

Fergal J O brien

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

185
papers

14,530
citations

66
h-index

118
g-index

188
ext. papers

16,580
ext. citations

7.5
avg, IF

7.24
L-index

#	Paper	IF	Citations
185	Biomaterials & scaffolds for tissue engineering. <i>Materials Today</i> , 2011 , 14, 88-95	21.8	2110
184	The effect of mean pore size on cell attachment, proliferation and migration in collagen-glycosaminoglycan scaffolds for bone tissue engineering. <i>Biomaterials</i> , 2010 , 31, 461-6	15.6	1304
183	Influence of freezing rate on pore structure in freeze-dried collagen-GAG scaffolds. <i>Biomaterials</i> , 2004 , 25, 1077-86	15.6	588
182	Understanding the effect of mean pore size on cell activity in collagen-glycosaminoglycan scaffolds. <i>Cell Adhesion and Migration</i> , 2010 , 4, 377-81	3.2	335
181	The effect of pore size on permeability and cell attachment in collagen scaffolds for tissue engineering. <i>Technology and Health Care</i> , 2006 , 15, 3-17	1.1	229
180	Crosslinking and mechanical properties significantly influence cell attachment, proliferation, and migration within collagen glycosaminoglycan scaffolds. <i>Tissue Engineering - Part A</i> , 2011 , 17, 1201-8	3.9	226
179	Mesenchymal stem cell fate is regulated by the composition and mechanical properties of collagen-glycosaminoglycan scaffolds. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2012 , 11, 53-62	4.1	192
178	A biomimetic multi-layered collagen-based scaffold for osteochondral repair. <i>Acta Biomaterialia</i> , 2014 , 10, 1996-2004	10.8	187
177	A collagen-glycosaminoglycan scaffold supports adult rat mesenchymal stem cell differentiation along osteogenic and chondrogenic routes. <i>Tissue Engineering</i> , 2006 , 12, 459-68		187
176	The effect of dehydrothermal treatment on the mechanical and structural properties of collagen-GAG scaffolds. <i>Journal of Biomedical Materials Research - Part A</i> , 2009 , 89, 363-9	5.4	184
175	Novel freeze-drying methods to produce a range of collagen-glycosaminoglycan scaffolds with tailored mean pore sizes. <i>Tissue Engineering - Part C: Methods</i> , 2010 , 16, 887-94	2.9	181
174	Cell-scaffold interactions in the bone tissue engineering triad. <i>European Cells and Materials</i> , 2013 , 26, 120-32	4.3	181
173	The healing of bony defects by cell-free collagen-based scaffolds compared to stem cell-seeded tissue engineered constructs. <i>Biomaterials</i> , 2010 , 31, 9232-43	15.6	177
172	Microcrack accumulation at different intervals during fatigue testing of compact bone. <i>Journal of Biomechanics</i> , 2003 , 36, 973-80	2.9	177
171	The effects of collagen concentration and crosslink density on the biological, structural and mechanical properties of collagen-GAG scaffolds for bone tissue engineering. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2009 , 2, 202-9	4.1	166
170	In-vivo generation of bone via endochondral ossification by in-vitro chondrogenic priming of adult human and rat mesenchymal stem cells. <i>BMC Musculoskeletal Disorders</i> , 2011 , 12, 31	2.8	161
169	Hypoxia-mimicking bioactive glass/collagen glycosaminoglycan composite scaffolds to enhance angiogenesis and bone repair. <i>Biomaterials</i> , 2015 , 52, 358-66	15.6	158

