J Kent Leach

List of Publications by Year
in descending order

106 papers	4,723 citations	81839 39 h-index	110317 64 g-index
109 all docs	109 docs citations	109 times ranked	6318 citing authors

#	Article	IF	Citations
1	Coating of VEGF-releasing scaffolds with bioactive glass for angiogenesis and bone regeneration. Biomaterials, 2006, 27, 3249-3255.	5.7	374
2	Non-viral gene delivery regulated by stiffness of cell adhesion substrates. Nature Materials, 2005, 4, 460-464.	13.3	227
3	Proangiogenic Potential of a Collagen/Bioactive Glass Substrate. Pharmaceutical Research, 2008, 25, 1222-1229.	1.7	200
4	Increased Survival and Function of Mesenchymal Stem Cell Spheroids Entrapped in Instructive Alginate Hydrogels. Stem Cells Translational Medicine, 2016, 5, 773-781.	1.6	183
5	Advancements in Electrospinning of Polymeric Nanofibrous Scaffolds for Tissue Engineering. Tissue Engineering - Part B: Reviews, 2014, 20, 277-293.	2.5	171
6	Engineering fibrin hydrogels to promote the wound healing potential of mesenchymal stem cell spheroids. Acta Biomaterialia, 2017, 64, 176-186.	4.1	134
7	Human mesenchymal stem cell spheroids in fibrin hydrogels exhibit improved cell survival and potential for bone healing. Cell and Tissue Research, 2014, 357, 91-99.	1.5	127
8	Concise Review: Optimizing Expansion of Bone Marrow Mesenchymal Stem/Stromal Cells for Clinical Applications. Stem Cells Translational Medicine, 2014, 3, 643-652.	1.6	114
9	Angiogenic Response to Bioactive Glass Promotes Bone Healing in an Irradiated Calvarial Defect. Tissue Engineering - Part A, 2009, 15, 877-885.	1.6	113
10	Differentiation-Dependent Secretion of Proangiogenic Factors by Mesenchymal Stem Cells. PLoS ONE, 2012, 7, e35579.	1.1	108
11	Materials-Directed Differentiation of Mesenchymal Stem Cells for Tissue Engineering and Regeneration. ACS Biomaterials Science and Engineering, 2018, 4, 1115-1127.	2.6	105
12	Measurement of oxygen tension within mesenchymal stem cell spheroids. Journal of the Royal Society Interface, 2017, 14, 20160851.	1.5	95
13	Injectable mineralized microsphere-loaded composite hydrogels for bone repair in a sheep bone defect model. Biomaterials, 2019, 197, 119-128.	5.7	80
14	Multifactorial Experimental Design to Optimize the Anti-Inflammatory and Proangiogenic Potential of Mesenchymal Stem Cell Spheroids. Stem Cells, 2017, 35, 1493-1504.	1.4	77
15	Osteogenesis and Trophic Factor Secretion are Influenced by the Composition of Hydroxyapatite/Poly(Lactide-Co-Glycolide) Composite Scaffolds. Tissue Engineering - Part A, 2010, 16, 127-137.	1.6	71
16	Supplementation of fibrin gels with sodium chloride enhances physical properties and ensuing osteogenic response. Acta Biomaterialia, 2011, 7, 691-699.	4.1	71
17	Hypoxic Preconditioning of Mesenchymal Stem Cells with Subsequent Spheroid Formation Accelerates Repair of Segmental Bone Defects. Stem Cells, 2018, 36, 1393-1403.	1.4	70
18	Cell-secreted matrices perpetuate the bone-forming phenotype of differentiated mesenchymal stem cells. Biomaterials, 2016, 74, 178-187.	5.7	69

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19	Enhanced trophic factor secretion by mesenchymal stem/stromal cells with Glycine-Histidine-Lysine (GHK)-modified alginate hydrogels. Acta Biomaterialia, 2014, 10, 1955-1964.	4.1	66
20	Design of Experiments Approach to Engineer Cell-Secreted Matrices for Directing Osteogenic Differentiation. Annals of Biomedical Engineering, 2011, 39, 1174-1185.	1.3	65
