Mauro Alini

List of Publications by Citations

195 papers	11,171 citations	61 h-index	99 g-index
232 ext. papers	12,760 ext. citations	5.6 avg, IF	6.41 L-index

#	Paper	IF	Citations
195	The human lumbar intervertebral disc: evidence for changes in the biosynthesis and denaturation of the extracellular matrix with growth, maturation, ageing, and degeneration. *Journal of Clinical Investigation*, **1996**, 98, 996-1003	15.9	741
194	Are animal models useful for studying human disc disorders/degeneration?. *European Spine Journal*, **2008**, 17, 2-19	2.7	502
193	Exhaustion of nucleus pulposus progenitor cells with ageing and degeneration of the intervertebral disc. *Nature Communications*, **2012**, 3, 1264	17.4	267
192	Tissue engineering for articular cartilage repair--the state of the art. *European Cells and Materials*, **2013**, 25, 248-67	4.3	258
191	Biomaterials for articular cartilage tissue engineering: Learning from biology. *Acta Biomaterialia*, **2018**, 65, 1-20	10.8	257
190	Aggrecan degradation in human intervertebral disc and articular cartilage. *Biochemical Journal*, **1997**, 326 (Pt 1), 235-41	3.8	250
189	Concise review: Bone marrow-derived mesenchymal stem cells change phenotype following in vitro culture: implications for basic research and the clinic. *Stem Cells*, **2014**, 32, 1713-23	5.8	229
188	The use of biodegradable polyurethane scaffolds for cartilage tissue engineering: potential and limitations. *Biomaterials*, **2003**, 24, 5163-71	15.6	223
187	Compression-induced changes in intervertebral disc properties in a rat tail model. *Spine*, **1999**, 24, 996-1002	3.9	217
186	2004 Young Investigator Award Winner: vertebral endplate marrow contact channel occlusions and intervertebral disc degeneration. *Spine*, **2005**, 30, 167-73	3.3	213
185	Diversity of intervertebral disc cells: phenotype and function. *Journal of Anatomy*, **2012**, 221, 480-96	2.9	182
184	Effects of mechanical loading on intervertebral disc metabolism in vivo. *Journal of Bone and Joint Surgery - Series A*, **2006**, 88 Suppl 2, 41-6	5.6	170
183	An injectable vehicle for nucleus pulposus cell-based therapy. *Biomaterials*, **2011**, 32, 2862-70	15.6	161
182	The effect of human osteoblasts on proliferation and neo-vessel formation of human umbilical vein endothelial cells in a long-term 3D co-culture on polyurethane scaffolds. *Biomaterials*, **2008**, 29, 4217-26	15.6	159
181	A phenotypic comparison of intervertebral disc and articular cartilage cells in the rat. *European Spine Journal*, **2007**, 16, 2174-85	2.7	154
180	Challenges and strategies in the repair of ruptured annulus fibrosus. *European Cells and Materials*, **2013**, 25, 1-21	4.3	148
179	Mechanical load modulates chondrogenesis of human mesenchymal stem cells through the TGF-beta pathway. *Journal of Cellular and Molecular Medicine*, **2010**, 14, 1338-46	5.6	135

178	The potential and limitations of a cell-seeded collagen/hyaluronan scaffold to engineer an intervertebral disc-like matrix. *Spine*, **2003**, 28, 446-54; discussion 453	3.3	135
177	Anabolic and catabolic mRNA levels of the intervertebral disc vary with the magnitude and frequency of in vivo dynamic compression. *Journal of Orthopaedic Research*, **2004**, 22, 1193-200	3.8	135
176	Fibrin-polyurethane composites for articular cartilage tissue engineering: a preliminary analysis. *Tissue Engineering*, **2005**, 11, 1562-73		123
175	Variations in gene and protein expression in human nucleus pulposus in comparison with annulus fibrosus and cartilage cells: potential associations with aging and degeneration. *Osteoarthritis and Cartilage*, **2010**, 18, 416-23	6.2	122
