Farshid Guilak

List of Publications by Year
in descending order

427 papers	41,949 citations	1463 107 h-index	3487 182 g-index
457 all docs	457 docs citations	457 times ranked	33259 citing authors

#	Article	IF	Citations
1	Control of Stem Cell Fate by Physical Interactions with the Extracellular Matrix. Cell Stem Cell, 2009, 5, 17-26.	11.1	1,669
2	RNA-guided gene activation by CRISPR-Cas9â€"based transcription factors. Nature Methods, 2013, 10, 973-976.	19.0	1,105
3	Adipose-derived adult stem cells: isolation, characterization, and differentiation potential. Cytotherapy, 2003, 5, 362-369.	0.7	964
4	Chondrogenic differentiation of adipose-derived adult stem cells in agarose, alginate, and gelatin scaffolds. Biomaterials, 2004, 25, 3211-3222.	11.4	728
5	3D Printing of Highly Stretchable and Tough Hydrogels into Complex, Cellularized Structures. Advanced Materials, 2015, 27, 4035-4040.	21.0	720
6	A biomimetic three-dimensional woven composite scaffold for functional tissue engineering of cartilage. Nature Materials, 2007, 6, 162-167.	27.5	672
7	Chondrogenic Potential of Adipose Tissue-Derived Stromal Cells in Vitro and in Vivo. Biochemical and Biophysical Research Communications, 2002, 290, 763-769.	2.1	626
8	Nanotopography-induced changes in focal adhesions, cytoskeletal organization, and mechanical properties of human mesenchymal stem cells. Biomaterials, 2010, 31, 1299-1306.	11.4	618
9	Functional Tissue Engineering: The Role of Biomechanics. Journal of Biomechanical Engineering, 2000, 122, 570-575.	1.3	538
10	Postâ€traumatic osteoarthritis: Improved understanding and opportunities for early intervention. Journal of Orthopaedic Research, 2011, 29, 802-809.	2.3	511
11	Viscoelastic Properties of the Cell Nucleus. Biochemical and Biophysical Research Communications, 2000, 269, 781-786.	2.1	506
12	Clonal analysis of the differentiation potential of human adiposeâ€derived adult stem cells. Journal of Cellular Physiology, 2006, 206, 229-237.	4.1	434
13	Biomechanical factors in osteoarthritis. Best Practice and Research in Clinical Rheumatology, 2011, 25, 815-823.	3.3	423
14	Chondrocyte deformation and local tissue strain in articular cartilage: A confocal microscopy study. Journal of Orthopaedic Research, 1995, 13, 410-421.	2.3	420
15	The mechanical environment of the chondrocyte: a biphasic finite element model of cellâ€"matrix interactions in articular cartilage. Journal of Biomechanics, 2000, 33, 1663-1673.	2.1	408
16	Isolation of adipose-derived stem cells and their induction to a chondrogenic phenotype. Nature Protocols, 2010, 5, 1294-1311.	12.0	383
17	Multipotent Stromal Cells Derived From the Infrapatellar Fat Pad of the Knee. Clinical Orthopaedics and Related Research, 2003, 412, 196-212.	1.5	371
18	TRPV4-mediated mechanotransduction regulates the metabolic response of chondrocytes to dynamic loading. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 1316-1321.	7.1	364

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19	The Role of Mechanical Loading in the Onset and Progression of Osteoarthritis. Exercise and Sport Sciences Reviews, 2005, 33, 195-200.	3.0	360
20	Compression-induced changes in the shape and volume of the chondrocyte nucleus. Journal of Biomechanics, 1995, 28, 1529-1541.	2.1	354
21	Compressive and shear properties of alginate gel: Effects of sodium ions and alginate concentration. , 1999, 47, 46-53.		336
22	Synergy between Piezo1 and Piezo2 channels confers high-strain mechanosensitivity to articular cartilage. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5114-22.	7.1	321
