Matthias Schieker

List of Publications by Year
in descending order

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117	6,236	57758	74163
papers	citations	44 h-index	75 g-index

144	144	144	9263
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hydroxyapatite scaffolds for bone tissue engineering made by 3D printing. Journal of Materials Science: Materials in Medicine, 2005, 16, 1121-1124.	3.6	418
2	Human mesenchymal stem cells in contact with their environment: surface characteristics and the integrin system. Journal of Cellular and Molecular Medicine, 2007, 11, 21-38.	3.6	274
3	Characterization of osteosarcoma cell lines MG-63, Saos-2 and U-2 OS in comparison to human osteoblasts. Anticancer Research, 2004, 24, 3743-8.	1.1	271
4	Hypoxia in Static and Dynamic 3D Culture Systems for Tissue Engineering of Bone. Tissue Engineering - Part A, 2008, 14, 1331-1340.	3.1	241
5	Tissue engineering for bone defect healing: An update on a multi-component approach. Injury, 2008, 39, S9-S20.	1.7	184
6	Introducing a singleâ€cellâ€derived human mesenchymal stem cell line expressing hTERT after lentiviral gene transfer. Journal of Cellular and Molecular Medicine, 2008, 12, 1347-1359.	3.6	177
7	Researching into the cellular shape, volume and elasticity of mesenchymal stem cells, osteoblasts and osteosarcoma cells by atomic force microscopy. Journal of Cellular and Molecular Medicine, 2008, 12, 537-552.	3.6	172
8	Uncovering the cellular and molecular changes in tendon stem/progenitor cells attributed to tendon aging and degeneration. Aging Cell, 2013, 12, 988-999.	6.7	169
9	Biomaterials as Scaffold for Bone Tissue Engineering. European Journal of Trauma and Emergency Surgery, 2006, 32, 114-124.	0.3	164
10	Efficacy and safety of extracorporeal shock wave therapy for orthopedic conditions: a systematic review on studies listed in the PEDro database. British Medical Bulletin, 2015, 116, ldv047.	6.9	146
11	Integrins Î±2Î²1 and Î±11Î²1 regulate the survival of mesenchymal stem cells on collagen I. Cell Death and Disease, 2011, 2, e186-e186.	6.3	134
12	Conversion of Human Bone Marrow-Derived Mesenchymal Stem Cells into Tendon Progenitor Cells by Ectopic Expression of Scleraxis. Stem Cells and Development, 2012, 21, 846-858.	2.1	127
13	Osteonecrosis of the Jaw: Effect of Bisphosphonate Type, Local Concentration, and Acidic Milieu on the Pathomechanism. Journal of Oral and Maxillofacial Surgery, 2010, 68, 2837-2845.	1.2	124
14	Bisphosphonate-Related Osteonecrosis of the Jaw: Is pH the Missing Part in the Pathogenesis Puzzle?. Journal of Oral and Maxillofacial Surgery, 2010, 68, 1158-1161.	1.2	122
15	Morphological and immunocytochemical characteristics indicate the yield of early progenitors and represent a quality control for human mesenchymal stem cell culturing. Journal of Anatomy, 2009, 214, 759-767.	1.5	117
16	Osteoporosis and bisphosphonates-related osteonecrosis of the jaw: Not just a sporadic coincidence â€“ a multi-centre study. Journal of Cranio-Maxillo-Facial Surgery, 2011, 39, 272-277.	1.7	111
17	Polychrome labeling of bone with seven different fluorochromes: Enhancing fluorochrome discrimination by spectral image analysis. Bone, 2005, 37, 441-445.	2.9	110
18	IKK-2 is required for TNF-Î±-induced invasion and proliferation of human mesenchymal stem cells. Journal of Molecular Medicine, 2008, 86, 1183-1192.	3.9	98

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19	Structural and mechanical properties of the proliferative zone of the developing murine growth plate cartilage assessed by atomic force microscopy. Matrix Biology, 2016, 50, 1-15.	3.6	97