174	A combination of shear and dynamic compression leads to mechanically induced chondrogenesis of human mesenchymal stem cells. *European Cells and Materials*, **2011**, 22, 214-25	4.3	119
173	Surface motion upregulates superficial zone protein and hyaluronan production in chondrocyte-seeded three-dimensional scaffolds. *Tissue Engineering*, **2005**, 11, 249-56		118
172	Local drug delivery for enhancing fracture healing in osteoporotic bone. *Acta Biomaterialia*, **2015**, 11, 412-34	10.8	116
171	Physical stimulation of chondrogenic cells in vitro: a review. *Clinical Orthopaedics and Related Research*, **2011**, 469, 2764-72	2.2	116
170	In vivo remodeling of intervertebral discs in response to short- and long-term dynamic compression. *Journal of Orthopaedic Research*, **2009**, 27, 1235-42	3.8	116
169	Role of hypoxia and growth and differentiation factor-5 on differentiation of human mesenchymal stem cells towards intervertebral nucleus pulposus-like cells. *European Cells and Materials*, **2011**, 21, 533-47	4.3	113
168	Surface-enrichment with hydroxyapatite nanoparticles in stereolithography-fabricated composite polymer scaffolds promotes bone repair. *Acta Biomaterialia*, **2017**, 54, 386-398	10.8	107
167	Chondrogenesis of human bone marrow mesenchymal stem cells in fibrin-polyurethane composites is modulated by frequency and amplitude of dynamic compression and shear stress. *Tissue Engineering - Part A*, **2010**, 16, 575-84	3.9	107
166	Human endothelial cells inhibit BMSC differentiation into mature osteoblasts in vitro by interfering with osterix expression. *Journal of Cellular Biochemistry*, **2006**, 98, 992-1006	4.7	102
165	Differential phenotype of intervertebral disc cells: microarray and immunohistochemical analysis of canine nucleus pulposus and anulus fibrosus. *Spine*, **2009**, 34, 1448-56	3.3	101
164	Articular fibrocartilage - Why does hyaline cartilage fail to repair?. *Advanced Drug Delivery Reviews*, **2019**, 146, 289-305	18.5	100
163	A biological approach to treating disc degeneration: not for today, but maybe for tomorrow. *European Spine Journal*, **2002**, 11 Suppl 2, S215-20	2.7	98
162	Mechanical stimulation of mesenchymal stem cells: Implications for cartilage tissue engineering. *Journal of Orthopaedic Research*, **2018**, 36, 52-63	3.8	95
161	Tailoring thermoreversible hyaluronan hydrogels by "click" chemistry and RAFT polymerization for cell and drug therapy. *Biomacromolecules*, **2010**, 11, 1261-72	6.9	95

160	Cells and biomaterials in cartilage tissue engineering. *Regenerative Medicine*, **2009**, 4, 81-98	2.5	94
159	Quantitative magnetic resonance imaging in the assessment of degenerative disc disease. *Magnetic Resonance in Medicine*, **1998**, 40, 900-7	4.4	89
158	Effect of limited nutrition on in situ intervertebral disc cells under simulated-physiological loading. *Spine*, **2009**, 34, 1264-71	3.3	88
157	Tribology approach to the engineering and study of articular cartilage. *Tissue Engineering*, **2004**, 10, 1436-45		88
156	In vitro organ culture of the bovine intervertebral disc: effects of vertebral endplate and potential for mechanobiology studies. *Spine*, **2006**, 31, 515-22	3.3	84
155	An in vitro organ culturing system for intervertebral disc explants with vertebral endplates: a feasibility study with ovine caudal discs. *Spine*, **2006**, 31, 2665-73	3.3	83
154	Improving chondrogenesis: potential and limitations of SOX9 gene transfer and mechanical stimulation for cartilage tissue engineering. *Tissue Engineering - Part A*, **2010**, 16, 1845-55	3.9	77
153	A Stimuli-Responsive Nanocomposite for 3D Anisotropic Cell-Guidance and Magnetic Soft Robotics. *Advanced Functional Materials*, **2019**, 29, 1804647	15.6	77
