Lawrence J Bonassar

List of Publications by Year
in descending order

268 papers	14,627 citations	15504 65 h-index	26613 107 g-index
273 all docs	273 docs citations	273 times ranked	12266 citing authors

#	Article	IF	Citations
1	Polyacrylamide hydrogel lubricates cartilage after biochemical degradation and mechanical injury. Journal of Orthopaedic Research, 2023, 41, 63-71.	2.3	5
2	Mechanical performance of collagen gels is dependent on purity, Î±1/Î±2 ratio, and telopeptides. Journal of Biomedical Materials Research - Part A, 2022, 110, 11-20.	4.0	7
3	Intra-articular Hyaluronic Acid Injections. , 2022, , 109-122.		0
4	Innovative Biological Treatment Methods for Degenerative Disc Disease. World Neurosurgery, 2022, 157, 282-299.	1.3	5
5	Rigidity and fracture of biopolymer double networks. Soft Matter, 2022, 18, 322-327.	2.7	7
6	Structural origins of cartilage shear mechanics. Science Advances, 2022, 8, eabk2805.	10.3	8
7	The degenerative impact of hyperglycemia on the structure and mechanics of developing murine intervertebral discs. JOR Spine, 2022, 5, e1191.	3.2	8
8	Off-the-Shelf Nipple Engineering. Annals of Plastic Surgery, 2022, 88, S302-S308.	0.9	1
9	Efficient engineering of human auricular cartilage through mesenchymal stem cell chaperoning. Journal of Tissue Engineering and Regenerative Medicine, 2022, 16, 825-835.	2.7	7
10	Simple synthesis of soft, tough, and cytocompatible biohybrid composites. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	4
11	Cartilage articulation exacerbates chondrocyte damage and death after impact injury. Journal of Orthopaedic Research, 2021, 39, 2130-2140.	2.3	13
12	Combining TGF-Î²1 and Mechanical Anchoring to Enhance Collagen Fiber Formation and Alignment in Tissue-Engineered Menisci. ACS Biomaterials Science and Engineering, 2021, 7, 1608-1620.	5.2	11
13	Nipple Engineering: Maintaining Nipple Geometry with Externally Scaffolded Processed Autologous Costal Cartilage. Journal of Plastic, Reconstructive and Aesthetic Surgery, 2021, 74, 2596-2603.	1.0	8
14	Pathomechanism and Biomechanics of Degenerative Disc Disease: Features of Healthy and Degenerated Discs. International Journal of Spine Surgery, 2021, 15, 10-25.	1.5	18
15	The role of SLRPs and large aggregating proteoglycans in collagen fibrillogenesis, extracellular matrix assembly, and mechanical function of fibrocartilage. Connective Tissue Research, 2021, , 1-18.	2.3	8
16	Targeting calcium-related mechanotransduction in early OA. Nature Reviews Rheumatology, 2021, 17, 445-446.	8.0	16
17	The influence of chondrocyte source on the manufacturing reproducibility of human tissue engineered cartilage. Acta Biomaterialia, 2021, 131, 276-285.	8.3	0
18	Microscale strain mapping demonstrates the importance of interface slope in the mechanics of cartilage repair. Journal of Biomechanics, 2021, 114, 110159.	2.1	6

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19	Three-Dimensional-Printed External Scaffolds Mitigate Loss of Volume and Topography in Engineered Elastic Cartilage Constructs. Cartilage, 2021, 13, 1780S-1789S.	2.7	7
20	Depth-dependent patterns in shear modulus of temporomandibular joint cartilage correspond to tissue structure and anatomic location. Journal of Biomechanics, 2021, 129, 110815.	2.1	0
21	Non-Destructive Spatial Mapping of Glycosaminoglycan Loss in Native and Degraded Articular Cartilage Using Confocal Raman Microspectroscopy. Frontiers in Bioengineering and Biotechnology, 2021, 9, 744197.	4.1	10