20	Hypoxic Preconditioning of Human Mesenchymal Stem Cells Overcomes Hypoxia-Induced Inhibition of Osteogenic Differentiation. Tissue Engineering - Part A, 2010, 16, 153-164.	3.1	91
21	Loss of Tenomodulin Results in Reduced Self-Renewal and Augmented Senescence of Tendon Stem/Progenitor Cells. Stem Cells and Development, 2015, 24, 597-609.	2.1	88
22	Increased stemness and migration of human mesenchymal stem cells in hypoxia is associated with altered integrin expression. Biochemical and Biophysical Research Communications, 2012, 423, 379-385.	2.1	86
23	Effects of Interleukin-1Î² Inhibition on Incident Hip and Knee Replacement. Annals of Internal Medicine, 2020, 173, 509-515.	3.9	84
24	Tenomodulin is essential for prevention of adipocyte accumulation and fibrovascular scar formation during early tendon healing. Cell Death and Disease, 2017, 8, e3116-e3116.	6.3	83
25	Mechanical stimulation of human tendon stem/progenitor cells results in upregulation of matrix proteins, integrins and MMPs, and activation of p38 and ERK1/2 kinases. BMC Molecular Biology, 2015, 16, 6.	3.0	82
26	Flexible intramedullary nailing for stabilization of displaced midshaft clavicle fractures: Technique and results in 87 patients. Monthly Notices of the Royal Astronomical Society: Letters, 2007, 78, 424-429.	3.3	78
27	Tenomodulin is Required for Tendon Endurance Running and Collagen I Fibril Adaptation to Mechanical Load. EBioMedicine, 2017, 20, 240-254.	6.1	78
28	Nonviral genetic modification mediates effective transgene expression and functional RNA interference in human mesenchymal stem cells. Journal of Gene Medicine, 2005, 7, 718-728.	2.8	74
29	Novel High Efficient Coatings for Anti-Microbial Surgical Sutures Using Chlorhexidine in Fatty Acid Slow-Release Carrier Systems. PLoS ONE, 2014, 9, e101426.	2.5	69
30	Impact of Indium-111 Oxine Labelling on Viability of Human Mesenchymal Stem Cells In Vitro, and 3D Cell-Tracking Using SPECT/CT In Vivo. Molecular Imaging and Biology, 2011, 13, 1204-1214.	2.6	68
31	Characterisation of a new bioadhesive system based on polysaccharides with the potential to be used as bone glue. Journal of Materials Science: Materials in Medicine, 2009, 20, 2001-2009.	3.6	67
32	Molecular composition and pathology of entheses on the medial and lateral epicondyles of the humerus: a structural basis for epicondylitis. Annals of the Rheumatic Diseases, 2004, 63, 1015-1021.	0.9	64
33	Differentiation of individual human mesenchymal stem cells probed by FTIR microscopic imaging. Analyst, The, 2007, 132, 647.	3.5	61
34	Validation of a Femoral Critical Size Defect Model for Orthotopic Evaluation of Bone Healing: A Biomechanical, Veterinary and Trauma Surgical Perspective. Tissue Engineering - Part C: Methods, 2008, 14, 79-88.	2.1	60
35	First inducible transgene expression in porcine large animal models. FASEB Journal, 2012, 26, 1086-1099.	0.5	60
36	Bone regeneration of minipig mandibular defect by adipose derived mesenchymal stem cells seeded tri-calcium phosphate- poly(D,L-lactide-co-glycolide) scaffolds. Scientific Reports, 2020, 10, 2062.	3.3	59

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37	Mesenchymal stem cells from osteoporotic patients feature impaired signal transduction but sustained osteoinduction in response to BMP-2 stimulation. Biochemical and Biophysical Research Communications, 2013, 440, 617-622.	2.1	56
38	Biocompatibility of ceramic scaffolds for bone replacement made by 3D printing. Materialwissenschaft Und Werkstofftechnik, 2005, 36, 781-787.	0.9	52