152	The combined effects of limited nutrition and high-frequency loading on intervertebral discs with endplates. *Spine*, **2010**, 35, 1744-52	3.3	76
151	Injectable thermoreversible hyaluronan-based hydrogels for nucleus pulposus cell encapsulation. *European Spine Journal*, **2012**, 21 Suppl 6, S839-49	2.7	75
150	3D bioprinting of a hyaluronan bioink through enzymatic-and visible light-crosslinking. *Biofabrication*, **2018**, 10, 044104	10.5	74
149	Effects of simple and complex motion patterns on gene expression of chondrocytes seeded in 3D scaffolds. *Tissue Engineering*, **2006**, 12, 3171-9		72
148	Homing of mesenchymal stem cells in induced degenerative intervertebral discs in a whole organ culture system. *Spine*, **2012**, 37, 1865-73	3.3	71
147	A combined biomaterial and cellular approach for annulus fibrosus rupture repair. *Biomaterials*, **2015**, 42, 11-9	15.6	70
146	Thermoreversible hyaluronan-based hydrogel supports in vitro and ex vivo disc-like differentiation of human mesenchymal stem cells. *Spine Journal*, **2013**, 13, 1627-39	4	70
145	Chondrogenesis of human bone marrow mesenchymal stem cells in fibrin-polyurethane composites. *Tissue Engineering - Part A*, **2009**, 15, 1729-37	3.9	69
144	Degradation of synthetic polymeric scaffolds for bone and cartilage tissue repairs. *Soft Matter*, **2009**, 5, 938	3.6	69
143	In serum-free culture thyroid hormones can induce full expression of chondrocyte hypertrophy leading to matrix calcification. *Journal of Bone and Mineral Research*, **1996**, 11, 105-13	6.3	68

142	A surprisingly poor correlation between in vitro and in vivo testing of biomaterials for bone regeneration: results of a multicentre analysis. *European Cells and Materials*, **2016**, 31, 312-22	4.3	66
141	Identification of cell surface-specific markers to target human nucleus pulposus cells: expression of carbonic anhydrase XII varies with age and degeneration. *Arthritis and Rheumatism*, **2011**, 63, 3876-86		64
140	Bioreactor mechanically guided 3D mesenchymal stem cell chondrogenesis using a biocompatible novel thermo-reversible methylcellulose-based hydrogel. *Scientific Reports*, **2017**, 7, 45018	4.9	62
139	Strategies to Stimulate Mobilization and Homing of Endogenous Stem and Progenitor Cells for Bone Tissue Repair. *Frontiers in Bioengineering and Biotechnology*, **2015**, 3, 79	5.8	62
138	Direct cell-cell contact between mesenchymal stem cells and endothelial progenitor cells induces a pericyte-like phenotype in vitro. *BioMed Research International*, **2014**, 2014, 395781	3	62
137	Cellular and matrix changes before and at the time of calcification in the growth plate studied in vitro: arrest of type X collagen synthesis and net loss of collagen when calcification is initiated. *Journal of Bone and Mineral Research*, **1994**, 9, 1077-87	6.3	62
136	Effect of reduced oxygen tension and long-term mechanical stimulation on chondrocyte-polymer constructs. *Cell and Tissue Research*, **2008**, 331, 473-83	4.2	61
135	Extracorporeal shock wave-mediated changes in proliferation, differentiation, and gene expression of human osteoblasts. *Journal of Trauma*, **2008**, 65, 1402-10		60
134	Chondrocytes seeded onto poly (L/DL-lactide) 80%/20% porous scaffolds: a biochemical evaluation. *Journal of Biomedical Materials Research Part B*, **2003**, 66, 571-9		60
133	The effect of hyaluronan-based delivery of stromal cell-derived factor-1 on the recruitment of MSCs in degenerating intervertebral discs. *Biomaterials*, **2014**, 35, 8144-53	15.6	59
