Travis Klein

List of Publications by Year
in descending order

81 papers	7,468 citations	71097 41 h-index	71682 76 g-index
84 all docs	84 docs citations	84 times ranked	9049 citing authors

#	Article	IF	Citations
1	Biofabrication of small diameter tissue-engineered vascular grafts. Acta Biomaterialia, 2022, 138, 92-111.	8.3	42
2	Collagenase treatment appears to improve cartilage tissue integration but damage to collagen networks is likely permanent. Journal of Tissue Engineering, 2022, 13, 204173142210742.	5.5	10
3	In vitro and in vivo investigation of a zonal microstructured scaffold for osteochondral defect repair. Biomaterials, 2022, 286, 121548.	11.4	19
4	Tissue Engineering Cartilage with Deep Zone Cytoarchitecture by Highâ€Resolution Acoustic Cell Patterning. Advanced Healthcare Materials, 2022, 11, .	7.6	17
5	Personalized Volumetric Tissue Generation by Enhancing Multiscale Mass Transport through 3D Printed Scaffolds in Perfused Bioreactors. Advanced Healthcare Materials, 2022, 11, .	7.6	5
6	Nanotechnology and Osteoarthritis. Part 1: Clinical landscape and opportunities for advanced diagnostics. Journal of Orthopaedic Research, 2021, 39, 465-472.	2.3	10
7	Nanotechnology and Osteoarthritis. Part 2: Opportunities for advanced devices and therapeutics. Journal of Orthopaedic Research, 2021, 39, 473-484.	2.3	10
8	A single day of TGF-Î²1 exposure activates chondrogenic and hypertrophic differentiation pathways in bone marrow-derived stromal cells. Communications Biology, 2021, 4, 29.	4.4	38
9	Integration of an ultra-strong poly(lactic-co-glycolic acid) (PLGA) knitted mesh into a thermally induced phase separation (TIPS) PLGA porous structure to yield a thin biphasic scaffold suitable for dermal tissue engineering. Biofabrication, 2020, 12, 015015.	7.1	24
10	Intermittent parathyroid hormone (1â€"34) supplementation of bone marrow stromal cell cultures may inhibit hypertrophy, but at the expense of chondrogenesis. Stem Cell Research and Therapy, 2020, 11, 321.	5.5	6
11	Effect of gelatin source and photoinitiator type on chondrocyte redifferentiation in gelatin methacryloyl-based tissue-engineered cartilage constructs. Journal of Materials Chemistry B, 2019, 7, 1761-1772.	5.8	92
12	Immunogold FIBâ€SEM: Combining Volumetric Ultrastructure Visualization with 3D Biomolecular Analysis to Dissect Cellâ€"Environment Interactions. Advanced Materials, 2019, 31, 1900488.	21.0	16
13	A new mechanical indentation framework for functional assessment of articular cartilage. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 81, 83-94.	3.1	4
14	Biomimetic scaffolds and dynamic compression enhance the properties of chondrocyteâ€•and <scp>MSC</scp> â€based tissueâ€engineered cartilage. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, 1220-1229.	2.7	35
15	Rational design and fabrication of multiphasic soft network composites for tissue engineering articular cartilage: A numerical model-based approach. Chemical Engineering Journal, 2018, 340, 15-23.	12.7	58
16	Engineering Anisotropic Muscle Tissue using Acoustic Cell Patterning. Advanced Materials, 2018, 30, e1802649.	21.0	140
17	A Method for Prostate and Breast Cancer Cell Spheroid Cultures Using Gelatin Methacryloyl-Based Hydrogels. Methods in Molecular Biology, 2018, 1786, 175-194.	0.9	16
18	<i>O</i>-Phenanthroline as modulator of the hypoxic and catabolic response in cartilage tissue-engineering models. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 724-732.	2.7	2