23	Tissue engineering for articular cartilage repair â€" the state of the art. , 2013, 25, 248-267.		305
24	Viscoelastic properties of human mesenchymally-derived stem cells and primary osteoblasts, chondrocytes, and adipocytes. Journal of Biomechanics, 2008, 41, 454-464.	2.1	299
25	Chondrocytic differentiation of human adipose-derived adult stem cells in elastin-like polypeptide. Biomaterials, 2006, 27, 91-99.	11.4	290
26	The Pericellular Matrix as a Transducer of Biomechanical and Biochemical Signals in Articular Cartilage. Annals of the New York Academy of Sciences, 2006, 1068, 498-512.	3.8	280
27	Potent induction of chondrocytic differentiation of human adipose-derived adult stem cells by bone morphogenetic protein 6. Arthritis and Rheumatism, 2006, 54, 1222-1232.	6.7	279
28	Viscoelastic properties of zonal articular chondrocytes measured by atomic force microscopy. Osteoarthritis and Cartilage, 2006, 14, 571-579.	1.3	277
29	A Thin-Layer Model for Viscoelastic, Stress-Relaxation Testing of Cells Using Atomic Force Microscopy: Do Cell Properties Reflect Metastatic Potential?. Biophysical Journal, 2007, 92, 1784-1791.	0.5	277
30	Mechanical and biochemical changes in the superficial zone of articular cartilage in canine experimental osteoarthritis. Journal of Orthopaedic Research, 1994, 12, 474-484.	2.3	276
31	Osteoarthritis as a disease of the cartilage pericellular matrix. Matrix Biology, 2018, 71-72, 40-50.	3.6	276
32	The Role of Biomechanics and Inflammation in Cartilage Injury and Repair. Clinical Orthopaedics and Related Research, 2004, 423, 17-26.	1.5	272
33	Functional characterization of TRPV4 as an osmotically sensitive ion channel in porcine articular chondrocytes. Arthritis and Rheumatism, 2009, 60, 3028-3037.	6.7	265
34	The structure and function of the pericellular matrix of articular cartilage. Matrix Biology, 2014, 39, 25-32.	3.6	263
35	Chondrogenic Differentiation of Adipose-Derived Adult Stem Cells by a Porous Scaffold Derived from Native Articular Cartilage Extracellular Matrix. Tissue Engineering - Part A, 2009, 15, 231-241.	3.1	259
36	Advanced Tools for Tissue Engineering: Scaffolds, Bioreactors, and Signaling. Tissue Engineering, 2006, 12, 3285-3305.	4.6	255

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37	Alterations in the Youngâ€™s modulus and volumetric properties of chondrocytes isolated from normal and osteoarthritic human cartilage. Journal of Biomechanics, 1999, 32, 119-127.	2.1	250
38	Differentiation Potential of Adipose Derived Adult Stem (ADAS) Cells. Current Topics in Developmental Biology, 2003, 58, 137-160.	2.2	234
39	Cartilage tissue engineering using differentiated and purified induced pluripotent stem cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19172-19177.	7.1	234
40	The Mechanobiology of Articular Cartilage: Bearing the Burden of Osteoarthritis. Current Rheumatology Reports, 2014, 16, 451.	4.7	226
41	Clinical and preclinical translation of cell-based therapies using adipose tissue-derived cells. Stem Cell Research and Therapy, 2010, 1, 19.	5.5	224
42	Chondrogenesis of Adult Stem Cells from Adipose Tissue and Bone Marrow: Induction by Growth Factors and Cartilage-Derived Matrix. Tissue Engineering - Part A, 2010, 16, 523-533.	3.1	223
43	Synergistic and tunable human gene activation by combinations of synthetic transcription factors. Nature Methods, 2013, 10, 239-242.	19.0	222
44	The Effects of Osmotic Stress on the Viscoelastic and Physical Properties of Articular Chondrocytes. Biophysical Journal, 2002, 82, 720-727.	0.5	219