132	Tissue engineering and regenerative approaches to improving the healing of large bone defects. *European Cells and Materials*, **2016**, 32, 87-110	4.3	59
131	CCL5/RANTES is a key chemoattractant released by degenerative intervertebral discs in organ culture. *European Cells and Materials*, **2014**, 27, 124-36; discussion 136	4.3	58
130	Differential response of human bone marrow stromal cells to either TGF-β1 or rhGDF-5. *European Spine Journal*, **2011**, 20, 962-71	2.7	56
129	In vitro osteogenic potential of human mesenchymal stem cells is predicted by Runx2/Sox9 ratio. *Tissue Engineering - Part A*, **2015**, 21, 115-23	3.9	54
128	Selective assembly and remodelling of collagens II and IX associated with expression of the chondrocyte hypertrophic phenotype. *Developmental Dynamics*, **2000**, 218, 648-62	2.9	51
127	Asymmetrical seeding of MSCs into fibrin-poly(ester-urethane) scaffolds and its effect on mechanically induced chondrogenesis. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 2912-2921	4.4	50
126	Single step synthesis and characterization of thermoresponsive hyaluronan hydrogels. *Carbohydrate Polymers*, **2012**, 90, 1378-85	10.3	50
125	Chondrocyte gene expression under applied surface motion. *Biorheology*, **2006**, 43, 259-69	1.7	50

124	Sliding motion modulates stiffness and friction coefficient at the surface of tissue engineered cartilage. *Osteoarthritis and Cartilage*, **2012**, 20, 288-95	6.2	49
123	An In Vitro Investigation of Platelet-Rich Plasma-Gel as a Cell and Growth Factor Delivery Vehicle for Tissue Engineering. *Tissue Engineering - Part C: Methods*, **2016**, 22, 49-58	2.9	47
122	Platelet Rich Plasma and Hyaluronic Acid Blend for the Treatment of Osteoarthritis: Rheological and Biological Evaluation. *PLoS ONE*, **2016**, 11, e0157048	3.7	47
121	CD34/CD133 enriched bone marrow progenitor cells promote neovascularization of tissue engineered constructs in vivo. *Stem Cell Research*, **2014**, 13, 465-77	1.6	45
120	Effect of mechanical loading on mRNA levels of common endogenous controls in articular chondrocytes and intervertebral disk. *Analytical Biochemistry*, **2005**, 341, 372-5	3.1	44
119	Migration of bone marrow-derived cells for endogenous repair in a new tail-looping disc degeneration model in the mouse: a pilot study. *Spine Journal*, **2015**, 15, 1356-65	4	42
118	Precise tailoring of tyramine-based hyaluronan hydrogel properties using DMTMM conjugation. *Carbohydrate Polymers*, **2015**, 115, 325-33	10.3	42
117	Evaluation of biomimetic hyaluronic-based hydrogels with enhanced endogenous cell recruitment and cartilage matrix formation. *Acta Biomaterialia*, **2020**, 101, 293-303	10.8	41
116	Chondrogenesis of human bone marrow-derived mesenchymal stem cells is modulated by complex mechanical stimulation and adenoviral-mediated overexpression of bone morphogenetic protein 2. *Tissue Engineering - Part A*, **2013**, 19, 1285-94	3.9	40
115	Epsilon-aminocaproic acid is a useful fibrin degradation inhibitor for cartilage tissue engineering. *Tissue Engineering - Part A*, **2009**, 15, 2309-13	3.9	40
114	Polyurethane scaffold with in situ swelling capacity for nucleus pulposus replacement. *Biomaterials*, **2016**, 84, 196-209	15.6	38
113	The transpedicular approach as an alternative route for intervertebral disc regeneration. *Spine*, **2013**, 38, E319-24	3.3	38
112	Microfabrication of Photo-Cross-Linked Hyaluronan Hydrogels by Single- and Two-Photon Tyramine Oxidation. *Biomacromolecules*, **2015**, 16, 2624-30	6.9	36
111	Statin-induced calcification in human mesenchymal stem cells is cell death related. *Journal of Cellular and Molecular Medicine*, **2009**, 13, 4465-73	5.6	36