168	Development of collagen-hydroxyapatite scaffolds incorporating PLGA and alginate microparticles for the controlled delivery of rhBMP-2 for bone tissue engineering. <i>Journal of Controlled Release</i> , 2015 , 198, 71-9	11.7	152
167	Innovative collagen nano-hydroxyapatite scaffolds offer a highly efficient non-viral gene delivery platform for stem cell-mediated bone formation. <i>Advanced Materials</i> , 2012 , 24, 749-54	24	151
166	Influence of shear stress in perfusion bioreactor cultures for the development of three-dimensional bone tissue constructs: a review. <i>Tissue Engineering - Part B: Reviews</i> , 2010 , 16, 587-601	7.9	151
165	Scaffold mean pore size influences mesenchymal stem cell chondrogenic differentiation and matrix deposition. <i>Tissue Engineering - Part A</i> , 2015 , 21, 486-97	3.9	149
164	Multi-layered collagen-based scaffolds for osteochondral defect repair in rabbits. <i>Acta Biomaterialia</i> , 2016 , 32, 149-160	10.8	144
163	The effect of bone microstructure on the initiation and growth of microcracks. <i>Journal of Orthopaedic Research</i> , 2005 , 23, 475-80	3.8	142
162	The response of bone marrow-derived mesenchymal stem cells to dynamic compression following TGF-beta3 induced chondrogenic differentiation. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 2896-909	4.7	140
161	Development of a biomimetic collagen-hydroxyapatite scaffold for bone tissue engineering using a SBF immersion technique. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2009 , 90, 584-91	3.5	134
160	Development and characterisation of a collagen nano-hydroxyapatite composite scaffold for bone tissue engineering. <i>Journal of Materials Science: Materials in Medicine</i> , 2010 , 21, 2293-8	4.5	132
159	Staphylococcal Osteomyelitis: Disease Progression, Treatment Challenges, and Future Directions. <i>Clinical Microbiology Reviews</i> , 2018 , 31,	34	127
158	Primary cilia-mediated mechanotransduction in human mesenchymal stem cells. <i>Stem Cells</i> , 2012 , 30, 2561-70	5.8	127
157	Combinatorial gene therapy accelerates bone regeneration: non-viral dual delivery of VEGF and BMP2 in a collagen-nanohydroxyapatite scaffold. <i>Advanced Healthcare Materials</i> , 2015 , 4, 223-7	10.1	123
156	Material stiffness influences the polarization state, function and migration mode of macrophages. <i>Acta Biomaterialia</i> , 2019 , 89, 47-59	10.8	120
155	Comparison of biomaterial delivery vehicles for improving acute retention of stem cells in the infarcted heart. <i>Biomaterials</i> , 2014 , 35, 6850-6858	15.6	119
154	Effects of iron oxide incorporation for long term cell tracking on MSC differentiation in vitro and in vivo. <i>Biochemical and Biophysical Research Communications</i> , 2008 , 369, 1076-81	3.4	116
153	Chitosan for gene delivery and orthopedic tissue engineering applications. <i>Molecules</i> , 2013 , 18, 5611-47	4.8	113
152	Addition of hyaluronic acid improves cellular infiltration and promotes early-stage chondrogenesis in a collagen-based scaffold for cartilage tissue engineering. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2012 , 11, 41-52	4.1	111
151	Cell-free multi-layered collagen-based scaffolds demonstrate layer specific regeneration of functional osteochondral tissue in caprine joints. <i>Biomaterials</i> , 2016 , 87, 69-81	15.6	106