22	Mitoprotective therapy prevents rapid, strainâ€dependent mitochondrial dysfunction after articular cartilage injury. Journal of Orthopaedic Research, 2020, 38, 1257-1267.	2.3	31
23	Influence of Block Length on Articular Cartilage Lubrication with a Diblock Bottle-Brush Copolymer. ACS Applied Materials & Interfaces, 2020, 12, 330-337.	8.0	8
24	Imaging the local biochemical content of native and injured intervertebral disc using Fourier transform infrared microscopy. JOR Spine, 2020, 3, e1121.	3.2	4
25	Mineral Distribution Spatially Patterns Bone Marrow Stromal Cell Behavior on Monolithic Bone Scaffolds. Acta Biomaterialia, 2020, 112, 274-285.	8.3	19
26	Combined nucleus pulposus augmentation and annulus fibrosus repair prevents acute intervertebral disc degeneration after discectomy. Science Translational Medicine, 2020, 12, .	12.4	79
27	Multiscale mechanics of tissueâ€engineered cartilage grown from human chondrocytes and humanâ€induced pluripotent stem cells. Journal of Orthopaedic Research, 2020, 38, 1965-1973.	2.3	12
28	Distinct tribological endotypes of pathological human synovial fluid reveal characteristic biomarkers and variation in efficacy of viscosupplementation at reducing local strains in articular cartilage. Osteoarthritis and Cartilage, 2020, 28, 492-501.	1.3	8
29	Effect of Lubricin Mimetics on the Inhibition of Osteoarthritis in a Rat Anterior Cruciate Ligament Transection Model. American Journal of Sports Medicine, 2020, 48, 624-634.	4.2	17
30	Integrin Î±10Î²1-Selected Mesenchymal Stem Cells Mitigate the Progression of Osteoarthritis in an Equine Talar Impact Model. American Journal of Sports Medicine, 2020, 48, 612-623.	4.2	33
31	Heterogeneous matrix deposition in human tissue engineered cartilage changes the local shear modulus and resistance to local construct buckling. Journal of Biomechanics, 2020, 105, 109760.	2.1	11
32	Interaction with Cartilage Increases the Viscosity of Hyaluronic Acid Solutions. ACS Biomaterials Science and Engineering, 2020, 6, 2787-2795.	5.2	17
33	A Century of Cartilage Tribology Research Is Informing Lubrication Therapies. Journal of Biomechanical Engineering, 2020, 142, .	1.3	9
34	Inflammatory and Noninflammatory Synovial Fluids Exhibit New and Distinct Tribological Endotypes. Journal of Biomechanical Engineering, 2020, 142, .	1.3	4
35	Understanding the Stiff-to-Compliant Transition of the Meniscal Attachments by Spatial Correlation of Composition, Structure, and Mechanics. ACS Applied Materials & Interfaces, 2019, 11, 26559-26570.	8.0	27
36	High density cell seeding affects the rheology and printability of collagen bioinks. Biofabrication, 2019, 11, 045016.	7.1	80

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37	Dynamics of Synovial Fluid Aggregation under Shear. Langmuir, 2019, 35, 15887-15896.	3.5	13
38	The clot thickens: Autologous and allogeneic fibrin sealants are mechanically equivalent in an ex vivo model of cartilage repair. PLoS ONE, 2019, 14, e0224756.	2.5	21
39	Proteoglycan removal by chondroitinase ABC improves injectable collagen gel adhesion to annulus fibrosus. Acta Biomaterialia, 2019, 97, 428-436.	8.3	23
40	Regulation of proteoglycan production by varying glucose concentrations controls fiber formation in tissue engineered menisci. Acta Biomaterialia, 2019, 100, 173-183.	8.3	12
41	Stable recombinant production of codonâ€scrambled lubricin and mucin in human cells. Biotechnology and Bioengineering, 2019, 116, 1292-1303.	3.3	9
42	Boundary mode lubrication of articular cartilage with a biomimetic diblock copolymer. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 12437-12441.	7.1	31