21	Cell Migration and Bone Formation from Mesenchymal Stem Cell Spheroids in Alginate Hydrogels Are Regulated by Adhesive Ligand Density. Biomacromolecules, 2017, 18, 4331-4340.	2.6	62
22	Bone engineering by controlled delivery of osteoinductive molecules and cells. Expert Opinion on Biological Therapy, 2004, 4, 1015-1027.	1.4	60
23	Mesenchymal Stem Cell Spheroids Retain Osteogenic Phenotype Through <i>Î±</i>2<i>Î²</i>1 Signaling. Stem Cells Translational Medicine, 2016, 5, 1229-1237.	1.6	59
24	Bioreactor culture duration of engineered constructs influences bone formation by mesenchymal stem cells. Biomaterials, 2017, 146, 29-39.	5.7	59
25	Engineering principles for guiding spheroid function in the regeneration of bone, cartilage, and skin. Biomedical Materials (Bristol), 2018, 13, 034109.	1.7	58
26	Functionally Graded Biomaterials for Use as Model Systems and Replacement Tissues. Advanced Functional Materials, 2020, 30, 1909089.	7.8	58
27	Tunable fibrin-alginate interpenetrating network hydrogels to support cell spreading and network formation. Acta Biomaterialia, 2020, 108, 142-152.	4.1	55
28	Growth factor delivery using extracellular matrix-mimicking substrates for musculoskeletal tissue engineering and repair. Bioactive Materials, 2021, 6, 1945-1956.	8.6	55
29	Transferable cell-secreted extracellular matrices enhance osteogenic differentiation. Acta Biomaterialia, 2012, 8, 744-752.	4.1	54
30	Cell-Derived Matrix Coatings for Polymeric Scaffolds. Tissue Engineering - Part A, 2012, 18, 2148-2157.	1.6	53
31	Hydrogel mechanics are a key driver of bone formation by mesenchymal stromal cell spheroids. Biomaterials, 2021, 269, 120607.	5.7	51
32	Oxygen tension differentially influences osteogenic differentiation of human adipose stem cells in 2D and 3D cultures. Journal of Cellular Biochemistry, 2010, 110, 87-96.	1.2	50
33	Alginate-Based Bioinks for 3D Bioprinting and Fabrication of Anatomically Accurate Bone Grafts. Tissue Engineering - Part A, 2021, 27, 1168-1181.	1.6	49
34	Influence of the oxygen microenvironment on the proangiogenic potential of human endothelial colony forming cells. Angiogenesis, 2009, 12, 303-11.	3.7	46
35	Pore size regulates mesenchymal stem cell response to Bioglass-loaded composite scaffolds. Journal of Materials Chemistry B, 2015, 3, 8650-8658.	2.9	46
36	Bone Morphogenetic Proteinâ€2 Promotes Human Mesenchymal Stem Cell Survival and Resultant Bone Formation When Entrapped in Photocrosslinked Alginate Hydrogels. Advanced Healthcare Materials, 2016, 5, 2501-2509.	3.9	45

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37	Extracellular Matrix-Coated Composite Scaffolds Promote Mesenchymal Stem Cell Persistence and Osteogenesis. Biomacromolecules, 2016, 17, 3524-3531.	2.6	44
38	Distributed intraclot thrombolysis: mechanism of accelerated thrombolysis with encapsulated plasminogen activators. Journal of Thrombosis and Haemostasis, 2004, 2, 1548-1555.	1.9	40
39	Designing Bioactive Delivery Systems for Tissue Regeneration. Annals of Biomedical Engineering, 2011, 39, 1-13.	1.3	40
40	Noninvasive Multimodal Evaluation of Bioengineered Cartilage Constructs Combining Time-Resolved Fluorescence and Ultrasound Imaging. Tissue Engineering - Part C: Methods, 2011, 17, 495-504.	1.1	40
41	Osteogenic comparison of expanded and uncultured adipose stromal cells. Cytotherapy, 2010, 12, 554-562.	0.3	39
42	Tissue Engineering a Biological Repair Strategy for Lumbar Disc Herniation. BioResearch Open Access, 2015, 4, 431-445.	2.6	39