150	The effect of concentration, thermal history and cell seeding density on the initial mechanical properties of agarose hydrogels. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2009 , 2, 512-21	4.1	103
149	The benefits and limitations of animal models for translational research in cartilage repair. <i>Journal of Experimental Orthopaedics</i> , 2016 , 3, 1	2.3	102
148	Chondrogenic priming of human bone marrow stromal cells: a better route to bone repair?. <i>Tissue Engineering - Part C: Methods</i> , 2009 , 15, 285-95	2.9	102
147	Staphylococcus aureus protein A binds to osteoblasts and triggers signals that weaken bone in osteomyelitis. <i>PLoS ONE</i> , 2011 , 6, e18748	3.7	101
146	Multifunctional biomaterials from the sea: Assessing the effects of chitosan incorporation into collagen scaffolds on mechanical and biological functionality. <i>Acta Biomaterialia</i> , 2016 , 43, 160-169	10.8	101
145	A collagen-hydroxyapatite scaffold allows for binding and co-delivery of recombinant bone morphogenetic proteins and bisphosphonates. <i>Acta Biomaterialia</i> , 2014 , 10, 2250-8	10.8	97
144	An improved labelling technique for monitoring microcrack growth in compact bone. <i>Journal of Biomechanics</i> , 2002 , 35, 523-6	2.9	94
143	Substrate stiffness and contractile behaviour modulate the functional maturation of osteoblasts on a collagen-GAG scaffold. <i>Acta Biomaterialia</i> , 2010 , 6, 4305-13	10.8	92
142	The shape and size of hydroxyapatite particles dictate inflammatory responses following implantation. <i>Scientific Reports</i> , 2017 , 7, 2922	4.9	90
141	Long-term controlled delivery of rhBMP-2 from collagen-hydroxyapatite scaffolds for superior bone tissue regeneration. <i>Journal of Controlled Release</i> , 2015 , 207, 112-9	11.7	88
140	Staphylococcus aureus protein A plays a critical role in mediating bone destruction and bone loss in osteomyelitis. <i>PLoS ONE</i> , 2012 , 7, e40586	3.7	88
139	Collagen scaffolds functionalised with copper-eluting bioactive glass reduce infection and enhance osteogenesis and angiogenesis both in vitro and in vivo. <i>Biomaterials</i> , 2019 , 197, 405-416	15.6	87
138	Recapitulating endochondral ossification: a promising route to in vivo bone regeneration. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2015 , 9, 889-902	4.4	87
137	Insoluble elastin reduces collagen scaffold stiffness, improves viscoelastic properties, and induces a contractile phenotype in smooth muscle cells. <i>Biomaterials</i> , 2015 , 73, 296-307	15.6	86
136	Gene Delivery of TGF- β and BMP2 in an MSC-Laden Alginate Hydrogel for Articular Cartilage and Endochondral Bone Tissue Engineering. <i>Tissue Engineering - Part A</i> , 2016 , 22, 776-87	3.9	84
135	Translating the role of osteogenic-angiogenic coupling in bone formation: Highly efficient chitosan-pDNA activated scaffolds can accelerate bone regeneration in critical-sized bone defects. <i>Biomaterials</i> , 2017 , 149, 116-127	15.6	82
134	The effect of pore size on permeability and cell attachment in collagen scaffolds for tissue engineering. <i>Technology and Health Care</i> , 2007 , 15, 3-17	1.1	82
133	Osteoblast activity on collagen-GAG scaffolds is affected by collagen and GAG concentrations. <i>Journal of Biomedical Materials Research - Part A</i> , 2009 , 91, 92-101	5.4	81

