Fergal O'Brien

List of Publications by Year
in descending order

291 papers	23,725 citations	7087 78 h-index	9579 142 g-index
302 all docs	302 docs citations	302 times ranked	23531 citing authors

#	Article	IF	Citations
1	Biomaterials & scaffolds for tissue engineering. Materials Today, 2011, 14, 88-95.	8.3	2,695
2	The effect of mean pore size on cell attachment, proliferation and migration in collagenâ€"glycosaminoglycan scaffolds for bone tissue engineering. Biomaterials, 2010, 31, 461-466.	5.7	1,635
3	The effect of pore size on cell adhesion in collagen-GAG scaffolds. Biomaterials, 2005, 26, 433-441.	5.7	1,144
4	Influence of freezing rate on pore structure in freeze-dried collagen-GAG scaffolds. Biomaterials, 2004, 25, 1077-1086.	5.7	647
5	Biomaterial based modulation of macrophage polarization: a review and suggested design principles. Materials Today, 2015, 18, 313-325.	8.3	629
6	Understanding the effect of mean pore size on cell activity in collagen-glycosaminoglycan scaffolds. Cell Adhesion and Migration, 2010, 4, 377-381.	1.1	453
7	The effect of pore size on permeability and cell attachment in collagen scaffolds for tissue engineering. Technology and Health Care, 2006, 15, 3-17.	0.5	286
8	Staphylococcal Osteomyelitis: Disease Progression, Treatment Challenges, and Future Directions. Clinical Microbiology Reviews, 2018, 31, .	5.7	270
9	Crosslinking and Mechanical Properties Significantly Influence Cell Attachment, Proliferation, and Migration Within Collagen Glycosaminoglycan Scaffolds. Tissue Engineering - Part A, 2011, 17, 1201-1208.	1.6	265
10	Material stiffness influences the polarization state, function and migration mode of macrophages. Acta Biomaterialia, 2019, 89, 47-59.	4.1	245
11	Mesenchymal stem cell fate is regulated by the composition and mechanical properties of collagenâ€"glycosaminoglycan scaffolds. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 11, 53-62.	1.5	228
12	Cell-scaffold interactions in the bone tissue engineering triad. , 2013, 26, 120-132.		228
13	A biomimetic multi-layered collagen-based scaffold for osteochondral repair. Acta Biomaterialia, 2014, 10, 1996-2004.	4.1	223
14	The effect of dehydrothermal treatment on the mechanical and structural properties of collagenâ€GAG scaffolds. Journal of Biomedical Materials Research - Part A, 2009, 89A, 363-369.	2.1	220
15	Novel Freeze-Drying Methods to Produce a Range of Collagenâ€"Glycosaminoglycan Scaffolds with Tailored Mean Pore Sizes. Tissue Engineering - Part C: Methods, 2010, 16, 887-894.	1.1	211
16	A Collagen-glycosaminoglycan Scaffold Supports Adult Rat Mesenchymal Stem Cell Differentiation Along Osteogenic and Chondrogenic Routes. Tissue Engineering, 2006, 12, 459-468.	4.9	209
17	The healing of bony defects by cell-free collagen-based scaffolds compared to stem cell-seeded tissue engineered constructs. Biomaterials, 2010, 31, 9232-9243.	5.7	204
18	Hypoxia-mimicking bioactive glass/collagen glycosaminoglycan composite scaffolds to enhance angiogenesis and bone repair. Biomaterials, 2015, 52, 358-366.	5.7	200

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19	Scaffold Mean Pore Size Influences Mesenchymal Stem Cell Chondrogenic Differentiation and Matrix Deposition. Tissue Engineering - Part A, 2015, 21, 486-497.	1.6	195
20	In-vivo generation of bone via endochondral ossification by in-vitro chondrogenic priming of adult human and rat mesenchymal stem cells. BMC Musculoskeletal Disorders, 2011, 12, 31.	0.8	194
21	The effects of collagen concentration and crosslink density on the biological, structural and mechanical properties of collagen-GAG scaffolds for bone tissue engineering. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 202-209.	1.5	192
22	Microcrack accumulation at different intervals during fatigue testing of compact bone. Journal of Biomechanics, 2003, 36, 973-980.	0.9	187
23	Development of collagenâ€"hydroxyapatite scaffolds incorporating PLGA and alginate microparticles for the controlled delivery of rhBMP-2 for bone tissue engineering. Journal of Controlled Release, 2015, 198, 71-79.	4.8	187
