Fergal J O'brien

List of Publications by Year
in descending order

188	18,651	10984 71	13375 130
papers	citations	h-index	g-index

188	188	188	19879
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Biomaterials & scaffolds for tissue engineering. Materials Today, 2011, 14, 88-95.	14.2	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.	11.4	1,635
3	Influence of freezing rate on pore structure in freeze-dried collagen-GAG scaffolds. Biomaterials, 2004, 25, 1077-1086.	11.4	647
4	Understanding the effect of mean pore size on cell activity in collagen-glycosaminoglycan scaffolds. Cell Adhesion and Migration, 2010, 4, 377-381.	2.7	453
5	The effect of pore size on permeability and cell attachment in collagen scaffolds for tissue engineering. Technology and Health Care, 2006, 15, 3-17.	1.2	286
6	Staphylococcal Osteomyelitis: Disease Progression, Treatment Challenges, and Future Directions. Clinical Microbiology Reviews, 2018, 31, .	13.6	270
7	Crosslinking and Mechanical Properties Significantly Influence Cell Attachment, Proliferation, and Migration Within Collagen Glycosaminoglycan Scaffolds. Tissue Engineering - Part A, 2011, 17, 1201-1208.	3.1	265
8	Material stiffness influences the polarization state, function and migration mode of macrophages. Acta Biomaterialia, 2019, 89, 47-59.	8.3	245
9	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.	3.1	228
10	Cell-scaffold interactions in the bone tissue engineering triad. , 2013, 26, 120-132.		228
11	A biomimetic multi-layered collagen-based scaffold for osteochondral repair. Acta Biomaterialia, 2014, 10, 1996-2004.	8.3	223
12	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.	4.0	220
13	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.	2.1	211
14	A Collagen-glycosaminoglycan Scaffold Supports Adult Rat Mesenchymal Stem Cell Differentiation Along Osteogenic and Chondrogenic Routes. Tissue Engineering, 2006, 12, 459-468.	4.6	209
15	The healing of bony defects by cell-free collagen-based scaffolds compared to stem cell-seeded tissue engineered constructs. Biomaterials, 2010, 31, 9232-9243.	11.4	204
16	Hypoxia-mimicking bioactive glass/collagen glycosaminoglycan composite scaffolds to enhance angiogenesis and bone repair. Biomaterials, 2015, 52, 358-366.	11.4	200
17	Scaffold Mean Pore Size Influences Mesenchymal Stem Cell Chondrogenic Differentiation and Matrix Deposition. Tissue Engineering - Part A, 2015, 21, 486-497.	3.1	195
18	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.	1.9	194

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19	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.	3.1	192
20	Microcrack accumulation at different intervals during fatigue testing of compact bone. Journal of Biomechanics, 2003, 36, 973-980.	2.1	187
21	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.	9.9	187
22	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.	21.0	182
23	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.	4.8	175
24	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.	3.4	173
25	Multi-layered collagen-based scaffolds for osteochondral defect repair in rabbits. Acta Biomaterialia, 2016, 32, 149-160.	8.3	170
26	The effect of bone microstructure on the initiation and growth of microcracks. Journal of Orthopaedic Research, 2005, 23, 475-480.	2.3	167
27	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.	2.5	165
28	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.	3.6	162
29	Primary Ciliaâ€Mediated Mechanotransduction in Human Mesenchymal Stem Cells. Stem Cells, 2012, 30, 2561-2570.	3.2	156
30	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.	7.6	151
31	The benefits and limitations of animal models for translational research in cartilage repair. Journal of Experimental Orthopaedics, 2016, 3, 1.	1.8	146
32	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.	11.4	146
33	Comparison of biomaterial delivery vehicles for improving acute retention of stem cells in the infarcted heart. Biomaterials, 2014, 35, 6850-6858.	11.4	140
34	Cell-free multi-layered collagen-based scaffolds demonstrate layer specific regeneration of functional osteochondral tissue in caprine joints. Biomaterials, 2016, 87, 69-81.	11.4	135
35	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.	3.1	134
36	Chitosan for Gene Delivery and Orthopedic Tissue Engineering Applications. Molecules, 2013, 18, 5611-5647.	3.8	133