132	Development of a gene-activated scaffold platform for tissue engineering applications using chitosan-pDNA nanoparticles on collagen-based scaffolds. <i>Journal of Controlled Release</i> , 2015 , 210, 84-94	11.7	79
131	The development of non-viral gene-activated matrices for bone regeneration using polyethyleneimine (PEI) and collagen-based scaffolds. <i>Journal of Controlled Release</i> , 2012 , 158, 304-11	11.7	79
130	The synthesis and characterization of nanophase hydroxyapatite using a novel dispersant-aided precipitation method. <i>Journal of Biomedical Materials Research - Part A</i> , 2010 , 95, 1142-9	5.4	77
129	Delivering Nucleic-Acid Based Nanomedicines on Biomaterial Scaffolds for Orthopedic Tissue Repair: Challenges, Progress and Future Perspectives. <i>Advanced Materials</i> , 2016 , 28, 5447-69	24	75
128	Controlled release of transforming growth factor- β from cartilage-extra-cellular-matrix-derived scaffolds to promote chondrogenesis of human-joint-tissue-derived stem cells. <i>Acta Biomaterialia</i> , 2014 , 10, 4400-9	10.8	74
127	Design and validation of a dynamic flow perfusion bioreactor for use with compliant tissue engineering scaffolds. <i>Journal of Biotechnology</i> , 2008 , 133, 490-6	3.7	71
126	A novel collagen-nanohydroxyapatite microRNA-activated scaffold for tissue engineering applications capable of efficient delivery of both miR-mimics and antagomiRs to human mesenchymal stem cells. <i>Journal of Controlled Release</i> , 2015 , 200, 42-51	11.7	69
125	Advanced Strategies for Articular Cartilage Defect Repair. <i>Materials</i> , 2013 , 6, 637-668	3.5	69
124	Mechanical stimulation of osteoblasts using steady and dynamic fluid flow. <i>Tissue Engineering - Part A</i> , 2008 , 14, 1213-23	3.9	69
123	Gene expression by marrow stromal cells in a porous collagen-glycosaminoglycan scaffold is affected by pore size and mechanical stimulation. <i>Journal of Materials Science: Materials in Medicine</i> , 2008 , 19, 3455-63	4.5	68
122	The use of collagen-based scaffolds to simulate prostate cancer bone metastases with potential for evaluating delivery of nanoparticulate gene therapeutics. <i>Biomaterials</i> , 2015 , 66, 53-66	15.6	67
121	Controlled release of vascular endothelial growth factor from spray-dried alginate microparticles in collagen-hydroxyapatite scaffolds for promoting vascularization and bone repair. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2017 , 11, 1097-1109	4.4	66
120	Towards in vitro vascularisation of collagen-GAG scaffolds. <i>European Cells and Materials</i> , 2011 , 21, 15-30	4.3	66
119	A comparative study of shear stresses in collagen-glycosaminoglycan and calcium phosphate scaffolds in bone tissue-engineering bioreactors. <i>Tissue Engineering - Part A</i> , 2009 , 15, 1141-9	3.9	65
118	Staphylococcus aureus protein A binding to osteoblast tumour necrosis factor receptor 1 results in activation of nuclear factor kappa B and release of interleukin-6 in bone infection. <i>Microbiology (United Kingdom)</i> , 2013 , 159, 147-154	2.9	63
117	Tissue-specific extracellular matrix scaffolds for the regeneration of spatially complex musculoskeletal tissues. <i>Biomaterials</i> , 2019 , 188, 63-73	15.6	62
116	Novel microhydroxyapatite particles in a collagen scaffold: a bioactive bone void filler?. <i>Clinical Orthopaedics and Related Research</i> , 2014 , 472, 1318-28	2.2	61
115	Coupling Freshly Isolated CD44(+) Infrapatellar Fat Pad-Derived Stromal Cells with a TGF- β Eluting Cartilage ECM-Derived Scaffold as a Single-Stage Strategy for Promoting Chondrogenesis. <i>Advanced Healthcare Materials</i> , 2015 , 4, 1043-53	10.1	61