39	Effect of collagen I and fibronectin on the adhesion, elasticity and cytoskeletal organization of prostate cancer cells. Biochemical and Biophysical Research Communications, 2010, 402, 361-366.	2.1	50
40	Comparison of tenocytes and mesenchymal stem cells seeded on biodegradable scaffolds in a full-size tendon defect model. Journal of Materials Science: Materials in Medicine, 2013, 24, 211-220.	3.6	50
41	A Perfusion Bioreactor System for Cell Seeding and Oxygen-Controlled Cultivation of Three-Dimensional Cell Cultures. Tissue Engineering - Part C: Methods, 2018, 24, 585-595.	2.1	50
42	Effects of different media on proliferation and differentiation capacity of canine, equine and porcine adipose derived stem cells. Research in Veterinary Science, 2012, 93, 457-462.	1.9	47
43	Scaffold-free Scleraxis-programmed tendon progenitors aid in significantly enhanced repair of full-size Achilles tendon rupture. Nanomedicine, 2016, 11, 1153-1167.	3.3	47
44	In vitro evaluation of novel antimicrobial coatings for surgical sutures using octenidine. BMC Microbiology, 2015, 15, 186.	3.3	45
45	IL-6, IL-1Î², and TNF-Î± only in combination influence the osteoporotic phenotype in Crohnâ€™s patients via bone formation and bone resorption. Advances in Clinical and Experimental Medicine, 2018, 27, 45-56.	1.4	43
46	Human mesenchymal stem cells at the single-cell level: simultaneous seven-colour immunofluorescence. Journal of Anatomy, 2007, 210, 592-599.	1.5	42
47	Mesenchymal Stem Cells and Their Cell Surface Receptors. Current Rheumatology Reviews, 2008, 4, 155-160.	0.8	42
48	The use of four-colour immunofluorescence techniques to identify mesenchymal stem cells. Journal of Anatomy, 2004, 204, 133-139.	1.5	39
49	Continuous Digital Monitoring of Walking Speed in Frail Elderly Patients: Noninterventional Validation Study and Longitudinal Clinical Trial. JMIR MHealth and UHealth, 2019, 7, e15191.	3.7	39
50	Bupivacaine, ropivacaine, and morphine: comparison of toxicity on human hamstring-derived stem/progenitor cells. Knee Surgery, Sports Traumatology, Arthroscopy, 2011, 19, 2138-2144.	4.2	38
51	Mesenchymal stem cells from osteoporotic patients reveal reduced migration and invasion upon stimulation with BMP-2 or BMP-7. Biochemical and Biophysical Research Communications, 2014, 452, 118-123.	2.1	37
52	A new biodegradable bone wax substitute with the potential to be used as a bone filling material. Journal of Materials Chemistry, 2007, 17, 4028.	6.7	35
53	Collagen type I and decorin expression in tenocytes depend on the cell isolation method. BMC Musculoskeletal Disorders, 2012, 13, 140.	1.9	34
54	Functionalized thermosensitive hydrogel combined with tendon stem/progenitor cells as injectable cell delivery carrier for tendon tissue engineering. Biomedical Materials (Bristol), 2018, 13, 034107.	3.3	33

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55	Viable adhered Staphylococcus aureus highly reduced on novel antimicrobial sutures using chlorhexidine and octenidine to avoid surgical site infection (SSI). PLoS ONE, 2018, 13, e0190912.	2.5	29
56	New advances in fluorochrome sequential labelling of teeth using seven different fluorochromes and spectral image analysis. Journal of Anatomy, 2007, 210, 117-121.	1.5	28
57	MicroRNA-23a mediates post-transcriptional regulation of CXCL12 in bone marrow stromal cells. Haematologica, 2014, 99, 997-1005.	3.5	28