24	Life in 3D is never flat: 3D models to optimise drug delivery. Journal of Controlled Release, 2015, 215, 39-54.	4.8	184
25	Innovative Collagen Nanoâ€Hydroxyapatite Scaffolds Offer a Highly Efficient Nonâ€Viral Gene Delivery Platform for Stem Cellâ€Mediated Bone Formation. Advanced Materials, 2012, 24, 749-754.	11.1	182
26	Detecting microdamage in bone. Journal of Anatomy, 2003, 203, 161-172.	0.9	175
27	Influence of Shear Stress in Perfusion Bioreactor Cultures for the Development of Three-Dimensional Bone Tissue Constructs: A Review. Tissue Engineering - Part B: Reviews, 2010, 16, 587-601.	2.5	175
28	Development of a biomimetic collagenâ€hydroxyapatite scaffold for bone tissue engineering using a SBF immersion technique. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2009, 90B, 584-591.	1.6	173
29	Multi-layered collagen-based scaffolds for osteochondral defect repair in rabbits. Acta Biomaterialia, 2016, 32, 149-160.	4.1	170
30	The effect of bone microstructure on the initiation and growth of microcracks. Journal of Orthopaedic Research, 2005, 23, 475-480.	1.2	167
31	The Response of Bone Marrow-Derived Mesenchymal Stem Cells to Dynamic Compression Following TGF-Î²3 Induced Chondrogenic Differentiation. Annals of Biomedical Engineering, 2010, 38, 2896-2909.	1.3	165
32	Development and characterisation of a collagen nano-hydroxyapatite composite scaffold for bone tissue engineering. Journal of Materials Science: Materials in Medicine, 2010, 21, 2293-2298.	1.7	162
33	Primary Ciliaâ€Mediated Mechanotransduction in Human Mesenchymal Stem Cells. Stem Cells, 2012, 30, 2561-2570.	1.4	156
34	Combinatorial Gene Therapy Accelerates Bone Regeneration: Nonâ€Viral Dual Delivery of VEGF and BMP2 in a Collagenâ€Nanohydroxyapatite Scaffold. Advanced Healthcare Materials, 2015, 4, 223-227.	3.9	151
35	The benefits and limitations of animal models for translational research in cartilage repair. Journal of Experimental Orthopaedics, 2016, 3, 1.	0.8	146
36	Collagen scaffolds functionalised with copper-eluting bioactive glass reduce infection and enhance osteogenesis and angiogenesis both in vitro and in vivo. Biomaterials, 2019, 197, 405-416.	5.7	146

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37	Comparison of biomaterial delivery vehicles for improving acute retention of stem cells in the infarcted heart. Biomaterials, 2014, 35, 6850-6858.	5.7	140
38	Cell-free multi-layered collagen-based scaffolds demonstrate layer specific regeneration of functional osteochondral tissue in caprine joints. Biomaterials, 2016, 87, 69-81.	5.7	135
39	Addition of hyaluronic acid improves cellular infiltration and promotes early-stage chondrogenesis in a collagen-based scaffold for cartilage tissue engineering. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 11, 41-52.	1.5	134
40	Chitosan for Gene Delivery and Orthopedic Tissue Engineering Applications. Molecules, 2013, 18, 5611-5647.	1.7	133
41	Fibrin hydrogels functionalized with cartilage extracellular matrix and incorporating freshly isolated stromal cells as an injectable for cartilage regeneration. Acta Biomaterialia, 2016, 36, 55-62.	4.1	133
42	The shape and size of hydroxyapatite particles dictate inflammatory responses following implantation. Scientific Reports, 2017, 7, 2922.	1.6	131
43	Staphylococcus aureus Protein A Binds to Osteoblasts and Triggers Signals That Weaken Bone in Osteomyelitis. PLoS ONE, 2011, 6, e18748.	1.1	130
44	Effects of iron oxide incorporation for long term cell tracking on MSC differentiation in vitro and in vivo. Biochemical and Biophysical Research Communications, 2008, 369, 1076-1081.	1.0	129
45	The effect of concentration, thermal history and cell seeding density on the initial mechanical properties of agarose hydrogels. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 512-521.	1.5	127