45	The deformation behavior and mechanical properties of chondrocytes in articular cartilage. Osteoarthritis and Cartilage, 1999, 7, 59-70.	1.3	218
46	Composite Threeâ€Dimensional Woven Scaffolds with Interpenetrating Network Hydrogels to Create Functional Synthetic Articular Cartilage. Advanced Functional Materials, 2013, 23, 5833-5839.	14.9	218
47	Concise Review: Adipose-Derived Stromal Vascular Fraction Cells and Stem Cells: Let's Not Get Lost in Translation. Stem Cells, 2011, 29, 749-754.	3.2	212
48	Viscoelastic properties of chondrocytes from normal and osteoarthritic human cartilage. Journal of Orthopaedic Research, 2000, 18, 891-898.	2.3	211
49	The effects of matrix compression on proteoglycan metabolism in articular cartilage explants. Osteoarthritis and Cartilage, 1994, 2, 91-101.	1.3	207
50	Determination of the Poisson's ratio of the cell: recovery properties of chondrocytes after release from complete micropipette aspiration. Journal of Biomechanics, 2006, 39, 78-87.	2.1	207
51	Influence of oxygen on the proliferation and metabolism of adipose derived adult stem cells. Journal of Cellular Physiology, 2005, 204, 184-191.	4.1	200
52	Interleukin-1, tumor necrosis factor ?, and interleukin-17 synergistically up-regulate nitric oxide and prostaglandin E2 production in explants of human osteoarthritic knee menisci. Arthritis and Rheumatism, 2001, 44, 2078-2083.	6.7	197
53	Compressive Mechanical Properties of the Human Anulus Fibrosus and Their Relationship to Biochemical Composition. Spine, 1994, 19, 212-221.	2.0	192
54	Induction of osteoarthritis and metabolic inflammation by a very highâ€fat diet in mice: Effects of shortâ€term exercise. Arthritis and Rheumatism, 2012, 64, 443-453.	6.7	191

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55	Effects of Transforming Growth Factor<i>Î²</i>1 and Dexamethasone on the Growth and Chondrogenic Differentiation of Adipose-Derived Stromal Cells. Tissue Engineering, 2003, 9, 1301-1312.	4.6	187
56	The role of the cytoskeleton in the viscoelastic properties of human articular chondrocytes. Journal of Orthopaedic Research, 2004, 22, 131-139.	2.3	187
57	Advanced Material Strategies for Tissue Engineering Scaffolds. Advanced Materials, 2009, 21, 3410-3418.	21.0	187
58	Biomechanics and mechanobiology in functional tissue engineering. Journal of Biomechanics, 2014, 47, 1933-1940.	2.1	186
59	Correlation between heart valve interstitial cell stiffness and transvalvular pressure: implications for collagen biosynthesis. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H224-H231.	3.2	183
60	Extreme obesity due to impaired leptin signaling in mice does not cause knee osteoarthritis. Arthritis and Rheumatism, 2009, 60, 2935-2944.	6.7	180
61	Alterations in the Mechanical Properties of the Human Chondrocyte Pericellular Matrix With Osteoarthritis. Journal of Biomechanical Engineering, 2003, 125, 323-333.	1.3	178
62	The mechanical properties of the human hip capsule ligaments. Journal of Arthroplasty, 2002, 17, 82-89.	3.1	176
63	Aligned multilayered electrospun scaffolds for rotator cuff tendon tissue engineering. Acta Biomaterialia, 2015, 24, 117-126.	8.3	170
64	Biomechanics: Cell Research and Applications for the Next Decade. Annals of Biomedical Engineering, 2009, 37, 847-859.	2.5	169
65	The biomechanical role of the chondrocyte pericellular matrix in articular cartilage. Acta Biomaterialia, 2005, 1, 317-325.	8.3	167
66	Developmental and osteoarthritic changes in <i>Col6a1</i>â€knockout mice: Biomechanics of type VI collagen in the cartilage pericellular matrix. Arthritis and Rheumatism, 2009, 60, 771-779.	6.7	165