43	Interfaces: Cellular and Chemical Gradients to Engineer the Meniscusâ€toâ€Bone Insertion (Adv.) Tj ETQq1 1 0.784314 rgBT /Overloc	7.6	0
44	Top-Down Fabrication of Spatially Controlled Mineral-Gradient Scaffolds for Interfacial Tissue Engineering. ACS Biomaterials Science and Engineering, 2019, 5, 2988-2997.	5.2	17
45	Frictional characterization of injectable hyaluronic acids is more predictive of clinical outcomes than traditional rheological or viscoelastic characterization. PLoS ONE, 2019, 14, e0216702.	2.5	28
46	Glycation of collagen matrices promotes breast tumor cell invasion. Integrative Biology (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 38	1.3	19
47	Temporal changes in synovial fluid composition and elastoviscous lubrication in the equine carpal fracture model. Journal of Orthopaedic Research, 2019, 37, 1071-1079.	2.3	13
48	Mesenchymal Stem Cell-Seeded High-Density Collagen Gel for Annular Repair: 6-Week Results From In Vivo Sheep Models. Neurosurgery, 2019, 85, E350-E359.	1.1	34
49	The Effect of Charge and Mechanical Loading on Antibody Diffusion Through the Articular Surface of Cartilage. Journal of Biomechanical Engineering, 2019, 141, .	1.3	6
50	Measurement of local diffusion and composition in degraded articular cartilage reveals the unique role of surface structure in controlling macromolecular transport. Journal of Biomechanics, 2019, 82, 38-45.	2.1	13
51	Cellular and Chemical Gradients to Engineer the Meniscusâ€toâ€Bone Insertion. Advanced Healthcare Materials, 2019, 8, 1800806.	7.6	19
52	Stribeck Curve Analysis of Temporomandibular Joint Condylar Cartilage and Disc. Journal of Biomechanical Engineering, 2019, 141, .	1.3	4
53	Mitochondrial dysfunction is an acute response of articular chondrocytes to mechanical injury. Journal of Orthopaedic Research, 2018, 36, 739-750.	2.3	47
54	Mitoprotective therapy preserves chondrocyte viability and prevents cartilage degeneration in an ex vivo model of posttraumatic osteoarthritis. Journal of Orthopaedic Research, 2018, 36, 2147-2156.	2.3	38

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55	Clinical doses of radiation reduce collagen matrix stiffness. APL Bioengineering, 2018, 2, 031901.	6.2	36
56	Microscale frictional strains determine chondrocyte fate in loaded cartilage. Journal of Biomechanics, 2018, 74, 72-78.	2.1	47
57	Local and global measurements show that damage initiation in articular cartilage is inhibited by the surface layer and has significant rate dependence. Journal of Biomechanics, 2018, 72, 63-70.	2.1	15
58	Tissue Engineering Auricular Cartilage Using Late Passage Human Auricular Chondrocytes. Annals of Plastic Surgery, 2018, 80, S168-S173.	0.9	15
59	Annulus Fibrosus Repair Using High-Density Collagen Gel. Spine, 2018, 43, E208-E215.	2.0	46
60	Degradation alters the lubrication of articular cartilage by high viscosity, hyaluronic acidâ€based lubricants. Journal of Orthopaedic Research, 2018, 36, 1456-1464.	2.3	19
61	Biologic Annulus Fibrosus Repair: A Review of Preclinical In Vivo Investigations. Tissue Engineering - Part B: Reviews, 2018, 24, 179-190.	4.8	47
62	Resorbable plating system stabilizes tissueâ€engineered intervertebral discs implanted ex vivo in canine cervical spines. JOR Spine, 2018, 1, e1031.	3.2	11
63	Tissue engineering the human auricle by auricular chondrocyte-mesenchymal stem cell co-implantation. PLoS ONE, 2018, 13, e0202356.	2.5	40
64	How can 50 years of solute transport data in articular cartilage inform the design of arthritis therapeutics?. Osteoarthritis and Cartilage, 2018, 26, 1438-1446.	1.3	20