110	Mesenchymal Stem Cells Derived from Human Bone Marrow. *Methods in Molecular Biology*, **2015**, 1340, 41-52	1.4	36
109	Biomimetic fibrin-hyaluronan hydrogels for nucleus pulposus regeneration. *Regenerative Medicine*, **2014**, 9, 309-26	2.5	35
108	Self-Healing Dynamic Hydrogel as Injectable Shock-Absorbing Artificial Nucleus Pulposus. *Biomacromolecules*, **2017**, 18, 2360-2370	6.9	35
107	Joint mimicking mechanical load activates TGFβ1 in fibrin-poly(ester-urethane) scaffolds seeded with mesenchymal stem cells. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 2663-2668	4.4	33

106	Gene Expression Profiling Identifies Interferon Signalling Molecules and IGFBP3 in Human Degenerative Annulus Fibrosus. *Scientific Reports*, **2015**, 5, 15662	4.9	32
105	Chondrogenesis of mesenchymal stem cells for cartilage tissue engineering. *Histology and Histopathology*, **2013**, 28, 23-42	1.4	32
104	Heterodimeric BMP-2/7 for nucleus pulposus regeneration-In vitro and ex vivo studies. *Journal of Orthopaedic Research*, **2017**, 35, 51-60	3.8	31
103	Platelet-rich plasma induces annulus fibrosus cell proliferation and matrix production. *European Spine Journal*, **2014**, 23, 745-53	2.7	31
102	Platelet-released supernatant induces osteoblastic differentiation of human mesenchymal stem cells: potential role of BMP-2. *European Cells and Materials*, **2010**, 20, 403-14	4.3	31
101	Three-Dimensional Printing of a Tyramine Hyaluronan Derivative with Double Gelation Mechanism for Independent Tuning of Shear Thinning and Postprinting Curing. *ACS Biomaterials Science and Engineering*, **2018**, 4, 3088-3098	5.5	30
100	Human Articular Cartilage Progenitor Cells Are Responsive to Mechanical Stimulation and Adenoviral-Mediated Overexpression of Bone-Morphogenetic Protein 2. *PLoS ONE*, **2015**, 10, e0136229	3.7	30
99	Farnesol-modified biodegradable polyurethanes for cartilage tissue engineering. *Journal of Biomedical Materials Research - Part A*, **2010**, 92, 393-408	5.4	30
98	Systemic blood plasma CCL5 and CXCL6: Potential biomarkers for human lumbar disc degeneration. *European Cells and Materials*, **2016**, 31, 1-10	4.3	30
97	Platelet released growth factors boost expansion of bone marrow derived CD34(+) and CD133(+) endothelial progenitor cells for autologous grafting. *Platelets*, **2011**, 22, 422-32	3.6	29
96	Chondrogenic differentiation of human bone marrow-derived mesenchymal stem cells in a simulated osteochondral environment is hydrogel dependent. *European Cells and Materials*, **2014**, 27, 112-23; discussion 123	4.3	29
95	Cells and secretome--towards endogenous cell re-activation for cartilage repair. *Advanced Drug Delivery Reviews*, **2015**, 84, 135-45	18.5	27
94	Lessons to be learned and future directions for intervertebral disc biomaterials. *Acta Biomaterialia*, **2018**, 78, 13-22	10.8	27
93	Pericyte plasticity - comparative investigation of the angiogenic and multilineage potential of pericytes from different human tissues. *European Cells and Materials*, **2016**, 31, 236-49	4.3	27
92	An intervertebral disc whole organ culture system to investigate proinflammatory and degenerative disc disease condition. *Journal of Tissue Engineering and Regenerative Medicine*, **2018**, 12, e2051-e2061	4.4	26
91	Enhanced adenovirus transduction of hMSCs using 3D hydrogel cell carriers. *Molecular Biotechnology*, **2013**, 53, 207-16	3	26
90	Relevance of bioreactors and whole tissue cultures for the translation of new therapies to humans. *Journal of Orthopaedic Research*, **2018**, 36, 10-21	3.8	26
89	Potential and limitations of intervertebral disc endogenous repair. *Current Stem Cell Research and Therapy*, **2015**, 10, 329-38	3.6	26