67	Regional material properties of the human hip joint capsule ligaments. Journal of Orthopaedic Research, 2001, 19, 359-364.	2.3	164
68	Acute joint pathology and synovial inflammation is associated with increased intra-articular fracture severity in the mouse knee. Osteoarthritis and Cartilage, 2011, 19, 864-873.	1.3	164
69	Chondroprotective role of the osmotically sensitive ion channel transient receptor potential vanilloid 4: Ageâ€•and sexâ€dependent progression of osteoarthritis in <i>Trpv4</i>â€deficient mice. Arthritis and Rheumatism, 2010, 62, 2973-2983.	6.7	163
70	The effects of crosslinking of scaffolds engineered from cartilage ECM on the chondrogenic differentiation of MSCs. Biomaterials, 2013, 34, 5802-5812.	11.4	163
71	Functional Tissue Engineering. Clinical Orthopaedics and Related Research, 2001, 391, S295-S305.	1.5	158
72	Osteoarthritic changes in the biphasic mechanical properties of the chondrocyte pericellular matrix in articular cartilage. Journal of Biomechanics, 2005, 38, 509-517.	2.1	153

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73	Joint degeneration following closed intraarticular fracture in the mouse knee: A model of posttraumatic arthritis. Journal of Orthopaedic Research, 2007, 25, 578-592.	2.3	153
74	Diet-induced obesity differentially regulates behavioral, biomechanical, and molecular risk factors for osteoarthritis in mice. Arthritis Research and Therapy, 2010, 12, R130.	3.5	152
75	Site-Specific Molecular Diffusion in Articular Cartilage Measured using Fluorescence Recovery after Photobleaching. Annals of Biomedical Engineering, 2003, 31, 753-760.	2.5	150
76	Zonal changes in the three-dimensional morphology of the chondron under compression: The relationship among cellular, pericellular, and extracellular deformation in articular cartilage. Journal of Biomechanics, 2007, 40, 2596-2603.	2.1	150
77	The effects of osmotic stress on the structure and function of the cell nucleus. Journal of Cellular Biochemistry, 2010, 109, 460-467.	2.6	148
78	Human adipose-derived cells: an update on the transition to clinical translation. Regenerative Medicine, 2012, 7, 225-235.	1.7	147
79	The role of macrophages in osteoarthritis and cartilage repair. Osteoarthritis and Cartilage, 2020, 28, 544-554.	1.3	143
80	Adipose-derived adult stem cells for cartilage tissue engineering. Biorheology, 2004, 41, 389-99.	0.4	143
81	Mechanically induced calcium waves in articular chondrocytes are inhibited by gadolinium and amiloride. Journal of Orthopaedic Research, 1999, 17, 421-429.	2.3	139
82	Mechanical regulation of chondrogenesis. Stem Cell Research and Therapy, 2013, 4, 61.	5.5	139
83	The effects of static and intermittent compression on nitric oxide production in articular cartilage explants. Journal of Orthopaedic Research, 2001, 19, 729-737.	2.3	138
84	Reactive nitrogen and oxygen species in interleukin-1-mediated DNA damage associated with osteoarthritis. Osteoarthritis and Cartilage, 2008, 16, 624-630.	1.3	137
85	Targeting pro-inflammatory cytokines following joint injury: acute intra-articular inhibition of interleukin-1 following knee injury prevents post-traumatic arthritis. Arthritis Research and Therapy, 2014, 16, R134.	3.5	137
86	2010 Nicolas Andry Award: Multipotent Adult Stem Cells from Adipose Tissue for Musculoskeletal Tissue Engineering. Clinical Orthopaedics and Related Research, 2010, 468, 2530-2540.	1.5	136
87	Mechanical Regulation of Nuclear Structure and Function. Annual Review of Biomedical Engineering, 2012, 14, 431-455.	12.3	136
