

Fergal 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.

280
papers

18,508
citations

70
h-index

129
g-index

302
ext. papers

21,067
ext. citations

6.7
avg, IF

7.4
L-index

#	Paper	IF	Citations
280	Biomaterials & scaffolds for tissue engineering. <i>Materials Today</i> , 2011 , 14, 88-95	21.8	2110
279	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
278	The effect of pore size on cell adhesion in collagen-GAG scaffolds. <i>Biomaterials</i> , 2005 , 26, 433-41	15.6	1014
277	Influence of freezing rate on pore structure in freeze-dried collagen-GAG scaffolds. <i>Biomaterials</i> , 2004 , 25, 1077-86	15.6	588
276	Biomaterial based modulation of macrophage polarization: a review and suggested design principles. <i>Materials Today</i> , 2015 , 18, 313-325	21.8	467
275	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
274	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
273	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
272	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
271	A biomimetic multi-layered collagen-based scaffold for osteochondral repair. <i>Acta Biomaterialia</i> , 2014 , 10, 1996-2004	10.8	187
270	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
269	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
268	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
267	Cell-scaffold interactions in the bone tissue engineering triad. <i>European Cells and Materials</i> , 2013 , 26, 120-32	4.3	181
266	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
265	Microcrack accumulation at different intervals during fatigue testing of compact bone. <i>Journal of Biomechanics</i> , 2003 , 36, 973-80	2.9	177
264	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

263	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
262	Hypoxia-mimicking bioactive glass/collagen glycosaminoglycan composite scaffolds to enhance angiogenesis and bone repair. <i>Biomaterials</i> , 2015 , 52, 358-66	15.6	158
261	Detecting microdamage in bone. <i>Journal of Anatomy</i> , 2003 , 203, 161-72	2.9	157
260	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
259	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
258	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
257	Life in 3D is never flat: 3D models to optimise drug delivery. <i>Journal of Controlled Release</i> , 2015 , 215, 39-54	11.7	149
256	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
255	Multi-layered collagen-based scaffolds for osteochondral defect repair in rabbits. <i>Acta Biomaterialia</i> , 2016 , 32, 149-160	10.8	144
254	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
253	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
252	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
251	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
250	Staphylococcal Osteomyelitis: Disease Progression, Treatment Challenges, and Future Directions. <i>Clinical Microbiology Reviews</i> , 2018 , 31,	34	127
249	Primary cilia-mediated mechanotransduction in human mesenchymal stem cells. <i>Stem Cells</i> , 2012 , 30, 2561-70	5.8	127
248	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
247	Material stiffness influences the polarization state, function and migration mode of macrophages. <i>Acta Biomaterialia</i> , 2019 , 89, 47-59	10.8	120
246	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

245	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
244	Chitosan for gene delivery and orthopedic tissue engineering applications. <i>Molecules</i> , 2013 , 18, 5611-47	4.8	113
243	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
242	Visualisation of three-dimensional microcracks in compact bone. <i>Journal of Anatomy</i> , 2000 , 197 Pt 3, 413-20	2.9	109
241	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
240	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
239	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
238	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
237	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
236	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
235	Fibrin hydrogels functionalized with cartilage extracellular matrix and incorporating freshly isolated stromal cells as an injectable for cartilage regeneration. <i>Acta Biomaterialia</i> , 2016 , 36, 55-62	10.8	100
234	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
233	The delayed addition of human mesenchymal stem cells to pre-formed endothelial cell networks results in functional vascularization of a collagen-glycosaminoglycan scaffold in vivo. <i>Acta Biomaterialia</i> , 2013 , 9, 9303-16	10.8	96
232	An improved labelling technique for monitoring microcrack growth in compact bone. <i>Journal of Biomechanics</i> , 2002 , 35, 523-6	2.9	94
231	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
230	Dynamic compression can inhibit chondrogenesis of mesenchymal stem cells. <i>Biochemical and Biophysical Research Communications</i> , 2008 , 377, 458-462	3.4	91
229	The shape and size of hydroxyapatite particles dictate inflammatory responses following implantation. <i>Scientific Reports</i> , 2017 , 7, 2922	4.9	90
228	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