88	Enhancing inflammatory and chemotactic signals to regulate bone regeneration. *European Cells and Materials*, **2014**, 28, 320-34	4.3	26
87	Mechanically stimulated osteochondral organ culture for evaluation of biomaterials in cartilage repair studies. *Acta Biomaterialia*, **2018**, 81, 256-266	10.8	26
86	Tissue mimetic hyaluronan bioink containing collagen fibers with controlled orientation modulating cell migration and alignment. *Materials Today Bio*, **2020**, 7, 100058	9.9	25
85	Physicobiochemical synergism through gene therapy and functional tissue engineering for in vitro chondrogenesis. *Tissue Engineering - Part A*, **2009**, 15, 2513-24	3.9	25
84	Differences in human mesenchymal stem cell secretomes during chondrogenic induction. *European Cells and Materials*, **2016**, 31, 221-35	4.3	25
83	CD146 defines commitment of cultured annulus fibrosus cells to express a contractile phenotype. *Journal of Orthopaedic Research*, **2016**, 34, 1361-72	3.8	25
82	Injectable hyaluronic acid down-regulates interferon signaling molecules, IGFBP3 and IFIT3 in the bovine intervertebral disc. *Acta Biomaterialia*, **2017**, 52, 118-129	10.8	24
81	CD146/MCAM distinguishes stem cell subpopulations with distinct migration and regenerative potential in degenerative intervertebral discs. *Osteoarthritis and Cartilage*, **2019**, 27, 1094-1105	6.2	24
80	Influence of extremely low frequency, low energy electromagnetic fields and combined mechanical stimulation on chondrocytes in 3-D constructs for cartilage tissue engineering. *Bioelectromagnetics*, **2014**, 35, 116-28	1.6	24
79	Differential Regulation of circRNA, miRNA, and piRNA during Early Osteogenic and Chondrogenic Differentiation of Human Mesenchymal Stromal Cells. *Cells*, **2020**, 9,	7.9	24
78	Clinically relevant hydrogel-based on hyaluronic acid and platelet rich plasma as a carrier for mesenchymal stem cells: Rheological and biological characterization. *Journal of Orthopaedic Research*, **2017**, 35, 2109-2116	3.8	23
77	Mechanical loading of intervertebral disc modulates microglia proliferation, activation, and chemotaxis. *Osteoarthritis and Cartilage*, **2018**, 26, 978-987	6.2	23
76	Biodegradable electrospun scaffolds for annulus fibrosus tissue engineering: effect of scaffold structure and composition on annulus fibrosus cells in vitro. *Tissue Engineering - Part A*, **2014**, 20, 672-82	3.9	23
75	Ageing affects chondroitin sulfates and their synthetic enzymes in the intervertebral disc. *Signal Transduction and Targeted Therapy*, **2017**, 2, 17049	21	23
74	Visible Light-Induced 3D Bioprinting Technologies and Corresponding Bioink Materials for Tissue Engineering: A Review. *Engineering*, **2020**, 7, 966-966	9.7	23
73	Production and evaluation of decellularized extracellular matrix hydrogel for cartilage regeneration derived from knee cartilage. *Journal of Biomedical Materials Research - Part A*, **2020**, 108, 938-946	5.4	22
72	Chasing Chimeras - The elusive stable chondrogenic phenotype. *Biomaterials*, **2019**, 192, 199-225	15.6	22
71	Multivalent dendrimers presenting spatially controlled clusters of binding epitopes in thermoresponsive hyaluronan hydrogels. *Acta Biomaterialia*, **2014**, 10, 4340-50	10.8	21

70	Injectable Hyaluronan Hydrogels with Peptide-Binding Dendrimers Modulate the Controlled Release of BMP-2 and TGF-1. *Macromolecular Bioscience*, **2015**, 15, 1035-44	5.5	21
69	Phenotypic Characterization of Bone Marrow Mononuclear Cells and Derived Stromal Cell Populations from Human Iliac Crest, Vertebral Body and Femoral Head. *International Journal of Molecular Sciences*, **2019**, 20,	6.3	20