88	Pain coping skills training and lifestyle behavioral weight management in patients with knee osteoarthritis: A randomized controlled study. Pain, 2012, 153, 1199-1209.	4.2	136
89	Lysyl hydroxylase 2 induces a collagen cross-link switch in tumor stroma. Journal of Clinical Investigation, 2015, 125, 1147-1162.	8.2	134
90	Volume and surface area measurement of viable chondrocytes <i>in situ</i> using geometric modelling of serial confocal sections. Journal of Microscopy, 1994, 173, 245-256.	1.8	131

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91	Molecular diffusion in tissue-engineered cartilage constructs: Effects of scaffold material, time, and culture conditions. Journal of Biomedical Materials Research Part B, 2004, 70B, 397-406.	3.1	130
92	Spatial Mapping of the Biomechanical Properties of the Pericellular Matrix of Articular Cartilage Measured In Situ via Atomic Force Microscopy. Biophysical Journal, 2010, 98, 2848-2856.	0.5	130
93	Pathogenesis of osteoarthritis-like changes in the joints of mice deficient in type IX collagen. Arthritis and Rheumatism, 2006, 54, 2891-2900.	6.7	129
94	The mechanical environment of the chondrocyte: a biphasic finite element model of cell-matrix interactions in articular cartilage. Journal of Biomechanics, 2000, 33, 1663-73.	2.1	127
95	Loss of cartilage structure, stiffness, and frictional properties in mice lacking PRG4. Arthritis and Rheumatism, 2010, 62, 1666-1674.	6.7	125
96	Type VI Collagen Regulates Pericellular Matrix Properties, Chondrocyte Swelling, and Mechanotransduction in Mouse Articular Cartilage. Arthritis and Rheumatology, 2015, 67, 1286-1294.	5.6	125
97	Functional Properties of Cell-Seeded Three-Dimensionally Woven Poly(Îµ-Caprolactone) Scaffolds for Cartilage Tissue Engineering. Tissue Engineering - Part A, 2010, 16, 1291-1301.	3.1	122
98	The Development of Posttraumatic Arthritis After Articular Fracture. Journal of Orthopaedic Trauma, 2006, 20, 719-725.	1.4	121
99	Biomechanical Factors in Tissue Engineered Meniscal Repair. Clinical Orthopaedics and Related Research, 1999, 367, S254-S272.	1.5	119
100	Hyper-osmotic stress induces volume change and calcium transients in chondrocytes by transmembrane, phospholipid, and G-protein pathways. Journal of Biomechanics, 2001, 34, 1527-1535.	2.1	118
101	Stem cell-based therapies for osteoarthritis. Current Opinion in Rheumatology, 2013, 25, 119-126.	4.3	118
102	Tendon mechanobiology: <i>Current knowledge and future research opportunities</i>. Journal of Orthopaedic Research, 2015, 33, 813-822.	2.3	117
103	Conformational Mechanics, Adsorption, and Normal Force Interactions of Lubricin and Hyaluronic Acid on Model Surfaces. Langmuir, 2008, 24, 1183-1193.	3.5	115
104	Synovial fluid concentrations and relative potency of interleukinâ€1 alpha and beta in cartilage and meniscus degradation. Journal of Orthopaedic Research, 2013, 31, 1039-1045.	2.3	115
105	Intra-articular Delivery of Purified Mesenchymal Stem Cells from C57BL/6 or MRL/MpJ Superhealer Mice Prevents Posttraumatic Arthritis. Cell Transplantation, 2013, 22, 1395-1408.	2.5	115
106	Dietary fatty acid content regulates wound repair and the pathogenesis of osteoarthritis following joint injury. Annals of the Rheumatic Diseases, 2015, 74, 2076-2083.	0.9	115
107	Simultaneous changes in the mechanical properties, quantitative collagen organization, and proteoglycan concentration of articular cartilage following canine meniscectomy. Journal of Orthopaedic Research, 2000, 18, 383-392.	2.3	114