114	Electroconductive Biohybrid Collagen/Pristine Graphene Composite Biomaterials with Enhanced Biological Activity. <i>Advanced Materials</i> , 2018 , 30, e1706442	24	60
113	Development of a thermoresponsive chitosan gel combined with human mesenchymal stem cells and desferrioxamine as a multimodal pro-angiogenic therapeutic for the treatment of critical limb ischaemia. <i>Journal of Controlled Release</i> , 2012 , 161, 73-80	11.7	60
112	Bioreactors in tissue engineering. <i>Technology and Health Care</i> , 2011 , 19, 55-69	1.1	59
111	Advances in Nerve Guidance Conduit-Based Therapeutics for Peripheral Nerve Repair. <i>ACS Biomaterials Science and Engineering</i> , 2017 , 3, 1221-1235	5.5	58
110	Influence of a novel calcium-phosphate coating on the mechanical properties of highly porous collagen scaffolds for bone repair. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2009 , 2, 138-46	4.1	58
109	Next generation bone tissue engineering: non-viral miR-133a inhibition using collagen-nanohydroxyapatite scaffolds rapidly enhances osteogenesis. <i>Scientific Reports</i> , 2016 , 6, 27941	4.9	57
108	Effect of collagen-glycosaminoglycan scaffold pore size on matrix mineralization and cellular behavior in different cell types. <i>Journal of Biomedical Materials Research - Part A</i> , 2016 , 104, 291-304	5.4	56
107	Content-Dependent Osteogenic Response of Nanohydroxyapatite: An in Vitro and in Vivo Assessment within Collagen-Based Scaffolds. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 23477-88	9.5	55
106	Freeze-Drying as a Novel Biofabrication Method for Achieving a Controlled Microarchitecture within Large, Complex Natural Biomaterial Scaffolds. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1700598	10.1	55
105	An Endochondral Ossification-Based Approach to Bone Repair: Chondrogenically Primed Mesenchymal Stem Cell-Laden Scaffolds Support Greater Repair of Critical-Sized Cranial Defects Than Osteogenically Stimulated Constructs In Vivo. <i>Tissue Engineering - Part A</i> , 2016 , 22, 556-67	3.9	53
104	Biomaterial-Enhanced Cell and Drug Delivery: Lessons Learned in the Cardiac Field and Future Perspectives. <i>Advanced Materials</i> , 2016 , 28, 5648-61	24	51
103	Innovations in gene and growth factor delivery systems for diabetic wound healing. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2018 , 12, e296-e312	4.4	50
102	Microcracks in cortical bone: how do they affect bone biology?. <i>Current Osteoporosis Reports</i> , 2005 , 3, 39-45	5.4	50
101	Hyperthermia-induced drug delivery from thermosensitive liposomes encapsulated in an injectable hydrogel for local chemotherapy. <i>Advanced Healthcare Materials</i> , 2014 , 3, 854-9	10.1	49
100	Osteomimicry of mammary adenocarcinoma cells in vitro; increased expression of bone matrix proteins and proliferation within a 3D collagen environment. <i>PLoS ONE</i> , 2012 , 7, e41679	3.7	49
99	Porous decellularized tissue engineered hypertrophic cartilage as a scaffold for large bone defect healing. <i>Acta Biomaterialia</i> , 2015 , 23, 82-90	10.8	47
98	Investigating the interplay between substrate stiffness and ligand chemistry in directing mesenchymal stem cell differentiation within 3D macro-porous substrates. <i>Biomaterials</i> , 2018 , 171, 23-33	15.6	46
97	Anisotropic Shape-Memory Alginate Scaffolds Functionalized with Either Type I or Type II Collagen for Cartilage Tissue Engineering. <i>Tissue Engineering - Part A</i> , 2017 , 23, 55-68	3.9	45