227	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
226	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
225	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
224	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
223	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
222	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
221	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
220	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
219	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
218	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
217	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
216	Influence of flow rate and scaffold pore size on cell behavior during mechanical stimulation in a flow perfusion bioreactor. <i>Biotechnology and Bioengineering</i> , 2012 , 109, 1583-94	4.9	76
215	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
214	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
213	Deformation simulation of cells seeded on a collagen-GAG scaffold in a flow perfusion bioreactor using a sequential 3D CFD-elastostatics model. <i>Medical Engineering and Physics</i> , 2009 , 31, 420-7	2.4	72
212	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
211	Osteonal crack barriers in ovine compact bone. <i>Journal of Anatomy</i> , 2006 , 208, 81-9	2.9	70
210	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

209	Advanced Strategies for Articular Cartilage Defect Repair. <i>Materials</i> , 2013 , 6, 637-668	3.5	69
208	Mechanical stimulation of osteoblasts using steady and dynamic fluid flow. <i>Tissue Engineering - Part A</i> , 2008 , 14, 1213-23	3.9	69
207	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
206	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
205	A novel collagen scaffold supports human osteogenesis--applications for bone tissue engineering. <i>Cell and Tissue Research</i> , 2010 , 340, 169-77	4.2	67
204	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
203	A prediction of cell differentiation and proliferation within a collagen-glycosaminoglycan scaffold subjected to mechanical strain and perfusive fluid flow. <i>Journal of Biomechanics</i> , 2010 , 43, 618-26	2.9	66
202	Towards in vitro vascularisation of collagen-GAG scaffolds. <i>European Cells and Materials</i> , 2011 , 21, 15-30	4.3	66
201	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
200	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
199	Tissue-specific extracellular matrix scaffolds for the regeneration of spatially complex musculoskeletal tissues. <i>Biomaterials</i> , 2019 , 188, 63-73	15.6	62
198	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
197	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
196	Electroconductive Biohybrid Collagen/Pristine Graphene Composite Biomaterials with Enhanced Biological Activity. <i>Advanced Materials</i> , 2018 , 30, e1706442	24	60
195	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
194	Bioreactors in tissue engineering. <i>Technology and Health Care</i> , 2011 , 19, 55-69	1.1	59
193	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
192	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

191	Heterogeneous linear elastic trabecular bone modelling using micro-CT attenuation data and experimentally measured heterogeneous tissue properties. <i>Journal of Biomechanics</i> , 2008 , 41, 2589-96	2.9	58
190	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
189	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
188	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
187	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
186	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
185	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
184	Biomechanical properties across trabeculae from the proximal femur of normal and ovariectomised sheep. <i>Journal of Biomechanics</i> , 2009 , 42, 498-503	2.9	51
183	Bone as a composite material: The role of osteons as barriers to crack growth in compact bone. <i>International Journal of Fatigue</i> , 2007 , 29, 1051-1056	5	51
182	Mesenchymal stem cell fate following non-viral gene transfection strongly depends on the choice of delivery vector. <i>Acta Biomaterialia</i> , 2017 , 55, 226-238	10.8	50
181	Pore-forming bioinks to enable spatio-temporally defined gene delivery in bioprinted tissues. <i>Journal of Controlled Release</i> , 2019 , 301, 13-27	11.7	50
180	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
179	Microcracks in cortical bone: how do they affect bone biology?. <i>Current Osteoporosis Reports</i> , 2005 , 3, 39-45	5.4	50
178	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
177	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
176	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
175	The rationale and emergence of electroconductive biomaterial scaffolds in cardiac tissue engineering. <i>APL Bioengineering</i> , 2019 , 3, 041501	6.6	47
174	Compression data on bovine bone confirms that a "stressed volume" principle explains the variability of fatigue strength results. <i>Journal of Biomechanics</i> , 1999 , 32, 1199-203	2.9	47