108	Composite scaffolds for cartilage tissue engineering. Biorheology, 2008, 45, 501-512.	0.4	113

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109	Scaffold-mediated lentiviral transduction for functional tissue engineering of cartilage. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E798-806.	7.1	113
110	Mechanical Signals as Regulators of Stem Cell Fate. Current Topics in Developmental Biology, 2004, 60, 91-126.	2.2	111
111	Zonal variations in the three-dimensional morphology of the chondron measured in situ using confocal microscopy. Osteoarthritis and Cartilage, 2006, 14, 889-897.	1.3	111
112	Differentiation of the Bone-Tissue Remodeling Response to Axial and Torsional Loading in the Turkey Ulna*â€. Journal of Bone and Joint Surgery - Series A, 1996, 78, 1523-33.	3.0	111
113	Incompressibility of the solid matrix of articular cartilage under high hydrostatic pressures. Journal of Biomechanics, 1998, 31, 445-451.	2.1	110
114	In vitro Differentiation Potential of Mesenchymal Stem Cells. Transfusion Medicine and Hemotherapy, 2008, 35, 228-238.	1.6	110
115	Diurnal variations in articular cartilage thickness and strain in the human knee. Journal of Biomechanics, 2013, 46, 541-547.	2.1	110
116	Absence of posttraumatic arthritis following intraarticular fracture in the MRL/MpJ mouse. Arthritis and Rheumatism, 2008, 58, 744-753.	6.7	109
117	Collagenase in the treatment of Dupuytren's disease: An in vitro study. Journal of Hand Surgery, 1996, 21, 490-495.	1.6	108
118	Friction force microscopy of lubricin and hyaluronic acid between hydrophobic and hydrophilic surfaces. Soft Matter, 2009, 5, 3438.	2.7	108
119	Mechanobiology of the meniscus. Journal of Biomechanics, 2015, 48, 1469-1478.	2.1	108
120	Extended passaging, but not aldehyde dehydrogenase activity, increases the chondrogenic potential of human adipose-derived adult stem cells. Journal of Cellular Physiology, 2006, 209, 987-995.	4.1	107
121	In vitro generation of mechanically functional cartilage grafts based on adult human stem cells and 3D-woven poly(É›-caprolactone) scaffolds. Biomaterials, 2010, 31, 2193-2200.	11.4	107
122	Non-invasive mouse models of post-traumatic osteoarthritis. Osteoarthritis and Cartilage, 2015, 23, 1627-1638.	1.3	107
123	Tensile properties of articular cartilage are altered by meniscectomy in a canine model of osteoarthritis. Journal of Orthopaedic Research, 1999, 17, 503-508.	2.3	106
124	Micromechanical mapping of early osteoarthritic changes in the pericellular matrix of human articular cartilage. Osteoarthritis and Cartilage, 2013, 21, 1895-1903.	1.3	104
125	Fabrication of anatomically-shaped cartilage constructs using decellularized cartilage-derived matrix scaffolds. Biomaterials, 2016, 91, 57-72.	11.4	104
126	Temporomandibular joint pain: A critical role for Trpv4 in the trigeminal ganglion. Pain, 2013, 154, 1295-1304.	4.2	101

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127	Cartilage-Specific Knockout of the Mechanosensory Ion Channel TRPV4 Decreases Age-Related Osteoarthritis. Scientific Reports, 2016, 6, 29053.	3.3	101
128	The role of the cytoskeleton in the viscoelastic properties of human articular chondrocytes. Journal of Orthopaedic Research, 2004, 22, 131-139.	2.3	101
129	Inflammatory signaling sensitizes Piezo1 mechanotransduction in articular chondrocytes as a pathogenic feed-forward mechanism in osteoarthritis. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	99
130	Single cell transcriptomic analysis of human pluripotent stem cell chondrogenesis. Nature Communications, 2021, 12, 362.	12.8	98