46	Multifunctional biomaterials from the sea: Assessing the effects of chitosan incorporation into collagen scaffolds on mechanical and biological functionality. Acta Biomaterialia, 2016, 43, 160-169.	4.1	123
47	Chondrogenic Priming of Human Bone Marrow Stromal Cells: A Better Route to Bone Repair?. Tissue Engineering - Part C: Methods, 2009, 15, 285-295.	1.1	121
48	Staphylococcus aureus Protein A Plays a Critical Role in Mediating Bone Destruction and Bone Loss in Osteomyelitis. PLoS ONE, 2012, 7, e40586.	1.1	118
49	Mechanosignalling in cartilage: an emerging target for the treatment of osteoarthritis. Nature Reviews Rheumatology, 2022, 18, 67-84.	3.5	117
50	Visualisation of three-dimensional microcracks in compact bone. Journal of Anatomy, 2000, 197, 413-420.	0.9	116
51	Recapitulating endochondral ossification: a promising route to<i>in vivo</i>bone regeneration. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 889-902.	1.3	112
52	The delayed addition of human mesenchymal stem cells to pre-formed endothelial cell networks results in functional vascularization of a collagenâ€"glycosaminoglycan scaffold in vivo. Acta Biomaterialia, 2013, 9, 9303-9316.	4.1	111
53	A collagenâ€"hydroxyapatite scaffold allows for binding and co-delivery of recombinant bone morphogenetic proteins and bisphosphonates. Acta Biomaterialia, 2014, 10, 2250-2258.	4.1	108
54	Substrate stiffness and contractile behaviour modulate the functional maturation of osteoblasts on a collagenâ€"GAG scaffold. Acta Biomaterialia, 2010, 6, 4305-4313.	4.1	107

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55	Insoluble elastin reduces collagen scaffold stiffness, improves viscoelastic properties, and induces a contractile phenotype in smooth muscle cells. Biomaterials, 2015, 73, 296-307.	5.7	106
56	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. Biomaterials, 2017, 149, 116-127.	5.7	106
57	Gene Delivery of TGF-Î²3 and BMP2 in an MSC-Laden Alginate Hydrogel for Articular Cartilage and Endochondral Bone Tissue Engineering. Tissue Engineering - Part A, 2016, 22, 776-787.	1.6	105
58	Long-term controlled delivery of rhBMP-2 from collagenâ€"hydroxyapatite scaffolds for superior bone tissue regeneration. Journal of Controlled Release, 2015, 207, 112-119.	4.8	104
59	An improved labelling technique for monitoring microcrack growth in compact bone. Journal of Biomechanics, 2002, 35, 523-526.	0.9	103
60	Dynamic compression can inhibit chondrogenesis of mesenchymal stem cells. Biochemical and Biophysical Research Communications, 2008, 377, 458-462.	1.0	103
61	The effect of pore size on permeability and cell attachment in collagen scaffolds for tissue engineering. Technology and Health Care, 2007, 15, 3-17.	0.5	100
62	Osteoblast activity on collagenâ€GAG scaffolds is affected by collagen and GAG concentrations. Journal of Biomedical Materials Research - Part A, 2009, 91A, 92-101.	2.1	95
63	Development of a gene-activated scaffold platform for tissue engineering applications using chitosan-pDNA nanoparticles on collagen-based scaffolds. Journal of Controlled Release, 2015, 210, 84-94.	4.8	95
64	Delivering Nucleicâ€Acid Based Nanomedicines on Biomaterial Scaffolds for Orthopedic Tissue Repair: Challenges, Progress and Future Perspectives. Advanced Materials, 2016, 28, 5447-5469.	11.1	95
65	Advances in Nerve Guidance Conduit-Based Therapeutics for Peripheral Nerve Repair. ACS Biomaterials Science and Engineering, 2017, 3, 1221-1235.	2.6	95
66	Influence of flow rate and scaffold pore size on cell behavior during mechanical stimulation in a flow perfusion bioreactor. Biotechnology and Bioengineering, 2012, 109, 1583-1594.	1.7	94
67	The development of non-viral gene-activated matrices for bone regeneration using polyethyleneimine (PEI) and collagen-based scaffolds. Journal of Controlled Release, 2012, 158, 304-311.	4.8	93
68	Pore-forming bioinks to enable spatio-temporally defined gene delivery in bioprinted tissues. Journal of Controlled Release, 2019, 301, 13-27.	4.8	93
69	Advanced Strategies for Articular Cartilage Defect Repair. Materials, 2013, 6, 637-668.	1.3	92