173	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
172	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
171	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
170	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
169	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
168	A stimuli responsive liposome loaded hydrogel provides flexible on-demand release of therapeutic agents. <i>Acta Biomaterialia</i> , 2017 , 48, 110-119	10.8	43
167	DNA Origami: Folded DNA-Nanodevices That Can Direct and Interpret Cell Behavior. <i>Advanced Materials</i> , 2016 , 28, 5509-24	24	42
166	Biomechanics and mechanobiology in osteochondral tissues. <i>Regenerative Medicine</i> , 2008 , 3, 743-59	2.5	41
165	Scaffold-Based microRNA Therapies in Regenerative Medicine and Cancer. <i>Advanced Healthcare Materials</i> , 2018 , 7, 1700695	10.1	40
164	Microcracks in compact bone: a three-dimensional view. <i>Journal of Anatomy</i> , 2006 , 209, 119-24	2.9	40
163	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
162	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
161	The nature of fatigue damage in bone. <i>International Journal of Fatigue</i> , 2000 , 22, 847-853	5	39
160	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
159	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
158	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
157	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
156	Effects of ovariectomy on bone turnover, porosity, and biomechanical properties in ovine compact bone 12 months postsurgery. <i>Journal of Orthopaedic Research</i> , 2009 , 27, 303-9	3.8	37

155	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
154	A Physicochemically Optimized and Neuroconductive Biphasic Nerve Guidance Conduit for Peripheral Nerve Repair. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1700954	10.1	35
153	A physiologically relevant 3D collagen-based scaffold-neuroblastoma cell system exhibits chemosensitivity similar to orthotopic xenograft models. <i>Acta Biomaterialia</i> , 2018 , 70, 84-97	10.8	35
152	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
151	Collagen scaffolds for orthopedic regenerative medicine. <i>Jom</i> , 2011 , 63, 66-73	2.1	34
150	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
149	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
148	Non-viral gene-activated matrices: next generation constructs for bone repair. <i>Organogenesis</i> , 2013 , 9, 22-8	1.7	33
147	The behaviour of microcracks in compact bone. <i>European Journal of Morphology</i> , 2005 , 42, 71-9		33
146	Flexor tendon repair: a comparative study between a knotless barbed suture repair and a traditional four-strand monofilament suture repair. <i>Journal of Hand Surgery: European Volume</i> , 2014 , 39, 40-5	1.4	32
145	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
144	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
143	Creep does not contribute to fatigue in bovine trabecular bone. <i>Journal of Biomechanical Engineering</i> , 2004 , 126, 321-9	2.1	31
142	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
141	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
140	Temporal changes in bone composition, architecture, and strength following estrogen deficiency in osteoporosis. <i>Calcified Tissue International</i> , 2012 , 91, 440-9	3.9	30
139	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
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. <i>Acta Biomaterialia</i> , 2018 , 75, 115-128	10.8	29

137	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
136	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
135	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
134	Differentiation of Vascular Stem Cells Contributes to Ectopic Calcification of Atherosclerotic Plaque. <i>Stem Cells</i> , 2016 , 34, 913-23	5.8	28
133	Future Perspectives on the Role of Stem Cells and Extracellular Vesicles in Vascular Tissue Regeneration. <i>Frontiers in Cardiovascular Medicine</i> , 2018 , 5, 86	5.4	28
132	Nanoparticle-mediated siRNA delivery assessed in a 3D co-culture model simulating prostate cancer bone metastasis. <i>International Journal of Pharmaceutics</i> , 2016 , 511, 1058-69	6.5	27
131	Estrogen withdrawal from osteoblasts and osteocytes causes increased mineralization and apoptosis. <i>Hormone and Metabolic Research</i> , 2014 , 46, 537-45	3.1	27
130	The effects of increased intracortical remodeling on microcrack behaviour in compact bone. <i>Bone</i> , 2008 , 43, 889-93	4.7	27
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