58	Periodontal ligament cells as alternative source for cell-based therapy of tendon injuries: in vivo study of full-size Achilles tendon defect in a rat model. , 2016, 32, 228-240.		27
59	Validity of accelerometry in step detection and gait speed measurement in orthogeriatric patients. PLoS ONE, 2019, 14, e0221732.	2.5	26
60	Influence ofIn VitroCultivation on the Integration of Cell-Matrix Constructs After Subcutaneous Implantation. Tissue Engineering, 2007, 13, 1059-1067.	4.6	25
61	In situ guided tissue regeneration in musculoskeletal diseases and aging. Cell and Tissue Research, 2012, 347, 725-735.	2.9	24
62	Cyanoacrylate Glue for Intra-abdominal Mesh Fixation of Polypropylene-Polyvinylidene Fluoride Meshes in a Rabbit Model. Journal of Surgical Research, 2011, 167, e157-e162.	1.6	22
63	Overcoming hypoxia in 3D culture systems for tissue engineering of bone in vitro using an automated, oxygen-triggered feedback loop. Journal of Materials Science: Materials in Medicine, 2012, 23, 2793-2801.	3.6	22
64	Value of a coordinated management of osteoporosis via Fracture Liaison Service for the treatment of orthogeriatric patients. European Journal of Trauma and Emergency Surgery, 2016, 42, 559-564.	1.7	22
65	Membrane-Based Cultures Generate Scaffold-Free Neocartilage In Vitro: Influence of Growth Factors. Tissue Engineering - Part A, 2010, 16, 513-521.	3.1	21
66	Tenomodulin regulates matrix remodeling of mouse tendon stem/progenitor cells in an exÂvivo collagen I gel model. Biochemical and Biophysical Research Communications, 2019, 512, 691-697.	2.1	21
67	Quantitative polymerase chain reaction as a reliable method to determine functional lentiviral titer afterex vivo gene transfer in human mesenchymal stem cells. Journal of Gene Medicine, 2007, 9, 585-595.	2.8	20
68	Probing the Interaction Forces of Prostate Cancer Cells with Collagen I and Bone Marrow Derived Stem Cells on the Single Cell Level. PLoS ONE, 2013, 8, e57706.	2.5	20
69	Effect of hypoxia on the proliferation of porcine bone marrow-derived mesenchymal stem cells and adipose-derived mesenchymal stem cells in 2- and 3-dimensional culture. Journal of Cranio-Maxillo-Facial Surgery, 2017, 45, 414-419.	1.7	20
70	A small scale cell culture system to analyze mechanobiology using reporter gene constructs and polyurethane dishes. , 2010, 20, 344-355.		20
71	An Immunohistochemical Study of the Rabbit Suprapatella, a Sesamoid Fibrocartilage in the Quadriceps Tendon Containing Aggrecan. Journal of Histochemistry and Cytochemistry, 2002, 50, 955-960.	2.5	18
72	In Vivo Mesenchymal Stem Cell Tracking with PET Using the Dopamine Type 2 Receptor and 18F-Fallypride. Journal of Nuclear Medicine, 2014, 55, 1342-1347.	5.0	18

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73	In Vitro Comparison of 2D-Cell Culture and 3D-Cell Sheets of Scleraxis-Programmed Bone Marrow Derived Mesenchymal Stem Cells to Primary Tendon Stem/Progenitor Cells for Tendon Repair. International Journal of Molecular Sciences, 2018, 19, 2272.	4.1	18
74	Quantification of Fluorescence Intensity of Labeled Human Mesenchymal Stem Cells and Cell Counting of Unlabeled Cells in Phase-Contrast Imaging: An Open-Source-Based Algorithm. Tissue Engineering - Part C: Methods, 2010, 16, 1277-1285.	2.1	17
75	Sox2 Is a Potent Inhibitor of Osteogenic and Adipogenic Differentiation in Human Mesenchymal Stem Cells. Cellular Reprogramming, 2014, 16, 355-365.	0.9	17
76	Long-Term Detection of Fluorescently Labeled Human Mesenchymal Stem CellIn VitroandIn Vivoby Semi-Automated Microscopy. Tissue Engineering - Part C: Methods, 2012, 18, 156-165.	2.1	16