70	The synthesis and characterization of nanophase hydroxyapatite using a novel dispersantâ€aided precipitation method. Journal of Biomedical Materials Research - Part A, 2010, 95A, 1142-1149.	2.1	91
71	Tissue-specific extracellular matrix scaffolds for the regeneration of spatially complex musculoskeletal tissues. Biomaterials, 2019, 188, 63-73.	5.7	91
72	The use of collagen-based scaffolds to simulate prostate cancer bone metastases with potential for evaluating delivery of nanoparticulate gene therapeutics. Biomaterials, 2015, 66, 53-66.	5.7	90

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73	Controlled release of vascular endothelial growth factor from spray-dried alginate microparticles in collagen-hydroxyapatite scaffolds for promoting vascularization and bone repair. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 1097-1109.	1.3	88
74	Controlled release of transforming growth factor-Î²3 from cartilage-extra-cellular-matrix-derived scaffolds to promote chondrogenesis of human-joint-tissue-derived stem cells. Acta Biomaterialia, 2014, 10, 4400-4409.	4.1	86
75	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. Journal of Controlled Release, 2015, 200, 42-51.	4.8	85
76	Deformation simulation of cells seeded on a collagen-GAG scaffold in a flow perfusion bioreactor using a sequential 3D CFD-elastostatics model. Medical Engineering and Physics, 2009, 31, 420-427.	0.8	84
77	Freezeâ€Drying as a Novel Biofabrication Method for Achieving a Controlled Microarchitecture within Large, Complex Natural Biomaterial Scaffolds. Advanced Healthcare Materials, 2017, 6, 1700598.	3.9	84
78	The rationale and emergence of electroconductive biomaterial scaffolds in cardiac tissue engineering. APL Bioengineering, 2019, 3, 041501.	3.3	84
79	Bioreactors in tissue engineering. Technology and Health Care, 2011, 19, 55-69.	0.5	82
80	Mechanical Stimulation of Osteoblasts Using Steady and Dynamic Fluid Flow. Tissue Engineering - Part A, 2008, 14, 1213-1223.	1.6	81
81	Electroconductive Biohybrid Collagen/Pristine Graphene Composite Biomaterials with Enhanced Biological Activity. Advanced Materials, 2018, 30, e1706442.	11.1	81
82	Innovations in gene and growth factor delivery systems for diabetic wound healing. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, e296-e312.	1.3	81
83	Osteonal crack barriers in ovine compact bone. Journal of Anatomy, 2006, 208, 81-89.	0.9	79
84	Gene expression by marrow stromal cells in a porous collagenâ€"glycosaminoglycan scaffold is affected by pore size and mechanical stimulation. Journal of Materials Science: Materials in Medicine, 2008, 19, 3455-3463.	1.7	79
85	Design and validation of a dynamic flow perfusion bioreactor for use with compliant tissue engineering scaffolds. Journal of Biotechnology, 2008, 133, 490-496.	1.9	77
86	A Comparative Study of Shear Stresses in Collagen-Glycosaminoglycan and Calcium Phosphate Scaffolds in Bone Tissue-Engineering Bioreactors. Tissue Engineering - Part A, 2009, 15, 1141-1149.	1.6	77
87	A novel collagen scaffold supports human osteogenesisâ€"applications for bone tissue engineering. Cell and Tissue Research, 2010, 340, 169-177.	1.5	76
88	Novel Microhydroxyapatite Particles in a Collagen Scaffold: A Bioactive Bone Void Filler?. Clinical Orthopaedics and Related Research, 2014, 472, 1318-1328.	0.7	76
89	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. Microbiology (United Kingdom), 2013, 159, 147-154.	0.7	74
90	Content-Dependent Osteogenic Response of Nanohydroxyapatite: An in Vitro and in Vivo Assessment within Collagen-Based Scaffolds. ACS Applied Materials & Interfaces, 2016, 8, 23477-23488.	4.0	70

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91	Towards in vitro vascularisation of collagen-GAG scaffolds. , 2011, 21, 15-30.		70
92	A prediction of cell differentiation and proliferation within a collagenâ€“glycosaminoglycan scaffold subjected to mechanical strain and perfusive fluid flow. Journal of Biomechanics, 2010, 43, 618-626.	0.9	69