65	In vivo annular repair using high-density collagen gel seeded with annulus fibrosus cells. Acta Biomaterialia, 2018, 79, 230-238.	8.3	46
66	Molecular transport in articular cartilage â€" what have we learned from the past 50 years?. Nature Reviews Rheumatology, 2018, 14, 393-403.	8.0	79
67	Heat Shock Factor 1 Reprograms the DLBCL Microenvironment to Evade Immune Surveillance and Support Tumor Growth. Blood, 2018, 132, 2854-2854.	1.4	0
68	The effect of hypoxia on thermosensitive poly(N -vinylcaprolactam) hydrogels with tunable mechanical integrity for cartilage tissue engineering. , 2017, 105, 1863-1873.		21
69	Multiscale Strain as a Predictor of Impact-Induced Fissuring in Articular Cartilage. Journal of Biomechanical Engineering, 2017, 139, .	1.3	14
70	Mechanical properties and structureâ€function relationships of human chondrocyteâ€seeded cartilage constructs after in vitro culture. Journal of Orthopaedic Research, 2017, 35, 2298-2306.	2.3	20
71	Cyclic Mechanical Loading Enhances Transport of Antibodies Into Articular Cartilage. Journal of Biomechanical Engineering, 2017, 139, .	1.3	23
72	Customized biomaterials to augment chondrocyte gene therapy. Acta Biomaterialia, 2017, 53, 260-267.	8.3	10

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73	Tunable Lubricin-mimetics for Boundary Lubrication of Cartilage. Biotribology, 2017, 9, 18-23.	1.9	19
74	Optimizing cell sourcing for clinical translation of tissue engineered ears. Biofabrication, 2017, 9, 015004.	7.1	18
75	Hypoxic Expansion of Human Mesenchymal Stem Cells Enhances Three-Dimensional Maturation of Tissue-Engineered Intervertebral Discs. Tissue Engineering - Part A, 2017, 23, 293-300.	3.1	19
76	Matrix stiffening promotes a tumor vasculature phenotype. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 492-497.	7.1	295
77	Sub-critical impact inhibits the lubricating mechanisms of articular cartilage. Journal of Biomechanics, 2017, 53, 64-70.	2.1	23
78	Fiber development and matrix production in tissue-engineered menisci using bovine mesenchymal stem cells and fibrochondrocytes. Connective Tissue Research, 2017, 58, 329-341.	2.3	34
79	In vitro culture increases mechanical stability of human tissue engineered cartilage constructs by prevention of microscale scaffold buckling. Journal of Biomechanics, 2017, 64, 77-84.	2.1	14
80	Next generation tissue engineering of orthopedic soft tissue-to-bone interfaces. MRS Communications, 2017, 7, 289-308.	1.8	43
81	The Effect of Antibody Size and Mechanical Loading on Solute Diffusion Through the Articular Surface of Cartilage. Journal of Biomechanical Engineering, 2017, 139, .	1.3	19
82	Correlating rheological properties and printability of collagen bioinks: the effects of riboflavin photocrosslinking and pH. Biofabrication, 2017, 9, 034102.	7.1	178
83	Degenerative changes of the canine cervical spine after discectomy procedures, an in vivo study. BMC Veterinary Research, 2017, 13, 193.	1.9	13
84	Initial investigation of individual and combined annulus fibrosus and nucleus pulposus repair ex vivo. Acta Biomaterialia, 2017, 59, 192-199.	8.3	27
85	Postâ€traumatic osteoarthritis of the ankle: A distinct clinical entity requiring new research approaches. Journal of Orthopaedic Research, 2017, 35, 440-453.	2.3	96
86	A model system for developing a tissue engineered meniscal enthesis. Acta Biomaterialia, 2017, 56, 110-117.	8.3	19
87	Three-Dimensional Bioprinting and Its Potential in the Field of Articular Cartilage Regeneration. Cartilage, 2017, 8, 327-340.	2.7	90