77	Oxygen mapping: Probing a novel seeding strategy for bone tissue engineering. Biotechnology and Bioengineering, 2017, 114, 894-902.	3.3	16
78	Porosity and mechanically optimized PLGA based in situ hardening systems. European Journal of Pharmaceutics and Biopharmaceutics, 2012, 82, 554-562.	4.3	15
79	Study protocol: the effect of whole body vibration on acute unilateral unstable lateral ankle sprain-a biphasic randomized controlled trial. BMC Musculoskeletal Disorders, 2013, 14, 22.	1.9	15
80	Poloxamer-based hydrogels hardening at body core temperature as carriers for cell based therapies: in vitro and in vivo analysis. Journal of Materials Science: Materials in Medicine, 2013, 24, 2223-2234.	3.6	15
81	Interactions of Human Endothelial and Multipotent Mesenchymal Stem Cells in Cocultures. Open Biomedical Engineering Journal, 2010, 4, 190-198.	0.5	15
82	Characterization of adipose-derived equine and canine mesenchymal stem cells after incubation in agarose-hydrogel. Veterinary Research Communications, 2011, 35, 487-499.	1.6	14
83	MiR-134-mediated Î²1 integrin expression and function in mesenchymal stem cells. Biochimica Et Biophysica Acta - Molecular Cell Research, 2013, 1833, 3396-3404.	4.1	14
84	A laser-cutting-based manufacturing process for the generation of three-dimensional scaffolds for tissue engineering using Polycaprolactone/Hydroxyapatite composite polymer. Journal of Tissue Engineering, 2019, 10, 204173141985915.	5.5	14
85	Relationship between tendon structure, stiffness, gait patterns and patient reported outcomes during the early stages of recovery after an Achilles tendon rupture. Scientific Reports, 2020, 10, 20757.	3.3	14
86	Reprogramming of Active and Repressive Histone Modifications following Nuclear Transfer with Rabbit Mesenchymal Stem Cells and Adult Fibroblasts. Cloning and Stem Cells, 2009, 11, 319-329.	2.6	13
87	Continuous Monitoring of Patient Mobility for 18 Months Using Inertial Sensors following Traumatic Knee Injury: A Case Study. Digital Biomarkers, 2018, 2, 79-89.	4.4	13
88	Do We Need to Include Osteoporosis in Today's Classification of Distal Radius Fractures?. Journal of Orthopaedic Trauma, 2008, 22, S79-S82.	1.4	11
89	Overexpression of dnIKK in mesenchymal stem cells leads to increased migration and decreased invasion upon TNFÎ± stimulation. Biochemical and Biophysical Research Communications, 2013, 436, 265-270.	2.1	11
90	Bone defect reconstruction with a novel biomaterial containing calcium phosphate and aluminum oxide reinforcement. Journal of Orthopaedic Surgery and Research, 2020, 15, 287.	2.3	11

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91	Aged human mesenchymal stem cells: the duration of bone morphogenetic protein-2 stimulation determines induction or inhibition of osteogenic differentiation. Orthopedic Reviews, 2014, 6, 5242.	1.3	10
92	Frakturheilung bei Osteoporose. Osteologie, 2007, 16, 71-84.	0.1	10
93	Diagnosis of Osteoporosis with Vitamin K as a New Biochemical Marker. Vitamins and Hormones, 2008, 78, 417-434.	1.7	9
94	Inhibition of metastasis-associated gene 1 expression affects proliferation and osteogenic differentiation of immortalized human mesenchymal stem cells. Cell Proliferation, 2011, 44, 128-138.	5.3	9
95	Influence of osteogenic stimulation and VEGF treatment on in vivo bone formation in hMSC-seeded cancellous bone scaffolds. BMC Musculoskeletal Disorders, 2014, 15, 350.	1.9	8
96	Residual transglutaminase in collagen â€“ Effects, detection, quantification, and removal. European Journal of Pharmaceutics and Biopharmaceutics, 2012, 80, 282-288.	4.3	7