96	The development of a tissue-engineered tracheobronchial epithelial model using a bilayered collagen-hyaluronate scaffold. <i>Biomaterials</i> , 2016 , 85, 111-27	15.6	44
95	Mechanically stimulated bone cells secrete paracrine factors that regulate osteoprogenitor recruitment, proliferation, and differentiation. <i>Biochemical and Biophysical Research Communications</i> , 2015 , 459, 118-23	3.4	43
94	High levels of ephrinB2 over-expression increases the osteogenic differentiation of human mesenchymal stem cells and promotes enhanced cell mediated mineralisation in a polyethyleneimine-ephrinB2 gene-activated matrix. <i>Journal of Controlled Release</i> , 2013 , 165, 173-82	11.7	43
93	Scaffold-Based microRNA Therapies in Regenerative Medicine and Cancer. <i>Advanced Healthcare Materials</i> , 2018 , 7, 1700695	10.1	40
92	Macrophage Polarization in Response to Collagen Scaffold Stiffness Is Dependent on Cross-Linking Agent Used To Modulate the Stiffness. <i>ACS Biomaterials Science and Engineering</i> , 2019 , 5, 544-552	5.5	40
91	Delivery of the improved BMP-2-Advanced plasmid DNA within a gene-activated scaffold accelerates mesenchymal stem cell osteogenesis and critical size defect repair. <i>Journal of Controlled Release</i> , 2018 , 283, 20-31	11.7	40
90	Incorporation of fibrin into a collagen-glycosaminoglycan matrix results in a scaffold with improved mechanical properties and enhanced capacity to resist cell-mediated contraction. <i>Acta Biomaterialia</i> , 2015 , 26, 205-14	10.8	38
89	Thermally triggered release of a pro-osteogenic peptide from a functionalized collagen-based scaffold using thermosensitive liposomes. <i>Journal of Controlled Release</i> , 2014 , 187, 158-66	11.7	38
88	A collagen cardiac patch incorporating alginate microparticles permits the controlled release of hepatocyte growth factor and insulin-like growth factor-1 to enhance cardiac stem cell migration and proliferation. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2018 , 12, e384-e394	4.4	37
87	Orchestrating osteogenic differentiation of mesenchymal stem cells--identification of placental growth factor as a mechanosensitive gene with a pro-osteogenic role. <i>Stem Cells</i> , 2013 , 31, 2420-31	5.8	37
86	Osteoblast response to rest periods during bioreactor culture of collagen-glycosaminoglycan scaffolds. <i>Tissue Engineering - Part A</i> , 2010 , 16, 943-51	3.9	36
85	A Physicochemically Optimized and Neuroconductive Biphasic Nerve Guidance Conduit for Peripheral Nerve Repair. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1700954	10.1	35
84	Formulation and Evaluation of Anisamide-Targeted Amphiphilic Cyclodextrin Nanoparticles To Promote Therapeutic Gene Silencing in a 3D Prostate Cancer Bone Metastases Model. <i>Molecular Pharmaceutics</i> , 2017 , 14, 42-52	5.6	34
83	Functionalising Collagen-Based Scaffolds With Platelet-Rich Plasma for Enhanced Skin Wound Healing Potential. <i>Frontiers in Bioengineering and Biotechnology</i> , 2019 , 7, 371	5.8	34
82	Enhanced bone healing using collagen-hydroxyapatite scaffold implantation in the treatment of a large multiloculated mandibular aneurysmal bone cyst in a thoroughbred filly. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2015 , 9, 1193-9	4.4	33
81	Non-viral gene-activated matrices: next generation constructs for bone repair. <i>Organogenesis</i> , 2013 , 9, 22-8	1.7	33
80	The behaviour of microcracks in compact bone. <i>European Journal of Morphology</i> , 2005 , 42, 71-9		33
79	Highly versatile cell-penetrating peptide loaded scaffold for efficient and localised gene delivery to multiple cell types: From development to application in tissue engineering. <i>Biomaterials</i> , 2019 , 216, 119277	15.6	31