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37	The shape and size of hydroxyapatite particles dictate inflammatory responses following implantation. Scientific Reports, 2017, 7, 2922.	3.3	131
38	Staphylococcus aureus Protein A Binds to Osteoblasts and Triggers Signals That Weaken Bone in Osteomyelitis. PLoS ONE, 2011, 6, e18748.	2.5	130
39	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.	2.1	129
40	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.	3.1	127
41	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.	8.3	123
42	Chondrogenic Priming of Human Bone Marrow Stromal Cells: A Better Route to Bone Repair?. Tissue Engineering - Part C: Methods, 2009, 15, 285-295.	2.1	121
43	Staphylococcus aureus Protein A Plays a Critical Role in Mediating Bone Destruction and Bone Loss in Osteomyelitis. PLoS ONE, 2012, 7, e40586.	2.5	118
44	Recapitulating endochondral ossification: a promising route to<i>in vivo</i>bone regeneration. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 889-902.	2.7	112
45	A collagenâ€“hydroxyapatite scaffold allows for binding and co-delivery of recombinant bone morphogenetic proteins and bisphosphonates. Acta Biomaterialia, 2014, 10, 2250-2258.	8.3	108
46	Substrate stiffness and contractile behaviour modulate the functional maturation of osteoblasts on a collagenâ€“GAG scaffold. Acta Biomaterialia, 2010, 6, 4305-4313.	8.3	107
47	Insoluble elastin reduces collagen scaffold stiffness, improves viscoelastic properties, and induces a contractile phenotype in smooth muscle cells. Biomaterials, 2015, 73, 296-307.	11.4	106
48	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.	11.4	106
49	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.	3.1	105
50	Long-term controlled delivery of rhBMP-2 from collagenâ€“hydroxyapatite scaffolds for superior bone tissue regeneration. Journal of Controlled Release, 2015, 207, 112-119.	9.9	104
51	An improved labelling technique for monitoring microcrack growth in compact bone. Journal of Biomechanics, 2002, 35, 523-526.	2.1	103
52	The effect of pore size on permeability and cell attachment in collagen scaffolds for tissue engineering. Technology and Health Care, 2007, 15, 3-17.	1.2	100
53	Osteoblast activity on collagenâ€GAG scaffolds is affected by collagen and GAG concentrations. Journal of Biomedical Materials Research - Part A, 2009, 91A, 92-101.	4.0	95
54	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.	9.9	95

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55	Delivering Nucleicâ€Acid Based Nanomedicines on Biomaterial Scaffolds for Orthopedic Tissue Repair: Challenges, Progress and Future Perspectives. Advanced Materials, 2016, 28, 5447-5469.	21.0	95
56	Advances in Nerve Guidance Conduit-Based Therapeutics for Peripheral Nerve Repair. ACS Biomaterials Science and Engineering, 2017, 3, 1221-1235.	5.2	95
57	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.	9.9	93
58	Advanced Strategies for Articular Cartilage Defect Repair. Materials, 2013, 6, 637-668.	2.9	92
59	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.	4.0	91
60	Tissue-specific extracellular matrix scaffolds for the regeneration of spatially complex musculoskeletal tissues. Biomaterials, 2019, 188, 63-73.	11.4	91
61	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.	11.4	90
62	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.	2.7	88
63	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.	8.3	86
64	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.	9.9	85
65	Freezeâ€Drying as a Novel Biofabrication Method for Achieving a Controlled Microarchitecture within Large, Complex Natural Biomaterial Scaffolds. Advanced Healthcare Materials, 2017, 6, 1700598.	7.6	84
66	Bioreactors in tissue engineering. Technology and Health Care, 2011, 19, 55-69.	1.2	82
67	Mechanical Stimulation of Osteoblasts Using Steady and Dynamic Fluid Flow. Tissue Engineering - Part A, 2008, 14, 1213-1223.	3.1	81
68	Electroconductive Biohybrid Collagen/Pristine Graphene Composite Biomaterials with Enhanced Biological Activity. Advanced Materials, 2018, 30, e1706442.	21.0	81
69	Innovations in gene and growth factor delivery systems for diabetic wound healing. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, e296-e312.	2.7	81
70	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.	3.6	79
71	Design and validation of a dynamic flow perfusion bioreactor for use with compliant tissue engineering scaffolds. Journal of Biotechnology, 2008, 133, 490-496.	3.8	77
72	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.	3.1	77