93	Effect of collagenâ€glycosaminoglycan scaffold pore size on matrix mineralization and cellular behavior in different cell types. Journal of Biomedical Materials Research - Part A, 2016, 104, 291-304.	2.1	68
94	Next generation bone tissue engineering: non-viral miR-133a inhibition using collagen-nanohydroxyapatite scaffolds rapidly enhances osteogenesis. Scientific Reports, 2016, 6, 27941.	1.6	68
95	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 <i>In Vivo</i>. Tissue Engineering - Part A, 2016, 22, 556-567.	1.6	68
96	Coupling Freshly Isolated CD44⁺ Infrapatellar Fat Padâ€Derived Stromal Cells with a TGFâ€Î²3 Eluting Cartilage ECMâ€Derived Scaffold as a Singleâ€Stage Strategy for Promoting Chondrogenesis. Advanced Healthcare Materials, 2015, 4, 1043-1053.	3.9	67
97	Influence of a novel calcium-phosphate coating on the mechanical properties of highly porous collagen scaffolds for bone repair. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 138-146.	1.5	65
98	Mesenchymal stem cell fate following non-viral gene transfection strongly depends on the choice of delivery vector. Acta Biomaterialia, 2017, 55, 226-238.	4.1	65
99	Heterogeneous linear elastic trabecular bone modelling using micro-CT attenuation data and experimentally measured heterogeneous tissue properties. Journal of Biomechanics, 2008, 41, 2589-2596.	0.9	64
100	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. Journal of Controlled Release, 2012, 161, 73-80.	4.8	64
101	Hyperthermiaâ€Induced Drug Delivery from Thermosensitive Liposomes Encapsulated in an Injectable Hydrogel for Local Chemotherapy. Advanced Healthcare Materials, 2014, 3, 854-859.	3.9	64
102	Investigating the interplay between substrate stiffness and ligand chemistry in directing mesenchymal stem cell differentiation within 3D macro-porous substrates. Biomaterials, 2018, 171, 23-33.	5.7	64
103	Biomaterialâ€Enhanced Cell and Drug Delivery: Lessons Learned in the Cardiac Field and Future Perspectives. Advanced Materials, 2016, 28, 5648-5661.	11.1	63
104	Bone as a composite material: The role of osteons as barriers to crack growth in compact bone. International Journal of Fatigue, 2007, 29, 1051-1056.	2.8	60
105	Osteomimicry of Mammary Adenocarcinoma Cells In Vitro; Increased Expression of Bone Matrix Proteins and Proliferation within a 3D Collagen Environment. PLoS ONE, 2012, 7, e41679.	1.1	60
106	Macrophage Polarization in Response to Collagen Scaffold Stiffness Is Dependent on Cross-Linking Agent Used To Modulate the Stiffness. ACS Biomaterials Science and Engineering, 2019, 5, 544-552.	2.6	60
107	Microcracks in cortical bone: How do they affect bone biology?. Current Osteoporosis Reports, 2005, 3, 39-45.	1.5	59
108	Biomechanical properties across trabeculae from the proximal femur of normal and ovariectomised sheep. Journal of Biomechanics, 2009, 42, 498-503.	0.9	59

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109	Delivery of the improved BMP-2-Advanced plasmid DNA within a gene-activated scaffold accelerates mesenchymal stem cell osteogenesis and critical size defect repair. Journal of Controlled Release, 2018, 283, 20-31.	4.8	58
110	A stimuli responsive liposome loaded hydrogel provides flexible on-demand release of therapeutic agents. Acta Biomaterialia, 2017, 48, 110-119.	4.1	57
111	Anisotropic Shape-Memory Alginate Scaffolds Functionalized with Either Type I or Type II Collagen for Cartilage Tissue Engineering. Tissue Engineering - Part A, 2017, 23, 55-68.	1.6	57
112	Porous decellularized tissue engineered hypertrophic cartilage as a scaffold for large bone defect healing. Acta Biomaterialia, 2015, 23, 82-90.	4.1	55
113	Scaffoldâ€Based microRNA Therapies in Regenerative Medicine and Cancer. Advanced Healthcare Materials, 2018, 7, 1700695.	3.9	55
114	DNA Origami: Folded DNAâ€Nanodevices That Can Direct and Interpret Cell Behavior. Advanced Materials, 2016, 28, 5509-5524.	11.1	54