43	Bio-instructive materials for musculoskeletal regeneration. Acta Biomaterialia, 2019, 96, 20-34.	4.1	36
44	Bioceramic-Mediated Trophic Factor Secretion by Mesenchymal Stem Cells Enhances<i>In Vitro</i>Endothelial Cell Persistence and<i>In Vivo</i>Angiogenesis. Tissue Engineering - Part A, 2012, 18, 1520-1528.	1.6	35
45	Lysophosphatidic Acid and Sphingosine-1-Phosphate: A Concise Review of Biological Function and Applications for Tissue Engineering. Tissue Engineering - Part B: Reviews, 2015, 21, 531-542.	2.5	35
46	Osteogenic preconditioning in perfusion bioreactors improves vascularization and bone formation by human bone marrow aspirates. Science Advances, 2020, 6, eaay2387.	4.7	35
47	Biomimetic scaffolds fabricated from apatiteâ€coated polymer microspheres. Journal of Biomedical Materials Research - Part A, 2009, 90A, 1021-1031.	2.1	33
48	Osteogenic response to BMPâ€2 of hMSCs grown on apatiteâ€coated scaffolds. Biotechnology and Bioengineering, 2011, 108, 2727-2735.	1.7	33
49	Lysophosphatidic Acid Protects Human Mesenchymal Stromal Cells from Differentiation-Dependent Vulnerability to Apoptosis. Tissue Engineering - Part A, 2014, 20, 1156-1164.	1.6	33
50	Alginate hydrogels containing cellâ€interactive beads for bone formation. FASEB Journal, 2013, 27, 4844-4852.	0.2	30
51	Multifunctional cell-instructive materials for tissue regeneration. Regenerative Medicine, 2006, 1, 447-455.	0.8	29
52	Enhancing Osteoconductivity of Fibrin Gels with Apatite-Coated Polymer Microspheres. Tissue Engineering - Part A, 2013, 19, 1773-1782.	1.6	29
53	Defining hydrogel properties to instruct lineage- and cell-specific mesenchymal differentiation. Biomaterials, 2019, 189, 1-10.	5.7	29
54	Cell-secreted extracellular matrix, independent of cell source, promotes the osteogenic differentiation of human stromal vascular fraction. Journal of Materials Chemistry B, 2018, 6, 4104-4115.	2.9	28

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55	In Vitro Models for Studying Transport Across Epithelial Tissue Barriers. Annals of Biomedical Engineering, 2019, 47, 1-21.	1.3	28
56	Tunneling nanotubes mediate the expression of senescence markers in mesenchymal stem/stromal cell spheroids. Stem Cells, 2020, 38, 80-89.	1.4	28
57	High-Throughput Formation of Mesenchymal Stem Cell Spheroids and Entrapment in Alginate Hydrogels. Methods in Molecular Biology, 2018, 1758, 139-149.	0.4	27
58	Multi-peptide presentation and hydrogel mechanics jointly enhance therapeutic duo-potential of entrapped stromal cells. Biomaterials, 2020, 245, 119973.	5.7	27
59	Spatial localization of endothelial cells in heterotypic spheroids influences Notch signaling. Journal of Molecular Medicine, 2020, 98, 425-435.	1.7	25
60	Reduced Serum and Hypoxic Culture Conditions Enhance the Osteogenic Potential of Human Mesenchymal Stem Cells. Stem Cell Reviews and Reports, 2015, 11, 387-393.	5.6	24
61	Tissue Engineering of a Small Hand Phalanx with a Porously Casted Polylactic Acidâ€"Polyglycolic Acid Copolymer. Tissue Engineering, 2006, 12, 2675-2683.	4.9	23
62	Oxygen Tension Modulates Neurite Outgrowth in PC12 Cells Through A Mechanism Involving HIF and VEGF. Journal of Molecular Neuroscience, 2010, 40, 360-366.	1.1	23
63	Implantable biomaterial based on click chemistry for targeting small molecules. Acta Biomaterialia, 2014, 10, 5099-5105.	4.1	23
