Lin Han

List of Publications by Year
in descending order

97 papers	4,793 citations	87888 38 h-index	110387 64 g-index
103 all docs	103 docs citations	103 times ranked	6312 citing authors

#	Article	IF	Citations
1	Functions and applications of extracellular matrix in cartilage tissue engineering. , 2022, , 133-166.		1
2	Molecular Engineering of Pericellular Microniche via Biomimetic Proteoglycans Modulates Cell Mechanobiology. ACS Nano, 2022, 16, 1220-1230.	14.6	12
3	Bio-orthogonal Click Chemistry Methods to Evaluate the Metabolism of Inflammatory Challenged Cartilage after Traumatic Overloading. ACS Biomaterials Science and Engineering, 2022, 8, 2564-2573.	5.2	4
4	Decorin regulates cartilage pericellular matrix micromechanobiology. Matrix Biology, 2021, 96, 1-17.	3.6	37
5	Degeneration alters structureâ€function relationships at multiple lengthâ€scales and across interfaces in human intervertebral discs. Journal of Anatomy, 2021, 238, 986-998.	1.5	9
6	Bromodomain-containing-protein-4 and cyclin-dependent-kinase-9 inhibitors interact synergistically in vitro and combined treatment reduces post-traumatic osteoarthritis severity in mice. Osteoarthritis and Cartilage, 2021, 29, 68-77.	1.3	13
7	Regulation of extracellular matrix assembly and structure by hybrid M1/M2 macrophages. Biomaterials, 2021, 269, 120667.	11.4	106
8	Microstructural design for mechanicalâ€“optical multifunctionality in the exoskeleton of the flower beetle Torynorrhina flammea. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	23
9	The critical role of Hedgehog-responsive mesenchymal progenitors in meniscus development and injury repair. ELife, 2021, 10, .	6.0	14
10	Intrinsic and growthâ€mediated cell and matrix specialization during murine meniscus tissue assembly. FASEB Journal, 2021, 35, e21779.	0.5	11
11	Type V collagen regulates the structure and biomechanics of TMJ condylar cartilage: A fibrous-hyaline hybrid. Matrix Biology, 2021, 102, 1-19.	3.6	10
12	Differentiated activities of decorin and biglycan in the progression of post-traumatic osteoarthritis. Osteoarthritis and Cartilage, 2021, 29, 1181-1192.	1.3	23
13	Targeting cartilage EGFR pathway for osteoarthritis treatment. Science Translational Medicine, 2021, 13, .	12.4	83
14	Type III collagen is a key regulator of the collagen fibrillar structure and biomechanics of articular cartilage and meniscus. Matrix Biology, 2020, 85-86, 47-67.	3.6	68
15	4D printing of self-folding and cell-encapsulating 3D microstructures as scaffolds for tissue-engineering applications. Biofabrication, 2020, 12, 045018.	7.1	58
16	Distinct effects of different matrix proteoglycans on collagen fibrillogenesis and cell-mediated collagen reorganization. Scientific Reports, 2020, 10, 19065.	3.3	42
17	Sacrificial Fibers Improve Matrix Distribution and Micromechanical Properties in a Tissue-Engineered Intervertebral Disc. Acta Biomaterialia, 2020, 111, 232-241.	8.3	22
18	Intervertebral Disc Degeneration Is Associated With Aberrant Endplate Remodeling and Reduced Small Molecule Transport. Journal of Bone and Mineral Research, 2020, 35, 1572-1581.	2.8	51