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73	Novel Microhydroxyapatite Particles in a Collagen Scaffold: A Bioactive Bone Void Filler?. Clinical Orthopaedics and Related Research, 2014, 472, 1318-1328.	1.5	76
74	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.	1.8	74
75	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.	8.0	70
76	Towards in vitro vascularisation of collagen-GAG scaffolds. , 2011, 21, 15-30.		70
77	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.	4.0	68
78	Next generation bone tissue engineering: non-viral miR-133a inhibition using collagen-nanohydroxyapatite scaffolds rapidly enhances osteogenesis. Scientific Reports, 2016, 6, 27941.	3.3	68
79	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.	3.1	68
80	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.	7.6	67
81	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.	3.1	65
82	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.	9.9	64
83	Hyperthermiaâ€Induced Drug Delivery from Thermosensitive Liposomes Encapsulated in an Injectable Hydrogel for Local Chemotherapy. Advanced Healthcare Materials, 2014, 3, 854-859.	7.6	64
84	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.	11.4	64
85	Biomaterialâ€Enhanced Cell and Drug Delivery: Lessons Learned in the Cardiac Field and Future Perspectives. Advanced Materials, 2016, 28, 5648-5661.	21.0	63
86	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.	2.5	60
87	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.	5.2	60
88	Microcracks in cortical bone: How do they affect bone biology?. Current Osteoporosis Reports, 2005, 3, 39-45.	3.6	59
89	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.	9.9	58
90	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.	3.1	57

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91	Porous decellularized tissue engineered hypertrophic cartilage as a scaffold for large bone defect healing. Acta Biomaterialia, 2015, 23, 82-90.	8.3	55
92	Scaffoldâ€Based microRNA Therapies in Regenerative Medicine and Cancer. Advanced Healthcare Materials, 2018, 7, 1700695.	7.6	55
93	Mechanically stimulated bone cells secrete paracrine factors that regulate osteoprogenitor recruitment, proliferation, and differentiation. Biochemical and Biophysical Research Communications, 2015, 459, 118-123.	2.1	53
94	The development of a tissue-engineered tracheobronchial epithelial model using a bilayered collagen-hyaluronate scaffold. Biomaterials, 2016, 85, 111-127.	11.4	53
95	Functionalising Collagen-Based Scaffolds With Platelet-Rich Plasma for Enhanced Skin Wound Healing Potential. Frontiers in Bioengineering and Biotechnology, 2019, 7, 371.	4.1	53
96	Bone biomaterials for overcoming antimicrobial resistance: Advances in non-antibiotic antimicrobial approaches for regeneration of infected osseous tissue. Materials Today, 2021, 46, 136-154.	14.2	53
97	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.	9.9	52
98	A Physicochemically Optimized and Neuroconductive Biphasic Nerve Guidance Conduit for Peripheral Nerve Repair. Advanced Healthcare Materials, 2017, 6, 1700954.	7.6	51
99	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.	11.4	51
100	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.	8.3	49
101	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.	9.9	49
102	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.	1.5	46
103	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.	9.9	45
104	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.	2.7	45
105	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.	4.6	44
106	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.	3.2	43
107	Osteoblast Response to Rest Periods During Bioreactor Culture of Collagenâ€"Glycosaminoglycan Scaffolds. Tissue Engineering - Part A, 2010, 16, 943-951.	3.1	42
108	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.	2.7	42