115	Mechanically stimulated bone cells secrete paracrine factors that regulate osteoprogenitor recruitment, proliferation, and differentiation. Biochemical and Biophysical Research Communications, 2015, 459, 118-123.	1.0	53
116	The development of a tissue-engineered tracheobronchial epithelial model using a bilayered collagen-hyaluronate scaffold. Biomaterials, 2016, 85, 111-127.	5.7	53
117	Functionalising Collagen-Based Scaffolds With Platelet-Rich Plasma for Enhanced Skin Wound Healing Potential. Frontiers in Bioengineering and Biotechnology, 2019, 7, 371.	2.0	53
118	Bone biomaterials for overcoming antimicrobial resistance: Advances in non-antibiotic antimicrobial approaches for regeneration of infected osseous tissue. Materials Today, 2021, 46, 136-154.	8.3	53
119	Compression data on bovine bone confirms that a â€œstressed volumeâ€• principle explains the variability of fatigue strength results. Journal of Biomechanics, 1999, 32, 1199-1203.	0.9	52
120	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. Journal of Controlled Release, 2013, 165, 173-182.	4.8	52
121	A Physicochemically Optimized and Neuroconductive Biphasic Nerve Guidance Conduit for Peripheral Nerve Repair. Advanced Healthcare Materials, 2017, 6, 1700954.	3.9	51
122	Highly versatile cell-penetrating peptide loaded scaffold for efficient and localised gene delivery to multiple cell types: From development to application in tissue engineering. Biomaterials, 2019, 216, 119277.	5.7	51
123	The nature of fatigue damage in bone. International Journal of Fatigue, 2000, 22, 847-853.	2.8	49
124	Biomechanics and mechanobiology in osteochondral tissues. Regenerative Medicine, 2008, 3, 743-759.	0.8	49
125	Incorporation of fibrin into a collagenâ€"glycosaminoglycan matrix results in a scaffold with improved mechanical properties and enhanced capacity to resist cell-mediated contraction. Acta Biomaterialia, 2015, 26, 205-214.	4.1	49
126	A physiologically relevant 3D collagen-based scaffoldâ€"neuroblastoma cell system exhibits chemosensitivity similar to orthotopic xenograft models. Acta Biomaterialia, 2018, 70, 84-97.	4.1	49

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127	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. Journal of Controlled Release, 2019, 304, 51-64.	4.8	49
128	Effect of different hydroxyapatite incorporation methods on the structural and biological properties of porous collagen scaffolds for bone repair. Journal of Anatomy, 2015, 227, 732-745.	0.9	46
129	Effects of ovariectomy on bone turnover, porosity, and biomechanical properties in ovine compact bone 12 months postsurgery. Journal of Orthopaedic Research, 2009, 27, 303-309.	1.2	45
130	Thermally triggered release of a pro-osteogenic peptide from a functionalized collagen-based scaffold using thermosensitive liposomes. Journal of Controlled Release, 2014, 187, 158-166.	4.8	45
131	Enhanced bone healing using collagen-hydroxyapatite scaffold implantation in the treatment of a large multiloculated mandibular aneurysmal bone cyst in a thoroughbred filly. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 1193-1199.	1.3	45
132	Collagen scaffolds for orthopedic regenerative medicine. Jom, 2011, 63, 66-73.	0.9	44
133	Formulation and Evaluation of Anisamide-Targeted Amphiphilic Cyclodextrin Nanoparticles To Promote Therapeutic Gene Silencing in a 3D Prostate Cancer Bone Metastases Model. Molecular Pharmaceutics, 2017, 14, 42-52.	2.3	44
134	Microcracks in compact bone: a three-dimensional view. Journal of Anatomy, 2006, 209, 119-124.	0.9	43
135	Orchestrating osteogenic differentiation of mesenchymal stem cellsâ€"identification of placental growth factor as a mechanosensitive gene with a pro-osteogenic role. Stem Cells, 2013, 31, 2420-2431.	1.4	43
136	Osteoblast Response to Rest Periods During Bioreactor Culture of Collagenâ€"Glycosaminoglycan Scaffolds. Tissue Engineering - Part A, 2010, 16, 943-951.	1.6	42
137	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. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, e384-e394.	1.3	42