64	Endogenous Electric Signaling as a Blueprint for Conductive Materials in Tissue Engineering. Bioelectricity, 2021, 3, 27-41.	0.6	23
65	Nondestructive assessment of collagen hydrogel cross-linking using time-resolved autofluorescence imaging. Journal of Biomedical Optics, 2018, 23, 1.	1.4	22
66	Differential Growth Factor Adsorption to Calvarial Osteoblast-Secreted Extracellular Matrices Instructs Osteoblastic Behavior. PLoS ONE, 2011, 6, e25990.	1.1	21
67	Engineered Fibrin Gels for Parallel Stimulation of Mesenchymal Stem Cell Proangiogenic and Osteogenic Potential. Annals of Biomedical Engineering, 2015, 43, 2010-2021.	1.3	21
68	Engineered Cellâ€Secreted Extracellular Matrix Modulates Cell Spheroid Mechanosensing and Amplifies Their Response to Inductive Cues for the Formation of Mineralized Tissues. Advanced Healthcare Materials, 2022, 11, e2102337.	3.9	21
69	A reproducible, high throughput method for fabricating fibrin gels. BMC Research Notes, 2012, 5, 423.	0.6	20
70	Detection of Pentosidine Cross-Links in Cell-Secreted Decellularized Matrices Using Time Resolved Fluorescence Spectroscopy. ACS Biomaterials Science and Engineering, 2017, 3, 1944-1954.	2.6	20
71	Detection of glycosaminoglycan loss in articular cartilage by fluorescence lifetime imaging. Journal of Biomedical Optics, 2018, 23, 1.	1.4	20
72	Encapsulation of a plasminogen activator speeds reperfusion, lessens infarct and reduces blood loss in a canine model of coronary artery thrombosis. Thrombosis and Haemostasis, 2004, 91, 1213-1218.	1.8	19

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73	Sulfated Alginate Hydrogels Prolong the Therapeutic Potential of MSC Spheroids by Sequestering the Secretome. Advanced Healthcare Materials, 2021, 10, e2101048.	3.9	19
74	Modifying the Proliferative State of Target Cells to Control DNA Expression and Identifying Cell Types Transfected In Vivo. Molecular Therapy, 2007, 15, 361-368.	3.7	18
75	Hydrogel biophysical properties instruct cocultureâ€mediated osteogenic potential. FASEB Journal, 2016, 30, 477-486.	0.2	18
76	Skeletal muscle progenitors are sensitive to collagen architectural features of fibril size and cross linking. American Journal of Physiology - Cell Physiology, 2021, 321, C330-C342.	2.1	17
77	Nondestructive fluorescence lifetime imaging and time-resolved fluorescence spectroscopy detect cartilage matrix depletion and correlate with mechanical properties. , 2018, 36, 30-43.		15
78	Direct Observation of Tunneling Nanotubes within Human Mesenchymal Stem Cell Spheroids. Journal of Physical Chemistry B, 2018, 122, 9920-9926.	1.2	15
79	Binding to COMP Reduces the BMP2 Dose for Spinal Fusion in a Rat Model. Spine, 2016, 41, E829-E836.	1.0	13
80	Neurogenic Potential of Engineered Mesenchymal Stem Cells Overexpressing VEGF. Cellular and Molecular Bioengineering, 2016, 9, 96-106.	1.0	13
81	Restoring Vasculogenic Potential of Endothelial Cells from Diabetic Patients Through Spheroid Formation. Cellular and Molecular Bioengineering, 2018, 11, 267-278.	1.0	13
82	Improving thrombolysis with encapsulated plasminogen activators and clinical relevance to myocardial infarction and stroke. Clinical Hemorheology and Microcirculation, 2004, 30, 225-8.	0.9	13
83	Ceramic Identity Contributes to Mechanical Properties and Osteoblast Behavior on Macroporous Composite Scaffolds. Journal of Functional Biomaterials, 2012, 3, 382-397.	1.8	12
84	Ultrastructure and growth factor content of equine platelet-rich fibrin gels. American Journal of Veterinary Research, 2014, 75, 392-401.	0.3	12