88	Binding and lubrication of biomimetic boundary lubricants on articular cartilage. Journal of Orthopaedic Research, 2017, 35, 548-557.	2.3	38
89	Synergistic Interactions of a Synthetic Lubricin-Mimetic with Fibronectin for Enhanced Wear Protection. Frontiers in Bioengineering and Biotechnology, 2017, 5, 36.	4.1	13
90	Total disc replacement using tissue-engineered intervertebral discs in the canine cervical spine. PLoS ONE, 2017, 12, e0185716.	2.5	44

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91	Galectin-3 Binds to Lubricin and Reinforces the Lubricating Boundary Layer of Articular Cartilage. Scientific Reports, 2016, 6, 25463.	3.3	33
92	Long-Term Morphological and Microarchitectural Stability of Tissue-Engineered, Patient-Specific AuriclesIn Vivo. Tissue Engineering - Part A, 2016, 22, 461-468.	3.1	35
93	Biological Treatment Approaches for Degenerative Disk Disease: A Literature Review of in Vivo Animal and Clinical Data. Global Spine Journal, 2016, 6, 497-518.	2.3	62
94	Physiologically Distributed Loading Patterns Drive the Formation of Zonally Organized Collagen Structures in Tissue-Engineered Meniscus. Tissue Engineering - Part A, 2016, 22, 907-916.	3.1	60
95	Mechanical properties and structureâ€"function relationships in articular cartilage repaired using IGFâ€‐geneâ€enhanced chondrocytes. Journal of Orthopaedic Research, 2016, 34, 149-153.	2.3	33
96	Human talar and femoral cartilage have distinct mechanical properties near the articular surface. Journal of Biomechanics, 2016, 49, 3320-3327.	2.1	26
97	Mesenchymal Stem Cells Enhance Lubrication of Engineered Meniscus Through Lubricin Localization in Collagen Gels. Biotribology, 2016, 8, 26-32.	1.9	4
98	3D Bioprinting of Spatially Heterogeneous Collagen Constructs for Cartilage Tissue Engineering. ACS Biomaterials Science and Engineering, 2016, 2, 1800-1805.	5.2	303
99	Biomechanical and biochemical characterization of porcine tracheal cartilage. Laryngoscope, 2016, 126, E325-E331.	2.0	25
100	Hyaline Articular Matrix Formed by Dynamic Self-Regenerating Cartilage and Hydrogels. Tissue Engineering - Part A, 2016, 22, 962-970.	3.1	6
101	Characterization of mesenchymal stem cells and fibrochondrocytes in three-dimensional co-culture: analysis of cell shape, matrix production, and mechanical performance. Stem Cell Research and Therapy, 2016, 7, 39.	5.5	59
102	Structure-Function Relations and Rigidity Percolation in Biopolymer Networks in Live Tissue under Shear: Bovine Articular Cartilage as a Model System. Biophysical Journal, 2015, 108, 115a.	0.5	0
103	Adhesion and integration of tissue engineered cartilage to porous polyethylene for composite ear reconstruction. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2015, 103, 983-991.	3.4	15
104	Elastoviscous Transitions of Articular Cartilage Reveal a Mechanism of Synergy between Lubricin and Hyaluronic Acid. PLoS ONE, 2015, 10, e0143415.	2.5	105
105	Injectable, highâ€density collagen gels for annulus fibrosus repair: An in vitro rat tail model. Journal of Biomedical Materials Research - Part A, 2015, 103, 2571-2581.	4.0	55
106	Joint-dependent response to impact and implications for post-traumatic osteoarthritis. Osteoarthritis and Cartilage, 2015, 23, 1130-1137.	1.3	27
107	Comparison of Efficacy of Endogenous and Exogenous IGF-I in Stimulating Matrix Production in Neonatal and Mature Chondrocytes. Cartilage, 2015, 6, 264-272.	2.7	5
108	Fibronectin mediates enhanced wear protection of lubricin during shear. Biomacromolecules, 2015, 16, 2884-2894.	5.4	29