138	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. Acta Biomaterialia, 2018, 75, 115-128.	4.1	41
139	Non-viral gene-activated matrices. Organogenesis, 2013, 9, 22-28.	0.4	40
140	Pro-angiogenic impact of SDF-1Î± gene-activated collagen-based scaffolds in stem cell driven angiogenesis. International Journal of Pharmaceutics, 2018, 544, 372-379.	2.6	40
141	Future Perspectives on the Role of Stem Cells and Extracellular Vesicles in Vascular Tissue Regeneration. Frontiers in Cardiovascular Medicine, 2018, 5, 86.	1.1	40
142	The behaviour of microcracks in compact bone. European Journal of Morphology, 2005, 42, 71-79.	1.4	38
143	The Hounsfield value for cortical bone geometry in the proximal humerusâ€"an in vitro study. Skeletal Radiology, 2012, 41, 557-568.	1.2	38
144	Differentiation of Vascular Stem Cells Contributes to Ectopic Calcification of Atherosclerotic Plaque. Stem Cells, 2016, 34, 913-923.	1.4	38

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145	Identification of the mechanisms by which age alters the mechanosensitivity of mesenchymal stromal cells on substrates of differing stiffness: Implications for osteogenesis and angiogenesis. Acta Biomaterialia, 2017, 53, 59-69.	4.1	38
146	Bioinspired Star-Shaped Poly(<scp>l</scp>-lysine) Polypeptides: Efficient Polymeric Nanocarriers for the Delivery of DNA to Mesenchymal Stem Cells. Molecular Pharmaceutics, 2018, 15, 1878-1891.	2.3	38
147	Rapid healing of a criticalâ€sized bone defect using a collagenâ€hydroxyapatite scaffold to facilitate low dose, combinatorial growth factor delivery. Journal of Tissue Engineering and Regenerative Medicine, 2019, 13, 1843-1853.	1.3	38
148	Harnessing an Inhibitory Role of miR-16 in Osteogenesis by Human Mesenchymal Stem Cells for Advanced Scaffold-Based Bone Tissue Engineering. Tissue Engineering - Part A, 2019, 25, 24-33.	1.6	37
149	Collagen-based biomaterials for tissue regeneration and repair. , 2018, , 127-150.		36
150	Flexor tendon repair: a comparative study between a knotless barbed suture repair and a traditional four-strand monofilament suture repair. Journal of Hand Surgery: European Volume, 2014, 39, 40-45.	0.5	35
151	3D-Printed Gelatin Methacrylate Scaffolds with Controlled Architecture and Stiffness Modulate the Fibroblast Phenotype towards Dermal Regeneration. Polymers, 2021, 13, 2510.	2.0	35
152	Creep Does Not Contribute to Fatigue in Bovine Trabecular Bone. Journal of Biomechanical Engineering, 2004, 126, 321-329.	0.6	34
153	Infrapatellar Fat Pad Stem Cells: From Developmental Biology to Cell Therapy. Stem Cells International, 2017, 2017, 1-10.	1.2	34
154	Scaffoldâ€Based Delivery of Nucleic Acid Therapeutics for Enhanced Bone and Cartilage Repair. Journal of Orthopaedic Research, 2019, 37, 1671-1680.	1.2	34
155	Effects of estrogen deficiency and bisphosphonate therapy on osteocyte viability and microdamage accumulation in an ovine model of osteoporosis. Journal of Orthopaedic Research, 2011, 29, 419-424.	1.2	33
156	Incorporation of TGFâ€Beta 3 within Collagenâ€"Hyaluronic Acid Scaffolds Improves their Chondrogenic Potential. Advanced Healthcare Materials, 2015, 4, 1175-1179.	3.9	33
157	Tissue engineered extracellular matrices (ECMs) in urology: Evolution and future directions. Journal of the Royal College of Surgeons of Edinburgh, 2018, 16, 55-65.	0.8	33
158	Part 1: Scaffolds and Surfaces. Technology and Health Care, 2008, 16, 305-317.	0.5	32
159	Temporal Changes in Bone Composition, Architecture, and Strength Following Estrogen Deficiency in Osteoporosis. Calcified Tissue International, 2012, 91, 440-449.	1.5	32
160	Estrogen Withdrawal from Osteoblasts and Osteocytes Causes Increased Mineralization and Apoptosis. Hormone and Metabolic Research, 2014, 46, 537-545.	0.7	32
161	Towards 3D in vitro models for the study of cardiovascular tissues and disease. Drug Discovery Today, 2016, 21, 1437-1445.	3.2	31
162	Growth plate extracellular matrix-derived scaffolds for large bone defect healing. , 2017, 33, 130-142.		31

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