68	A Nucleotomy Model with Intact Annulus Fibrosus to Test Intervertebral Disc Regeneration Strategies. *Tissue Engineering - Part C: Methods*, **2015**, 21, 1117-24	2.9	20
67	The effect of sliding velocity on chondrocytes activity in 3D scaffolds. *Journal of Biomechanics*, **2009**, 42, 424-9	2.9	20
66	Articular Joint-Simulating Mechanical Load Activates Endogenous TGF-In a Highly Cellularized Bioadhesive Hydrogel for Cartilage Repair. *American Journal of Sports Medicine*, **2020**, 48, 210-221	6.8	20
65	Development of an ex vivo cavity model to study repair strategies in loaded intervertebral discs. *European Spine Journal*, **2016**, 25, 2898-908	2.7	20
64	Bioreactor-Induced Chondrocyte Maturation Is Dependent on Cell Passage and Onset of Loading. *Cartilage*, **2013**, 4, 165-76	3	19
63	Varying regional topology within knee articular chondrocytes under simulated in vivo conditions. *Tissue Engineering - Part A*, **2011**, 17, 451-61	3.9	19
62	Induction of Osteogenic Differentiation in Human Mesenchymal Stem Cells by Crosstalk with Osteoblasts. *BioResearch Open Access*, **2015**, 4, 121-30	2.4	18
61	Orbital floor repair using patient specific osteoinductive implant made by stereolithography. *Biomaterials*, **2020**, 233, 119721	15.6	18
60	Bioprinting Tissue Analogues with Decellularized Extracellular Matrix Bioink for Regeneration and Tissue Models of Cartilage and Intervertebral Discs. *Advanced Functional Materials*, **2020**, 30, 1909044	15.6	17
59	The calcification potential of human MSCs can be enhanced by interleukin-1in osteogenic medium. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 564-571	4.4	16
58	The osteogenic differentiation of human osteoprogenitor cells on Anodic-Plasma-Chemical treated Ti6Al7Nb. *Biomaterials*, **2011**, 32, 672-80	15.6	16
57	Preclinical Testing of Anti-inflammatory Drugs in a Bovine Intervertebral Degenerative Disc Model. *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, 583	5.8	15
56	Enhanced chondrogenic phenotype of primary bovine articular chondrocytes in Fibrin-Hyaluronan hydrogel by multi-axial mechanical loading and FGF18. *Acta Biomaterialia*, **2020**, 105, 170-179	10.8	15
55	Combined release of platelet-rich plasma and 3D-mesenchymal stem cell encapsulation in alginate hydrogels modified by the presence of silica. *Journal of Materials Chemistry*, **2011**, 21, 4086		15
54	BMP2 and TGF-Cooperate Differently during Synovial-Derived Stem-Cell Chondrogenesis in a Dexamethasone-Dependent Manner. *Cells*, **2019**, 8,	7.9	14
53	Mesenchymal Stem Cell Homing Into Intervertebral Discs Enhances the Tie2-positive Progenitor Cell Population, Prevents Cell Death, and Induces a Proliferative Response. *Spine*, **2019**, 44, 1613-1622	3.3	14

52	Intervertebral disc organ culture for the investigation of disc pathology and regeneration - benefits, limitations, and future directions of bioreactors. *Connective Tissue Research*, **2020**, 61, 304-321	3.3	14
51	State of art and limitations in genetic engineering to induce stable chondrogenic phenotype. *Biotechnology Advances*, **2018**, 36, 1855-1869	17.8	13
50	Unique glycosignature for intervertebral disc and articular cartilage cells and tissues in immaturity and maturity. *Scientific Reports*, **2016**, 6, 23062	4.9	13
49	Monitoring live human mesenchymal stromal cell differentiation and subsequent selection using fluorescent RNA-based probes. *Scientific Reports*, **2016**, 6, 26014	4.9	13
48	Regulation of Inflammatory Response in Human Osteoarthritic Chondrocytes by Novel Herbal Small Molecules. *International Journal of Molecular Sciences*, **2019**, 20,	6.3	13
47	The Tissue Renin-Angiotensin System and Its Role in the Pathogenesis of Major Human Diseases: Quo Vadis?. *Cells*, **2021**, 10,	7.9	13