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19	Structural analysis of photocrosslinkable methacryloyl-modified protein derivatives. Biomaterials, 2017, 139, 163-171.	11.4	140
20	Biofabricated soft network composites for cartilage tissue engineering. Biofabrication, 2017, 9, 025014.	7.1	135
21	A novel bioreactor system for biaxial mechanical loading enhances the properties of tissue-engineered human cartilage. Scientific Reports, 2017, 7, 16997.	3.3	87
22	Challenges in engineering large customized bone constructs. Biotechnology and Bioengineering, 2017, 114, 1129-1139.	3.3	49
23	Three-Dimensional Bioprinting and Its Potential in the Field of Articular Cartilage Regeneration. Cartilage, 2017, 8, 327-340.	2.7	90
24	Tailoring hydrogel surface properties to modulate cellular response to shear loading. Acta Biomaterialia, 2017, 52, 105-117.	8.3	14
25	A Hydrogel Model Incorporating 3D-Plotted Hydroxyapatite for Osteochondral Tissue Engineering. Materials, 2016, 9, 285.	2.9	29
26	Evaluation of the impact of freezing preparation techniques on the characterisation of alginate hydrogels by cryo-SEM. European Polymer Journal, 2016, 82, 1-15.	5.4	98
27	Osteoimmunomodulation for the development of advanced bone biomaterials. Materials Today, 2016, 19, 304-321.	14.2	513
28	Functionalization, preparation and use of cell-laden gelatin methacryloylâ€“based hydrogels as modular tissue culture platforms. Nature Protocols, 2016, 11, 727-746.	12.0	581
29	Tailoring Hydrogel Viscoelasticity with Physical and Chemical Crosslinking. Polymers, 2015, 7, 2650-2669.	4.5	56
30	The Rapid Manufacture of Uniform Composite Multicellular-Biomaterial Micropellets, Their Assembly into Macroscopic Organized Tissues, and Potential Applications in Cartilage Tissue Engineering. PLoS ONE, 2015, 10, e0122250.	2.5	12
31	The Mechanisms of Human Renal Epithelial Cell Modulation of Autologous Dendritic Cell Phenotype and Function. PLoS ONE, 2015, 10, e0134688.	2.5	12
32	High-throughput bone and cartilage micropellet manufacture, followed by assembly of micropellets into biphasic osteochondral tissue. Cell and Tissue Research, 2015, 361, 755-768.	2.9	32
33	Cartilage regeneration using zonal chondrocyte subpopulations: a promising approach or an overcomplicated strategy?. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 669-678.	2.7	47
34	Enhancing structural integrity of hydrogels by using highly organised melt electrospun fibre constructs. European Polymer Journal, 2015, 72, 451-463.	5.4	105
35	Human proximal tubule epithelial cells modulate autologous B-cell function. Nephrology Dialysis Transplantation, 2015, 30, 1674-1683.	0.7	18
36	The Importance of Connexin Hemichannels During Chondroprogenitor Cell Differentiation in Hydrogel Versus Microtissue Culture Models. Tissue Engineering - Part A, 2015, 21, 1785-1794.	3.1	26

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37	Protective effects of reactive functional groups on chondrocytes in photocrosslinkable hydrogel systems. Acta Biomaterialia, 2015, 27, 66-76.	8.3	51
38	Hyaluronic Acid Enhances the Mechanical Properties of Tissue-Engineered Cartilage Constructs. PLoS ONE, 2014, 9, e113216.	2.5	124
39	Effects of scaffold architecture on mechanical characteristics and osteoblast response to static and perfusion bioreactor cultures. Biotechnology and Bioengineering, 2014, 111, 1440-1451.	3.3	56
40	Influence of osteocytes in the <i>in vitro</i> and <i>in vivo</i> Î²â€tricalcium phosphateâ€stimulated osteogenesis. Journal of Biomedical Materials Research - Part A, 2014, 102, 2813-2823.	4.0	25
41	Chondrocyte redifferentiation and construct mechanical property development in singleâ€component photocrosslinkable hydrogels. Journal of Biomedical Materials Research - Part A, 2014, 102, 2544-2553.	4.0	56
42	Multiphasic construct studied in an ectopic osteochondral defect model. Journal of the Royal Society Interface, 2014, 11, 20140184.	3.4	56
43	A biomimetic extracellular matrix for cartilage tissue engineering centered on photocurable gelatin, hyaluronic acid and chondroitin sulfate. Acta Biomaterialia, 2014, 10, 214-223.	8.3	291
44	Perspectives in Multiphasic Osteochondral Tissue Engineering. Anatomical Record, 2014, 297, 26-35.	1.4	81
45	Osteogenic differentiation of bone marrow MSCs by Î²-tricalcium phosphate stimulating macrophages via BMP2 signalling pathway. Biomaterials, 2014, 35, 1507-1518.	11.4	262
46	Nonâ€invasive identification of proteoglycans and chondrocyte differentiation state by Raman microspectroscopy. Journal of Biophotonics, 2013, 6, 205-211.	2.3	41
47	Gelatinâ€Methacrylamide Hydrogels as Potential Biomaterials for Fabrication of Tissueâ€Engineered Cartilage Constructs. Macromolecular Bioscience, 2013, 13, 551-561.	4.1	646
48	Stage-Specific Embryonic Antigen-4 Is Not a Marker for Chondrogenic and Osteogenic Potential in Cultured Chondrocytes and Mesenchymal Progenitor Cells. Tissue Engineering - Part A, 2013, 19, 1316-1326.	3.1	13
49	Effect of Preculture and Loading on Expression of Matrix Molecules, Matrix Metalloproteinases, and Cytokines by Expanded Osteoarthritic Chondrocytes. Arthritis and Rheumatism, 2013, 65, 2356-2367.	6.7	37
50	The Interplay between Chondrocyte Redifferentiation Pellet Size and Oxygen Concentration. PLoS ONE, 2013, 8, e58865.	2.5	65
51	Matrices for Zonal Cartilage Tissue Engineering. , 2012, , 733-755.		0
52	Additive manufacturing of tissues and organs. Progress in Polymer Science, 2012, 37, 1079-1104.	24.7	997
53	Effects of Oxygen on Zonal Marker Expression in Human Articular Chondrocytes. Tissue Engineering - Part A, 2012, 18, 920-933.	3.1	41
54	Comparative study of depth-dependent characteristics of equine and human osteochondral tissue from the medial and lateral femoral condyles. Osteoarthritis and Cartilage, 2012, 20, 1147-1151.	1.3	94