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109	Measuring microscale strain fields in articular cartilage during rapid impact reveals thresholds for chondrocyte death and a protective role for the superficial layer. Journal of Biomechanics, 2015, 48, 3440-3446.	2.1	64
110	Riboflavin crosslinked high-density collagen gel for the repair of annular defects in intervertebral discs: An in vivo study. Acta Biomaterialia, 2015, 26, 215-224.	8.3	55
111	Characterization of Tissue Response to Impact Loads Delivered Using a Hand-Held Instrument for Studying Articular Cartilage Injury. Cartilage, 2015, 6, 226-232.	2.7	27
112	Induction of fiber alignment and mechanical anisotropy in tissue engineered menisci with mechanical anchoring. Journal of Biomechanics, 2015, 48, 1436-1443.	2.1	62
113	Mechanically aided transport of antibodies through articular cartilage. Osteoarthritis and Cartilage, 2015, 23, A287-A288.	1.3	0
114	Mechanical characterization of matrix-induced autologous chondrocyte implantation (MACIÂ®) grafts in an equine model at 53 weeks. Journal of Biomechanics, 2015, 48, 1944-1949.	2.1	46
115	Dose-Dependent Response of Tissue-Engineered Intervertebral Discs to Dynamic Unconfined Compressive Loading. Tissue Engineering - Part A, 2015, 21, 564-572.	3.1	15
116	Erratum. FASEB Journal, 2014, 28, 5022-5022.	0.5	1
117	Annular Repair Using High-Density Collagen Gel. Spine, 2014, 39, 198-206.	2.0	52
118	Effects of enzymatic treatments on the depth-dependent viscoelastic shear properties of articular cartilage. Journal of Orthopaedic Research, 2014, 32, 1652-1657.	2.3	53
119	Computed Tomography-Guided Tissue Engineering of Upper Airway Cartilage. Tissue Engineering - Part C: Methods, 2014, 20, 506-513.	2.1	9
120	Identification of cartilage injury using quantitative multiphoton microscopy. Osteoarthritis and Cartilage, 2014, 22, 355-362.	1.3	24
121	Tissue-engineered intervertebral discs: MRI results and histology in the rodent spine. Journal of Neurosurgery: Spine, 2014, 20, 443-451.	1.7	22
122	Structure-Function Relations and Rigidity Percolation in the Shear Properties of Articular Cartilage. Biophysical Journal, 2014, 107, 1721-1730.	0.5	68
123	Enhanced boundary lubrication properties of engineered menisci by lubricin localization with insulin-like growth factor I treatment. Journal of Biomechanics, 2014, 47, 2183-2188.	2.1	24
124	Assessment of Intervertebral Disc Degeneration Based on Quantitative Magnetic Resonance Imaging Analysis. Spine, 2014, 39, E369-E378.	2.0	29
125	Quantitative characterization of mesenchymal stem cell adhesion to the articular cartilage surface. Journal of Biomedical Materials Research - Part A, 2013, 101, 3592-3598.	4.0	13
126	Recent advances in biological therapies for disc degeneration: tissue engineering of the annulus fibrosus, nucleus pulposus and whole intervertebral discs. Current Opinion in Biotechnology, 2013, 24, 872-879.	6.6	87

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127	Anatomic variation of depthâ€dependent mechanical properties in neonatal bovine articular cartilage. Journal of Orthopaedic Research, 2013, 31, 686-691.	2.3	31
128	Effects of Chitosan Coatings on Polypropylene Mesh for Implantation in a Rat Abdominal Wall Model. Tissue Engineering - Part A, 2013, 19, 2713-2723.	3.1	32
129	The Effect of IGF-I on Anatomically Shaped Tissue-Engineered Menisci. Tissue Engineering - Part A, 2013, 19, 1443-1450.	3.1	27
130	Cell(MC3T3â€E1)â€Printed Poly(Ïµâ€caprolactone)/Alginate Hybrid Scaffolds for Tissue Regeneration. Macromolecular Rapid Communications, 2013, 34, 142-149.	3.9	88