78	Bioinspired Star-Shaped Poly(l-lysine) Polypeptides: Efficient Polymeric Nanocarriers for the Delivery of DNA to Mesenchymal Stem Cells. <i>Molecular Pharmaceutics</i> , 2018 , 15, 1878-1891	5.6	31
77	Incorporation of TGF-beta 3 within collagen-hyaluronic acid scaffolds improves their chondrogenic potential. <i>Advanced Healthcare Materials</i> , 2015 , 4, 1175-9	10.1	30
76	Effect of different hydroxyapatite incorporation methods on the structural and biological properties of porous collagen scaffolds for bone repair. <i>Journal of Anatomy</i> , 2015 , 227, 732-45	2.9	30
75	Pro-angiogenic impact of SDF-1 α gene-activated collagen-based scaffolds in stem cell driven angiogenesis. <i>International Journal of Pharmaceutics</i> , 2018 , 544, 372-379	6.5	29
74	In vitro efficacy of a gene-activated nerve guidance conduit incorporating non-viral PEI-pDNA nanoparticles carrying genes encoding for NGF, GDNF and c-Jun. <i>Acta Biomaterialia</i> , 2018 , 75, 115-128	10.8	29
73	Effects of estrogen deficiency and bisphosphonate therapy on osteocyte viability and microdamage accumulation in an ovine model of osteoporosis. <i>Journal of Orthopaedic Research</i> , 2011 , 29, 419-24	3.8	29
72	Harnessing an Inhibitory Role of miR-16 in Osteogenesis by Human Mesenchymal Stem Cells for Advanced Scaffold-Based Bone Tissue Engineering. <i>Tissue Engineering - Part A</i> , 2019 , 25, 24-33	3.9	29
71	Identification of the mechanisms by which age alters the mechanosensitivity of mesenchymal stromal cells on substrates of differing stiffness: Implications for osteogenesis and angiogenesis. <i>Acta Biomaterialia</i> , 2017 , 53, 59-69	10.8	28
70	The effects of increased intracortical remodeling on microcrack behaviour in compact bone. <i>Bone</i> , 2008 , 43, 889-93	4.7	27
69	Infrapatellar Fat Pad Stem Cells: From Developmental Biology to Cell Therapy. <i>Stem Cells International</i> , 2017 , 2017, 6843727	5	26
68	Controlling the dose-dependent, synergistic and temporal effects of NGF and GDNF by encapsulation in PLGA microparticles for use in nerve guidance conduits for the repair of large peripheral nerve defects. <i>Journal of Controlled Release</i> , 2019 , 304, 51-64	11.7	25
67	The pre-vascularisation of a collagen-chondroitin sulphate scaffold using human amniotic fluid-derived stem cells to enhance and stabilise endothelial cell-mediated vessel formation. <i>Acta Biomaterialia</i> , 2015 , 26, 263-73	10.8	23
66	Scaffold-Based Delivery of Nucleic Acid Therapeutics for Enhanced Bone and Cartilage Repair. <i>Journal of Orthopaedic Research</i> , 2019 , 37, 1671-1680	3.8	22
65	Towards 3D in vitro models for the study of cardiovascular tissues and disease. <i>Drug Discovery Today</i> , 2016 , 21, 1437-1445	8.8	22
64	Rapid healing of a critical-sized bone defect using a collagen-hydroxyapatite scaffold to facilitate low dose, combinatorial growth factor delivery. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2019 , 13, 1843-1853	4.4	22
63	Stimulation of osteoblasts using rest periods during bioreactor culture on collagen-glycosaminoglycan scaffolds. <i>Journal of Materials Science: Materials in Medicine</i> , 2010 , 21, 2325-30	4.5	22
62	Part 1: Scaffolds and Surfaces. <i>Technology and Health Care</i> , 2008 , 16, 305-317	1.1	22
61	Transfection of autologous host cells in vivo using gene activated collagen scaffolds incorporating star-polypeptides. <i>Journal of Controlled Release</i> , 2019 , 304, 191-203	11.7	21