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55	Effects of oxygen and culture system on in vitro propagation and redifferentiation of osteoarthritic human articular chondrocytes. Cell and Tissue Research, 2012, 347, 649-663.	2.9	74
56	Dynamic compression improves biosynthesis of human zonal chondrocytes from osteoarthritis patients. Osteoarthritis and Cartilage, 2012, 20, 906-915.	1.3	81
57	Adult human articular chondrocytes in a microcarrierâ€based culture system: expansion and redifferentiation. Journal of Orthopaedic Research, 2011, 29, 539-546.	2.3	41
58	Formalin fixation affects equilibrium partitioning of an ionic contrast agent-microcomputed tomography (EPIC-Î¼CT) imaging of osteochondral samples. Osteoarthritis and Cartilage, 2010, 18, 1586-1591.	1.3	18
59	Long-term effects of hydrogel properties on human chondrocyte behavior. Soft Matter, 2010, 6, 5175.	2.7	46
60	Prioritizing Land and Sea Conservation Investments to Protect Coral Reefs. PLoS ONE, 2010, 5, e12431.	2.5	78
61	Bone Tissue Engineering. , 2010, , 105-143.		0
62	Zonal Chondrocyte Subpopulations Reacquire Zone-Specific Characteristics during in Vitro Redifferentiation. American Journal of Sports Medicine, 2009, 37, 97-104.	4.2	45
63	Strategies for Zonal Cartilage Repair using Hydrogels. Macromolecular Bioscience, 2009, 9, 1049-1058.	4.1	130
64	Tissue Engineering of Articular Cartilage with Biomimetic Zones. Tissue Engineering - Part B: Reviews, 2009, 15, 143-157.	4.8	273
65	Modulation of Depth-dependent Properties in Tissue-engineered Cartilage with a Semi-permeable Membrane and Perfusion: A Continuum Model of Matrix Metabolism and Transport. Biomechanics and Modeling in Mechanobiology, 2007, 6, 21-32.	2.8	25
66	The Roles of Hypoxia in the In Vitro Engineering of Tissues. Tissue Engineering, 2007, 13, 2153-2162.	4.6	242
67	Short-Term Retention of Labeled Chondrocyte Subpopulations in Stratified Tissue-Engineered Cartilaginous Constructs Implanted In Vivo in Mini-Pigs. Tissue Engineering, 2007, 13, 1525-1537.	4.6	35
68	Microenvironment regulation of PRG4 phenotype of chondrocytes. Journal of Orthopaedic Research, 2007, 25, 685-695.	2.3	18
69	Depth-dependent biomechanical and biochemical properties of fetal, newborn, and tissue-engineered articular cartilage. Journal of Biomechanics, 2007, 40, 182-190.	2.1	129
70	Continuous passive motion applied to whole joints stimulates chondrocyte biosynthesis of PRG4. Osteoarthritis and Cartilage, 2007, 15, 566-574.	1.3	116
71	Tracking chondrocytes and assessing their proliferation with PKH26: Effects on secretion of proteoglycan 4 (PRG4). Journal of Orthopaedic Research, 2006, 24, 1499-1508.	2.3	9
72	Tailoring Secretion of Proteoglycan 4 (PRG4) in Tissue-Engineered Cartilage. Tissue Engineering, 2006, 12, 1429-1439.	4.6	26

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73	Tailoring Secretion of Proteoglycan 4 (PRG4) in Tissue-Engineered Cartilage. Tissue Engineering, 2006, .	4.6	0
74	Inhibition of integrative cartilage repair by proteoglycan 4 in synovial fluid. Arthritis and Rheumatism, 2005, 52, 1091-1099.	6.7	89
75	Cell density alters matrix accumulation in two distinct fractions and the mechanical integrity of alginateâ€"chondrocyte constructs. Acta Biomaterialia, 2005, 1, 625-633.	8.3	72
76	In Vitro Physical Stimulation of Tissue-Engineered and Native Cartilage. , 2004, 100, 325-352.		12
77	Tissue-Engineered Human Nasal Septal Cartilage Using the Alginate-Recovered-Chondrocyte Method. Laryngoscope, 2004, 114, 38-45.	2.0	62
78	Synthesis of proteoglycan 4 by chondrocyte subpopulations in cartilage explants, monolayer cultures, and resurfaced cartilage cultures. Arthritis and Rheumatism, 2004, 50, 2849-2857.	6.7	79
79	Tissue engineering of stratified articular cartilage from chondrocyte subpopulations. Osteoarthritis and Cartilage, 2003, 11, 595-602.	1.3	198
80	Adhesion of perichondrial cells to a polylactic acid scaffold. Journal of Orthopaedic Research, 2003, 21, 584-589.	2.3	23
81	<title>Cryogen spray cooling of human skin: effects of ambient humidity level, spraying distance, and cryogen boiling point</title>. , 1997, , .		16