131	High density type I collagen gels for tissue engineering of whole menisci. Acta Biomaterialia, 2013, 9, 7787-7795.	8.3	71
132	Tuning three-dimensional collagen matrix stiffness independently of collagen concentration modulates endothelial cell behavior. Acta Biomaterialia, 2013, 9, 4635-4644.	8.3	300
133	Early cartilage injury quantified and characterized with multiphoton microscopy imaging. Osteoarthritis and Cartilage, 2013, 21, S182-S183.	1.3	0
134	Spatial periodicity in growth plate shear mechanical properties is disrupted by vitamin D deficiency. Journal of Biomechanics, 2013, 46, 1597-1603.	2.1	12
135	Cell-Laden Poly(É›-caprolactone)/Alginate Hybrid Scaffolds Fabricated by an Aerosol Cross-Linking Process for Obtaining Homogeneous Cell Distribution: Fabrication, Seeding Efficiency, and Cell Proliferation and Distribution. Tissue Engineering - Part C: Methods, 2013, 19, 784-793.	2.1	42
136	Localization of Viscous Behavior and Shear Energy Dissipation in Articular Cartilage Under Dynamic Shear Loading. Journal of Biomechanical Engineering, 2013, 135, 31002.	1.3	46
137	In vivo tibial compression decreases osteolysis and tumor formation in a human metastatic breast cancer model. Journal of Bone and Mineral Research, 2013, 28, 2357-2367.	2.8	88
138	3D Cell and Scaffold Patterning Strategies in Tissue Engineering. Recent Patents on Biomedical Engineering, 2013, 6, 3-21.	0.5	16
139	High-Fidelity Tissue Engineering of Patient-Specific Auricles for Reconstruction of Pediatric Microtia and Other Auricular Deformities. PLoS ONE, 2013, 8, e56506.	2.5	158
140	The Effect of the Duration of Mechanical Stimulation and Post-Stimulation Culture on the Structure and Properties of Dynamically Compressed Tissue-Engineered Menisci. Tissue Engineering - Part A, 2012, 18, 1365-1375.	3.1	43
141	Mathematical Modeling and Frequency Gradient Analysis of Cellular and Vascular Invasion into Integra and Strattice. Plastic and Reconstructive Surgery, 2012, 129, 89-99.	1.4	22
142	Properties of Cartilage Engineered from Elderly Human Chondrocytes for Articular Surface Repair. Tissue Engineering - Part A, 2012, 18, 1490-1499.	3.1	3
143	Fabrication of cell-laden three-dimensional alginate-scaffolds with an aerosol cross-linking process. Journal of Materials Chemistry, 2012, 22, 18735.	6.7	49
144	Cells (MC3T3-E1)-Laden Alginate Scaffolds Fabricated by a Modified Solid-Freeform Fabrication Process Supplemented with an Aerosol Spraying. Biomacromolecules, 2012, 13, 2997-3003.	5.4	101

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145	Novel Model-Based Inquiry of Ionic Bonding in Alginate Hydrogels Used in Tissue Engineering for High School Students. Journal of Chemical Education, 2012, 89, 1308-1311.	2.3	9
146	Calcium signaling in response to fluid flow by chondrocytes in 3D alginate culture. Journal of Orthopaedic Research, 2012, 30, 793-799.	2.3	19
147	Insights into interstitial flow, shear stress, and mass transport effects on ECM heterogeneity in bioreactor-cultivated engineered cartilage hydrogels. Biomechanics and Modeling in Mechanobiology, 2012, 11, 689-702.	2.8	40
148	Imageâ€based tissue engineering of a total intervertebral disc implant for restoration of function to the rat lumbar spine. NMR in Biomedicine, 2012, 25, 443-451.	2.8	39
149	Porous Poly(Vinyl Alcohol)-Hydrogel Matrix-Engineered Biosynthetic Cartilage. Tissue Engineering - Part A, 2011, 17, 301-309.	3.1	43