131	The Micromechanical Environment of Intervertebral Disc Cells Determined by a Finite Deformation, Anisotropic, and Biphasic Finite Element Model. Journal of Biomechanical Engineering, 2003, 125, 1-11.	1.3	97
132	Multilayered Electrospun Scaffolds for Tendon Tissue Engineering. Tissue Engineering - Part A, 2013, 19, 2594-2604.	3.1	97
133	Electrospun cartilage-derived matrix scaffolds for cartilage tissue engineering. Journal of Biomedical Materials Research - Part A, 2014, 102, 3998-4008.	4.0	97
134	Differential effects of static and dynamic compression on meniscal cell gene expression. Journal of Orthopaedic Research, 2003, 21, 963-969.	2.3	96
135	Large Deformation Finite Element Analysis of Micropipette Aspiration to Determine the Mechanical Properties of the Chondrocyte. Annals of Biomedical Engineering, 2005, 33, 494-501.	2.5	96
136	Injectable laminin-functionalized hydrogel for nucleus pulposus regeneration. Biomaterials, 2013, 34, 7381-7388.	11.4	96
137	Tissue-engineered cartilage with inducible and tunable immunomodulatory properties. Biomaterials, 2014, 35, 5921-5931.	11.4	96
138	Viscoelastic Properties of Intervertebral Disc Cells. Spine, 1999, 24, 2475.	2.0	95
139	Zonal Uniformity in Mechanical Properties of the Chondrocyte Pericellular Matrix: Micropipette Aspiration of Canine Chondrons Isolated by Cartilage Homogenization. Annals of Biomedical Engineering, 2005, 33, 1312-1318.	2.5	94
140	Differentiation of Adipose Stem Cells. Methods in Molecular Biology, 2008, 456, 155-171.	0.9	94
141	Transient receptor potential vanilloid 4. Annals of the New York Academy of Sciences, 2010, 1192, 404-409.	3.8	94
142	Regulation of hepatic stem/progenitor phenotype by microenvironment stiffness in hydrogel models of the human liver stem cell niche. Biomaterials, 2011, 32, 7389-7402.	11.4	94
143	Anatomically shaped tissue-engineered cartilage with tunable and inducible anticytokine delivery for biological joint resurfacing. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4513-22.	7.1	94
144	Conditional Macrophage Depletion Increases Inflammation and Does Not Inhibit the Development of Osteoarthritis in Obese Macrophage Fasâ€Induced Apoptosisâ€"Transgenic Mice. Arthritis and Rheumatology, 2017, 69, 1772-1783.	5.6	94

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145	Cell migration: implications for repair and regeneration in joint disease. Nature Reviews Rheumatology, 2019, 15, 167-179.	8.0	94
146	Chondroprotective effects of a polycarbonate-urethane meniscal implant: histopathological results in a sheep model. Knee Surgery, Sports Traumatology, Arthroscopy, 2011, 19, 255-263.	4.2	93
147	Genetic and cellular evidence of decreased inflammation associated with reduced incidence of posttraumatic arthritis in MRL/MpJ mice. Arthritis and Rheumatism, 2013, 65, 660-670.	6.7	93
148	Induction of cyclooxygenase-2 by mechanical stress through a nitric oxide-regulated pathway. Osteoarthritis and Cartilage, 2002, 10, 792-798.	1.3	91
149	Circadian Oscillation of Gene Expression in Murine Calvarial Bone. Journal of Bone and Mineral Research, 2007, 22, 357-365.	2.8	91
150	Multifunctional Hybrid Threeâ€dimensionally Woven Scaffolds for Cartilage Tissue Engineering. Macromolecular Bioscience, 2010, 10, 1355-1364.	4.1	91
151	Genipin-Crosslinked Cartilage-Derived Matrix as a Scaffold for Human Adipose-Derived Stem Cell Chondrogenesis. Tissue Engineering - Part A, 2013, 19, 484-496.	3.1	91
152	Emerging roles for long noncoding RNAs in skeletal biology and disease. Connective Tissue Research, 2017, 58, 116-141.	2.3	90