60	Tissue differentiation in an in vivo bioreactor: in silico investigations of scaffold stiffness. <i>Journal of Materials Science: Materials in Medicine</i> , 2010 , 21, 2331-6	4.5	21
59	Platelet-rich plasma releasate differently stimulates cellular commitment toward the chondrogenic lineage according to concentration. <i>Journal of Tissue Engineering</i> , 2015 , 6, 2041731415594127	7.5	20
58	Three hours of perfusion culture prior to 28 days of static culture, enhances osteogenesis by human cells in a collagen GAG scaffold. <i>Biotechnology and Bioengineering</i> , 2011 , 108, 1203-10	4.9	20
57	Activation of the SOX-5, SOX-6, and SOX-9 Trio of Transcription Factors Using a Gene-Activated Scaffold Stimulates Mesenchymal Stromal Cell Chondrogenesis and Inhibits Endochondral Ossification. <i>Advanced Healthcare Materials</i> , 2020 , 9, e1901827	10.1	18
56	Pristine graphene induces innate immune training. <i>Nanoscale</i> , 2020 , 12, 11192-11200	7.7	16
55	Rapid bone repair with the recruitment of CD206M2-like macrophages using non-viral scaffold-mediated miR-133a inhibition of host cells. <i>Acta Biomaterialia</i> , 2020 , 109, 267-279	10.8	16
54	Functionalization of a Collagen-Hydroxyapatite Scaffold with Osteostatin to Facilitate Enhanced Bone Regeneration. <i>Advanced Healthcare Materials</i> , 2015 , 4, 2649-56	10.1	16
53	Identification of stiffness-induced signalling mechanisms in cells from patent and fused sutures associated with craniosynostosis. <i>Scientific Reports</i> , 2017 , 7, 11494	4.9	15
52	An endochondral ossification approach to early stage bone repair: Use of tissue-engineered hypertrophic cartilage constructs as primordial templates for weight-bearing bone repair. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2018 , 12, e2147-e2150	4.4	14
51	Stem cells display a donor dependent response to escalating levels of growth factor release from extracellular matrix-derived scaffolds. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2017 , 11, 2979-2987	4.4	14
50	Repair of large osteochondritis dissecans lesions using a novel multilayered tissue engineered construct in an equine athlete. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2017 , 11, 2785-2795	4.4	13
49	Visualizing feasible operating ranges within tissue engineering systems using a "windows of operation" approach: a perfusion-scaffold bioreactor case study. <i>Biotechnology and Bioengineering</i> , 2012 , 109, 3161-71	4.9	13
48	Retinoic Acid-Loaded Collagen-Hyaluronate Scaffolds: A Bioactive Material for Respiratory Tissue Regeneration. <i>ACS Biomaterials Science and Engineering</i> , 2017 , 3, 1381-1393	5.5	12
47	Pre-culture of mesenchymal stem cells within RGD-modified hyaluronic acid hydrogel improves their resilience to ischaemic conditions. <i>Acta Biomaterialia</i> , 2020 , 107, 78-90	10.8	12
46	Controlled Non-Viral Gene Delivery in Cartilage and Bone Repair: Current Strategies and Future Directions. <i>Advanced Therapeutics</i> , 2018 , 1, 1800038	4.9	11
45	Bone biomaterials for overcoming antimicrobial resistance: Advances in non-antibiotic antimicrobial approaches for regeneration of infected osseous tissue. <i>Materials Today</i> , 2021 , 46, 136-154	21.8	11
44	Influences of the 3D microenvironment on cancer cell behaviour and treatment responsiveness: A recent update on lung, breast and prostate cancer models. <i>Acta Biomaterialia</i> , 2021 , 132, 360-378	10.8	11
43	Scaffolds Functionalized with Matrix from Induced Pluripotent Stem Cell Fibroblasts for Diabetic Wound Healing. <i>Advanced Healthcare Materials</i> , 2020 , 9, e2000307	10.1	10

42	Staphylococcus aureus protein A causes osteoblasts to hyper-mineralise in a 3D extra-cellular matrix environment. <i>PLoS ONE</i> , 2018 , 13, e0198837	3.7	10
41	An experimental investigation of the effect of mechanical and biochemical stimuli on cell migration within a decellularized vascular construct. <i>Annals of Biomedical Engineering</i> , 2014 , 42, 2029-38	4.7	10
40	SDF-1 β Gene-Activated Collagen Scaffold Restores Pro-Angiogenic Wound Healing Features in Human Diabetic Adipose-Derived Stem Cells. <i>Biomedicines</i> , 2021 , 9,	4.8	10
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