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109	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.	8.3	41
110	Non-viral gene-activated matrices. Organogenesis, 2013, 9, 22-28.	1.2	40
111	Pro-angiogenic impact of SDF-1Î± gene-activated collagen-based scaffolds in stem cell driven angiogenesis. International Journal of Pharmaceutics, 2018, 544, 372-379.	5.2	40
112	The behaviour of microcracks in compact bone. European Journal of Morphology, 2005, 42, 71-79.	0.8	38
113	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.	8.3	38
114	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.	4.6	38
115	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.	2.7	38
116	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.	3.1	37
117	3D-Printed Gelatin Methacrylate Scaffolds with Controlled Architecture and Stiffness Modulate the Fibroblast Phenotype towards Dermal Regeneration. Polymers, 2021, 13, 2510.	4.5	35
118	Infrapatellar Fat Pad Stem Cells: From Developmental Biology to Cell Therapy. Stem Cells International, 2017, 2017, 1-10.	2.5	34
119	Scaffoldâ€Based Delivery of Nucleic Acid Therapeutics for Enhanced Bone and Cartilage Repair. Journal of Orthopaedic Research, 2019, 37, 1671-1680.	2.3	34
120	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.	2.3	33
121	Incorporation of TGFâ€Beta 3 within Collagenâ€"Hyaluronic Acid Scaffolds Improves their Chondrogenic Potential. Advanced Healthcare Materials, 2015, 4, 1175-1179.	7.6	33
122	Part 1: Scaffolds and Surfaces. Technology and Health Care, 2008, 16, 305-317.	1.2	32
123	Towards 3D in vitro models for the study of cardiovascular tissues and disease. Drug Discovery Today, 2016, 21, 1437-1445.	6.4	31
124	The effects of increased intracortical remodeling on microcrack behaviour in compact bone. Bone, 2008, 43, 889-893.	2.9	30
125	Rapid bone repair with the recruitment of CD206+M2-like macrophages using non-viral scaffold-mediated miR-133a inhibition of host cells. Acta Biomaterialia, 2020, 109, 267-279.	8.3	30
126	Activation of the SOXâ€5, SOXâ€6, and SOXâ€9 Trio of Transcription Factors Using a Geneâ€Activated Scaffold Stimulates Mesenchymal Stromal Cell Chondrogenesis and Inhibits Endochondral Ossification. Advanced Healthcare Materials, 2020, 9, e1901827.	7.6	29

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127	Pristine graphene induces innate immune training. Nanoscale, 2020, 12, 11192-11200.	5.6	28
128	Transfection of autologous host cells in vivo using gene activated collagen scaffolds incorporating star-polypeptides. Journal of Controlled Release, 2019, 304, 191-203.	9.9	27
129	Tissue differentiation in an inÂvivo bioreactor: inÂsilico investigations of scaffold stiffness. Journal of Materials Science: Materials in Medicine, 2010, 21, 2331-2336.	3.6	26
130	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. Acta Biomaterialia, 2015, 26, 263-273.	8.3	26
131	Layered Double Hydroxide as a Potent Non-viral Vector for Nucleic Acid Delivery Using Gene-Activated Scaffolds for Tissue Regeneration Applications. Pharmaceutics, 2020, 12, 1219.	4.5	26
132	Mechanical, compositional and morphological characterisation of the human male urethra for the development of a biomimetic tissue engineered urethral scaffold. Biomaterials, 2021, 269, 120651.	11.4	26
133	Platelet-rich plasma releasate differently stimulates cellular commitment toward the chondrogenic lineage according to concentration. Journal of Tissue Engineering, 2015, 6, 204173141559412.	5.5	25
134	Influences of the 3D microenvironment on cancer cell behaviour and treatment responsiveness: A recent update on lung, breast and prostate cancer models. Acta Biomaterialia, 2021, 132, 360-378.	8.3	25
135	Stimulation of osteoblasts using rest periods during bioreactor culture on collagen-glycosaminoglycan scaffolds. Journal of Materials Science: Materials in Medicine, 2010, 21, 2325-2330.	3.6	24
136	Three hours of perfusion culture prior to 28 days of static culture, enhances osteogenesis by human cells in a collagen GAG scaffold. Biotechnology and Bioengineering, 2011, 108, 1203-1210.	3.3	23
137	Hierarchical biofabrication of biomimetic collagen-elastin vascular grafts with controllable properties via lyophilisation. Acta Biomaterialia, 2020, 112, 52-61.	8.3	23
138	Functionalization of a Collagenâ€“Hydroxyapatite Scaffold with Osteostatin to Facilitate Enhanced Bone Regeneration. Advanced Healthcare Materials, 2015, 4, 2649-2656.	7.6	22
139	Pre-culture of mesenchymal stem cells within RGD-modified hyaluronic acid hydrogel improves their resilience to ischaemic conditions. Acta Biomaterialia, 2020, 107, 78-90.	8.3	22
140	SDF-1Î± Gene-Activated Collagen Scaffold Restores Pro-Angiogenic Wound Healing Features in Human Diabetic Adipose-Derived Stem Cells. Biomedicines, 2021, 9, 160.	3.2	21
141	An endochondral ossification approach to early stage bone repair: Use of tissueâ€engineered hypertrophic cartilage constructs as primordial templates for weightâ€bearing bone repair. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, e2147-e2150.	2.7	20
142	Collagen/GAG scaffolds activated by RALA-siMMP-9 complexes with potential for improved diabetic foot ulcer healing. Materials Science and Engineering C, 2020, 114, 111022.	7.3	20
143	Gene activated scaffolds incorporating star-shaped polypeptide-pDNA nanomedicines accelerate bone tissue regeneration<i>in vivo</i>. Biomaterials Science, 2021, 9, 4984-4999.	5.4	20
144	Scaffolds Functionalized with Matrix from Induced Pluripotent Stem Cell Fibroblasts for Diabetic Wound Healing. Advanced Healthcare Materials, 2020, 9, e2000307.	7.6	19