46	Fabrication of cell-compatible hyaluronan hydrogels with a wide range of biophysical properties through high tyramine functionalization. *Journal of Materials Chemistry B*, **2017**, 5, 2355-2363	7.3	12
45	Intervertebral disc response to stem cell treatment is conditioned by disc state and cell carrier: An study. *Journal of Orthopaedic Translation*, **2017**, 9, 43-51	4.2	12
44	A doxycycline inducible, adenoviral bone morphogenetic protein-2 gene delivery system to bone. *Journal of Tissue Engineering and Regenerative Medicine*, **2018**, 12, e106-e118	4.4	12
43	Deciphering mechanical regulation of chondrogenesis in fibrin-polyurethane composite scaffolds enriched with human mesenchymal stem cells: a dual computational and experimental approach. *Tissue Engineering - Part A*, **2014**, 20, 1197-212	3.9	12
42	Sound-induced morphogenesis of multicellular systems for rapid orchestration of vascular networks. *Biofabrication*, **2020**,	10.5	12
41	Isolation of high-quality RNA from intervertebral disc tissue via pronase predigestion and tissue pulverization. *JOR Spine*, **2018**, 1, e1017	3.7	12
40	Fibrin-Hyaluronic Acid Hydrogel (RegenoGel) with Fibroblast Growth Factor-18 for In Vitro 3D Culture of Human and Bovine Nucleus Pulposus Cells. *International Journal of Molecular Sciences*, **2019**, 20,	6.3	11
39	Platelet-Rich Plasma as an Autologous and Proangiogenic Cell Delivery System. *Mediators of Inflammation*, **2017**, 2017, 1075975	4.3	11
38	Five Days Granulocyte Colony-Stimulating Factor Treatment Increases Bone Formation and Reduces Gap Size of a Rat Segmental Bone Defect: A Pilot Study. *Frontiers in Bioengineering and Biotechnology*, **2018**, 6, 5	5.8	10
37	Cells and Biomaterials for Intervertebral Disc Regeneration **2010**, 2, 1-104		10
36	Improved Chondrogenic Differentiation of rAAV SOX9-Modified Human MSCs Seeded in Fibrin-Polyurethane Scaffolds in a Hydrodynamic Environment. *International Journal of Molecular Sciences*, **2018**, 19,	6.3	10
35	Novel stepwise model of intervertebral disc degeneration with intact annulus fibrosus to test regeneration strategies. *Journal of Orthopaedic Research*, **2018**, 36, 2460-2468	3.8	9

34	Hyaluronan supplementation as a mechanical regulator of cartilage tissue development under joint-kinematic-mimicking loading. *Journal of the Royal Society Interface*, **2017**, 14,	4.1	9
33	Proinflammatory intervertebral disc cell and organ culture models induced by tumor necrosis factor alpha. *JOR Spine*, **2020**, 3, e1104	3.7	9
32	Morphological and biomechanical effects of annulus fibrosus injury and repair in an ovine cervical model. *JOR Spine*, **2020**, 3, e1074	3.7	8
31	Endothelial Progenitor Cell Fraction Contained in Bone Marrow-Derived Mesenchymal Stem Cell Populations Impairs Osteogenic Differentiation. *BioMed Research International*, **2015**, 2015, 659542	3	8
30	The tissue-renin-angiotensin-system of the human intervertebral disc. *European Cells and Materials*, **2020**, 40, 115-132	4.3	8
29	Effect of the CCL5-Releasing Fibrin Gel for Intervertebral Disc Regeneration. *Cartilage*, **2020**, 11, 169-180	3	8
28	Effects of Level, Loading Rate, Injury and Repair on Biomechanical Response of Ovine Cervical Intervertebral Discs. *Annals of Biomedical Engineering*, **2018**, 46, 1911-1920	4.7	8
27	In vitro simulation of the early proinflammatory phase in fracture healing reveals strong immunomodulatory effects of CD146-positive mesenchymal stromal cells. *Journal of Tissue Engineering and Regenerative Medicine*, **2019**, 13, 1466-1481	4.4	6
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