem cells and fibroblasts. , 2011, , .		1
102	Dynamic cultivation of human stem cells under physiological conditions. <i>BMC Proceedings</i> , 2015, 9, .	1.6	1
103	Screening Applications to Test Cellular Fitness in Transwell® Models After Nanoparticle Treatment. <i>Methods in Molecular Biology</i> , 2017, 1601, 111-122.	0.9	1
104	Bacterial Nanocellulose-Based Grafts for Cell Colonization Studies: An In Vitro Bioreactor Perfusion Model. <i>Methods in Molecular Biology</i> , 2021, , 205-222.	0.9	1
105	Development of 3D human intestinal equivalents for substance testing in microliter-scale on a multi-organ-chip. <i>BMC Proceedings</i> , 2013, 7, .	1.6	0
106	Track I. Cellular-, Tissue- and Bioengineering. <i>Biomedizinische Technik</i> , 2016, 61, 81-89.	0.8	0
107	High-Throughput Screening Techniques. , 2017, , 579-592.		0