97	Characterization of human telomerase reverse transcriptase immortalized anterior cruciate ligament cell lines. Biomedical Journal, 2019, 42, 371-380.	3.1	7
98	Current Aspects of Fragility Fracture Repair. European Journal of Trauma and Emergency Surgery, 2008, 34, 535-541.	1.7	6
99	Comparison of Different Strategies for In Vivo Seeding of Prevascularized Scaffolds. Tissue Engineering - Part C: Methods, 2014, 20, 11-18.	2.1	6
100	Growth factor-mediated augmentation of long bones: evaluation of a BMP-7 loaded thermoresponsive hydrogel in a murine femoral intramedullary injection model. Journal of Orthopaedic Surgery and Research, 2019, 14, 297.	2.3	6
101	Quantitative scanning acoustic microscopy compared to microradiography for assessment of new bone formation. Bone, 2006, 38, 564-570.	2.9	5
102	A Shortâ€Term Bioresorbable Bone Filling Material Based on Hydroxyapatite, Chitosan, and Oxidized Starch Tested in a Novel Orthotopic Metaphyseal Mouse Model. Advanced Engineering Materials, 2009, 11, B114.	3.5	4
103	Mechanical and biological effects of infiltration with biopolymers on 3D printed tricalciumphosphate scaffolds. Dental Materials Journal, 2017, 36, 553-559.	1.8	4
104	Polypropylene meshes coated with a polysaccharide based bioadhesive for intra-abdominal mesh fixation in a rabbit model. Surgical Endoscopy and Other Interventional Techniques, 2013, 27, 1991-1996.	2.4	3
105	A Novel Surgical Technique for Transverse Sternal Bone Defects Using Flexible Intramedullary Nailing. Thoracic and Cardiovascular Surgeon, 2006, 54, 564-566.	1.0	2
106	Molecular cloning and functional characterization of the porcine extracellular domain of Receptor Activator of NF-ÎºB Ligand (sRANKL). Gene, 2012, 492, 296-304.	2.2	2
107	Quantifying Functional Difference in Centre of Pressure Post Achilles Tendon Rupture using Sensor Insoles. , 2019, 2019, 3155-3158.		2
108	Cell seeding chamber for bone graft substitutes. Biomedizinische Technik, 2012, 57, .	0.8	1

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109	A Novel Cell Seeding Chamber for Tissue Engineering and Regenerative Medicine. Processes, 2014, 2, 361-370.	2.8	1
110	Longitudinal assessment of cartilage composition by high-field MRI in patients with low-grade knee cartilage injury. Osteoarthritis and Cartilage, 2019, 27, S335.	1.3	1
111	Three-dimensional structure-engineering to create rapid prototyping/rapid manufacturing-compatible datasets for ceramic scaffolds to reconstruct mandibular defects. International Journal of Oral and Maxillofacial Surgery, 2009, 38, 528-529.	1.5	0
112	The role of bisphosphonate type, local concentration and acidic milieu in the pathogenesis of bisphosphonate-related osteonecrosis of the jaw. International Journal of Oral and Maxillofacial Surgery, 2013, 42, 1189.	1.5	0
113	DigitalROM: Development and validation of a system for assessment of shoulder range of motion. , 2019, 2019, 5498-5501.		0
114	Decreased Expression of the Human Urea Transporter SLC14A1 in Bone is Induced by Cytokines and Stimulates Adipogenesis of Mesenchymal Progenitor Cells. Experimental and Clinical Endocrinology and Diabetes, 2020, 128, 582-595.	1.2	0
115	192 INDUCIBLE TRANSGENE EXPRESSION IN PIGS. Reproduction, Fertility and Development, 2011, 23, 196.	0.4	0
116	Projektskizze. , 2011, , 17-46.		0
117	Regulation of Î²1-Integrin by Mir-134 in Mesenchymal Stromal Cells â€“ Implications for Mesenchymal Stromal Cell Adherence and Hematopoietic Stem Cell Interaction. Blood, 2012, 120, 3459-3459.	1.4	0