153	Hypo-osmotic stress induces calcium-dependent actin reorganization in articular chondrocytes. Osteoarthritis and Cartilage, 2003, 11, 187-197.	1.3	87
154	Dietâ€induced obesity significantly increases the severity of posttraumatic arthritis in mice. Arthritis and Rheumatism, 2012, 64, 3220-3230.	6.7	87
155	Diet-induced obesity alters the differentiation potential of stem cells isolated from bone marrow, adipose tissue and infrapatellar fat pad: the effects of free fatty acids. International Journal of Obesity, 2013, 37, 1079-1087.	3.4	87
156	Depth-dependent anisotropy of the micromechanical properties of the extracellular and pericellular matrices of articular cartilage evaluated via atomic force microscopy. Journal of Biomechanics, 2013, 46, 586-592.	2.1	85
157	Adipose tissue is a critical regulator of osteoarthritis. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	85
158	Diffusional Anisotropy in Collagenous Tissues: Fluorescence Imaging of Continuous Point Photobleaching. Biophysical Journal, 2006, 91, 311-316.	0.5	83
159	Role of Matrix Extracellular Phosphoglycoprotein in the Pathogenesis of X-Linked Hypophosphatemia. Journal of the American Society of Nephrology: JASN, 2005, 16, 1645-1653.	6.1	81
160	Enhanced integrative repair of the porcine meniscus in vitro by inhibition of interleukinâ€1 or tumor necrosis factor Î±. Arthritis and Rheumatism, 2007, 56, 3033-3043.	6.7	80
161	Increased susceptibility of<i>Trpv4</i>-deficient mice to obesity and obesity-induced osteoarthritis with very high-fat diet. Annals of the Rheumatic Diseases, 2013, 72, 300-304.	0.9	80
162	Chondrogenesis and Mineralization During<i>In Vitro</i>Culture of Human Mesenchymal Stem Cells on Three-Dimensional Woven Scaffolds. Tissue Engineering - Part A, 2010, 16, 3709-3718.	3.1	79

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163	Step-Wise Chondrogenesis of Human Induced Pluripotent Stem Cells and Purification Via a Reporter Allele Generated by CRISPR-Cas9 Genome Editing. Stem Cells, 2019, 37, 65-76.	3.2	79
164	Compressive Properties of Mouse Articular Cartilage Determined in a Novel Micro-Indentation Test Method and Biphasic Finite Element Model. Journal of Biomechanical Engineering, 2006, 128, 766-771.	1.3	78
165	TRPV4 as a therapeutic target for joint diseases. Naunyn-Schmiedeberg's Archives of Pharmacology, 2015, 388, 437-450.	3.0	78
166	Longitudinal characterization of synovial fluid biomarkers in the canine meniscectomy model of osteoarthritis. Journal of Orthopaedic Research, 2000, 18, 269-280.	2.3	77
167	Regulation of matrix turnover in meniscal explants: role of mechanical stress, interleukin-1, and nitric oxide. Journal of Applied Physiology, 2003, 95, 308-313.	2.5	77
168	3D Printing: 3D Printing of Highly Stretchable and Tough Hydrogels into Complex, Cellularized Structures (Adv. Mater. 27/2015). Advanced Materials, 2015, 27, 4034-4034.	21.0	77
169	Engineered cartilage using primary chondrocytes cultured in a porous cartilage-derived matrix. Regenerative Medicine, 2011, 6, 81-93.	1.7	76
170	A biomechanical role for perlecan in the pericellular matrix of articular cartilage. Matrix Biology, 2012, 31, 320-327.	3.6	76
171	Inhibition of integrative repair of the meniscus following acute exposure to interleukinâ€1 in vitro. Journal of Orthopaedic Research, 2008, 26, 504-512.	2.3	75
172	Why is obesity associated with osteoarthritis? Insights from mouse models of obesity. Biorheology, 2008, 45, 387-398.	0.4	75
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