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145	Articulation inspired by nature: a review of biomimetic and biologically active 3D printed scaffolds for cartilage tissue engineering. Biomaterials Science, 2022, 10, 2462-2483.	5.4	19
146	Identification of stiffness-induced signalling mechanisms in cells from patent and fused sutures associated with craniosynostosis. Scientific Reports, 2017, 7, 11494.	3.3	18
147	Controlled Nonâ€Viral Gene Delivery in Cartilage and Bone Repair: Current Strategies and Future Directions. Advanced Therapeutics, 2018, 1, 1800038.	3.2	18
148	The Use of Genipin as an Effective, Biocompatible, Antiâ€Inflammatory Crossâ€Linking Method for Nerve Guidance Conduits. Advanced Biology, 2020, 4, e1900212.	3.0	18
149	Substrate Stiffness Modulates the Crosstalk Between Mesenchymal Stem Cells and Macrophages. Journal of Biomechanical Engineering, 2021, 143, .	1.3	18
150	Mechanobiology-informed regenerative medicine: Dose-controlled release of placental growth factor from a functionalized collagen-based scaffold promotes angiogenesis and accelerates bone defect healing. Journal of Controlled Release, 2021, 334, 96-105.	9.9	17
151	3D Printed Scaffolds Incorporated with Plateletâ€Rich Plasma Show Enhanced Angiogenic Potential while not Inducing Fibrosis. Advanced Functional Materials, 2022, 32, 2109915.	14.9	17
152	Repair of large osteochondritis dissecans lesions using a novel multilayered tissue engineered construct in an equine athlete. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 2785-2795.	2.7	16
153	Retinoic Acid-Loaded Collagen-Hyaluronate Scaffolds: A Bioactive Material for Respiratory Tissue Regeneration. ACS Biomaterials Science and Engineering, 2017, 3, 1381-1393.	5.2	16
154	Stem cells display a donor dependent response to escalating levels of growth factor release from extracellular matrix-derived scaffolds. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 2979-2987.	2.7	16
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156	Development of a Gene-Activated Scaffold Incorporating Multifunctional Cell-Penetrating Peptides for pSDF-1Î± Delivery for Enhanced Angiogenesis in Tissue Engineering Applications. International Journal of Molecular Sciences, 2022, 23, 1460.	4.1	15
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