85	Exogenous Lysyl Oxidase-Like 2 and Perfusion Culture Induce Collagen Crosslink Formation in Osteogenic Grafts. Biotechnology Journal, 2019, 14, 1700763.	1.8	12
86	Conditioning of myoblast secretome using mesenchymal stem/stromal cell spheroids improves bone repair. Bone, 2019, 125, 151-159.	1.4	12
87	Biomineralized composite substrates increase gene expression with nonviral delivery. Journal of Biomedical Materials Research - Part A, 2010, 94A, 344-354.	2.1	11
88	Nonâ€destructive detection of matrix stabilization correlates with enhanced mechanical properties of selfâ€assembled articular cartilage. Journal of Tissue Engineering and Regenerative Medicine, 2019, 13, 637-648.	1.3	11
89	Three-Dimensional Printed Stamps for the Fabrication of Patterned Microwells and High-Throughput Production of Homogeneous Cell Spheroids. 3D Printing and Additive Manufacturing, 2020, 7, 139-147.	1.4	11
90	Lysophosphatidic Acid Enhances Stromal Cell-Directed Angiogenesis. PLoS ONE, 2013, 8, e82134.	1.1	10

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91	Morphogen Delivery by Osteoconductive Nanoparticles Instructs Stromal Cell Spheroid Phenotype. Advanced Biology, 2019, 3, 1900141.	3.0	9
92	Cell-secreted extracellular matrix influences cellular composition sequestered from unprocessed bone marrow aspirate for osteogenic grafts. Biomaterials Science, 2019, 7, 2091-2101.	2.6	9
93	Mechanical Load Regulates Excitation-Ca ²⁺ Signaling-Contraction in Cardiomyocyte. Circulation Research, 2021, 128, 772-774.	2.0	9
94	Redirection of Neurite Outgrowth by Coupling Chondroitin Sulfate Proteoglycans to Polymer Membranes. Annals of Biomedical Engineering, 2014, 42, 1271-1281.	1.3	7
95	Tissue engineered platforms for studying primary and metastatic neoplasm behavior in bone. Journal of Biomechanics, 2021, 115, 110189.	0.9	5
96	Multimodal Label-Free Imaging for Detecting Maturation of Engineered Osteogenic Grafts. ACS Biomaterials Science and Engineering, 2019, 5, 1956-1966.	2.6	4
97	Characterization of Induction and Targeting of Senescent Mesenchymal Stromal Cells. Tissue Engineering - Part C: Methods, 2022, 28, 239-249.	1.1	3
98	Is Tissue Engineering Helping Orthopaedic Care in Trauma?. Journal of Orthopaedic Trauma, 2019, 33, S12-S19.	0.7	1
99	Investigation of deformability, viscosity, and aggregation of mPEG-modified erythrocytes. Biomedical Sciences Instrumentation, 2002, 38, 333-8.	0.2	1
100	Fibrin Gels as Cell-Instructive Substrates for Regenerative Medicine. Materials Research Society Symposia Proceedings, 2014, 1687, 1.	0.1	0
101	Osteogenesis: Bone Morphogenetic Proteinâ€2 Promotes Human Mesenchymal Stem Cell Survival and Resultant Bone Formation When Entrapped in Photocrosslinked Alginate Hydrogels (Adv. Healthcare) Tj ETQq1 1 0.784314 rg BT /Overl	3.8	0
102	Quantitative MR-guided transient shear wave imaging for tissue elasticity assessment. , 2016, , .		0
103	Passing the torch of the <i>Journal of Biomedical Materials Researchâ€"Part A</i>. Journal of Biomedical Materials Research - Part A, 2021, 109, 395-396.	2.1	0
104	Amplifying the voice of the Early Career Scientist through the inaugural Early Career Editorial Board. Journal of Biomedical Materials Research - Part A, 2022, 110, 7-10.	2.1	0
105	Bone Tissue Engineering: Fabrication and Use of Electrospun Meshes. , 2010, , 1-4.		0
106	Delivery Vehicles for Deploying Mesenchymal Stem Cells in Tissue Repair. , 2011, , 71-94.		0