150	Increased Mixing Improves Hydrogel Homogeneity and Quality of Three-Dimensional Printed Constructs. Tissue Engineering - Part C: Methods, 2011, 17, 239-248.	2.1	76
151	Methods for Photocrosslinking Alginate Hydrogel Scaffolds with High Cell Viability. Tissue Engineering - Part C: Methods, 2011, 17, 173-179.	2.1	167
152	Chondrocyte calcium signaling in response to fluid flow is regulated by matrix adhesion in 3-D alginate scaffolds. Archives of Biochemistry and Biophysics, 2011, 505, 112-117.	3.0	38
153	Biomechanical characterisation of equine laryngeal cartilage. Equine Veterinary Journal, 2011, 43, 592-598.	1.7	8
154	Frictional Properties of the Meniscus Improve After Scaffold-augmented Repair of Partial Meniscectomy: A Pilot Study. Clinical Orthopaedics and Related Research, 2011, 469, 2817-2823.	1.5	35
155	A Pre-Clinical Test Platform for the Functional Evaluation of Scaffolds for Musculoskeletal Defects: The Meniscus. HSS Journal, 2011, 7, 157-163.	1.7	22
156	Microstructured templates for directed growth and vascularization of soft tissue inÂvivo. Biomaterials, 2011, 32, 5391-5401.	11.4	47
157	Dynamic compressive loading of image-guided tissue engineered meniscal constructs. Journal of Biomechanics, 2011, 44, 509-516.	2.1	63
158	Biological intervertebral disc replacement: an in vivo model and comparison of two surgical techniques to approach the rat caudal disc. Evidence-based Spine-care Journal, 2011, 2, 29-35.	0.9	8
159	Tissue-engineered total disc replacement: final outcomes of a murine caudal disc in vivo study. Evidence-based Spine-care Journal, 2011, 2, 55-56.	0.9	11
160	Tissue-engineered intervertebral discs produce new matrix, maintain disc height, and restore biomechanical function to the rodent spine. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 13106-13111.	7.1	166
161	Processing of type I collagen gels using nonenzymatic glycation. Journal of Biomedical Materials Research - Part A, 2010, 93A, 843-851.	4.0	66
162	Effect of media mixing on ECM assembly and mechanical properties of anatomically-shaped tissue engineered meniscus. Biomaterials, 2010, 31, 6756-6763.	11.4	47

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163	Effects of Seeding Density on Proteoglycan Assembly of Passaged Mesenchymal Stem Cells. Cellular and Molecular Bioengineering, 2010, 3, 197-206.	2.1	11
164	Analysis of frictional behavior and changes in morphology resulting from cartilage articulation with porous polyurethane foams. Journal of Orthopaedic Research, 2010, 28, 1292-1299.	2.3	23
165	High-resolution spatial mapping of shear properties in cartilage. Journal of Biomechanics, 2010, 43, 796-800.	2.1	68
166	Dense type I collagen matrices that support cellular remodeling and microfabrication for studies of tumor angiogenesis and vasculogenesis in vitro. Biomaterials, 2010, 31, 8596-8607.	11.4	306
167	An Optical Method for Evaluation of Geometric Fidelity for Anatomically Shaped Tissue-Engineered Constructs. Tissue Engineering - Part C: Methods, 2010, 16, 693-703.	2.1	40
168	Total disc replacement using a tissue-engineered intervertebral disc in vivo: new animal model and initial results. Evidence-based Spine-care Journal, 2010, 1, 62-66.	0.9	22
169	Self-Assembly of Aligned Tissue-Engineered Annulus Fibrosus and Intervertebral Disc Composite Via Collagen Gel Contraction. Tissue Engineering - Part A, 2010, 16, 1339-1348.	3.1	147
170	Control of the Electromechanical Properties of Alginate Hydrogels via Ionic and Covalent Cross-Linking and Microparticle Doping. Biomacromolecules, 2010, 11, 2184-2189.	5.4	8
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