#	Article	IF	Citations
19	Metabolic Labeling to Probe the Spatiotemporal Accumulation of Matrix at the Chondrocyteâ€“Hydrogel Interface. Advanced Functional Materials, 2020, 30, 1909802.	14.9	48
20	Mediation of Cartilage Matrix Degeneration and Fibrillation by Decorin in Postâ€traumatic Osteoarthritis. Arthritis and Rheumatology, 2020, 72, 1266-1277.	5.6	37
21	Acute Synovitis after Trauma Precedes and is Associated with Osteoarthritis Onset and Progression. International Journal of Biological Sciences, 2020, 16, 970-980.	6.4	30
22	Primary cilia control cell alignment and patterning in bone development via ceramide-PKCÎ¶-Î²-catenin signaling. Communications Biology, 2020, 3, 45.	4.4	28
23	Ciliary IFT80 is essential for intervertebral disc development and maintenance. FASEB Journal, 2020, 34, 6741-6756.	0.5	25
24	Early changes in cartilage pericellular matrix micromechanobiology portend the onset of post-traumatic osteoarthritis. Acta Biomaterialia, 2020, 111, 267-278.	8.3	65
25	Primary Cilia Direct Murine Articular Cartilage Tidemark Patterning Through Hedgehog Signaling and Ambulatory Load. Journal of Bone and Mineral Research, 2020, 37, 1097-1116.	2.8	7
26	EGFR Signaling Is Required for Maintaining Adult Cartilage Homeostasis and Attenuating Osteoarthritis Progression. Journal of Bone and Mineral Research, 2020, 37, 1012-1023.	2.8	13
27	Multiscale and multimodal structureâ€“function analysis of intervertebral disc degeneration in a rabbit model. Osteoarthritis and Cartilage, 2019, 27, 1860-1869.	1.3	31
28	Cyclophilin B control of lysine post-translational modifications of skin type I collagen. PLoS Genetics, 2019, 15, e1008196.	3.5	18
29	Influence of hyaluronic acid modification on CD44 binding towards the design of hydrogel biomaterials. Biomaterials, 2019, 222, 119451.	11.4	100
30	Decorin Regulates the Aggrecan Network Integrity and Biomechanical Functions of Cartilage Extracellular Matrix. ACS Nano, 2019, 13, 11320-11333.	14.6	67
31	The impact of cholesterol deposits on the fibrillar architecture of the Achilles tendon in a rabbit model of hypercholesterolemia. Journal of Orthopaedic Surgery and Research, 2019, 14, 172.	2.3	17
32	Regulating Mechanotransduction in Three Dimensions using Subâ€Cellular Scale, Crosslinkable Fibers of Controlled Diameter, Stiffness, and Alignment. Advanced Functional Materials, 2019, 29, 1808967.	14.9	23
33	Regional biomechanical imaging of liver cancer cells. Journal of Cancer, 2019, 10, 4481-4487.	2.5	10
34	A new class of biological materials: Cell membrane-derived hydrogel scaffolds. Biomaterials, 2019, 197, 244-254.	11.4	55
35	Identification of Chondrocyte Genes and Signaling Pathways in Response to Acute Joint Inflammation. Scientific Reports, 2019, 9, 93.	3.3	43
36	Tendon healing affects the multiscale mechanical, structural and compositional response of tendon to quasi-static tensile loading. Journal of the Royal Society Interface, 2018, 15, 20170880.	3.4	27

#	Article	IF	Citations
37	Maturation State and Matrix Microstructure Regulate Interstitial Cell Migration in Dense Connective Tissues. Scientific Reports, 2018, 8, 3295.	3.3	31
38	The Role of Bmp2 in the Maturation and Maintenance of the Murine Knee Joint. Journal of Bone and Mineral Research, 2018, 33, 1708-1717.	2.8	34
39	Combinatorial hydrogels with biochemical gradients for screening 3D cellular microenvironments. Nature Communications, 2018, 9, 614.	12.8	150
40	Variable piezoelectricity of electrospun chitin. Carbohydrate Polymers, 2018, 195, 218-224.	10.2	38
41	Impacts of maturation on the micromechanics of the meniscus extracellular matrix. Journal of Biomechanics, 2018, 72, 252-257.	2.1	14
42	Loadingâ€Induced Reduction in Sclerostin as a Mechanism of Subchondral Bone PlateÂSclerosis in Mouse Knee Joints During Lateâ€Stage Osteoarthritis. Arthritis and Rheumatology, 2018, 70, 230-241.	5.6	52
43	Calcium signaling of in situ chondrocytes in articular cartilage under compressive loading: Roles of calcium sources and cell membrane ion channels. Journal of Orthopaedic Research, 2018, 36, 730-738.	2.3	55
44	Velcro-mimicking surface based on polymer loop brushes. Nanoscale, 2018, 10, 18269-18274.	5.6	11
45	Novel generation systems of gaseous chlorine dioxide for Salmonella inactivation on fresh tomato. Food Control, 2018, 92, 479-487.	5.5	20
46	Block copolymer crystalsomes withÂan ultrathin shell to extend blood circulation time. Nature Communications, 2018, 9, 3005.	12.8	61
47	Aggrecan-like biomimetic proteoglycans (BPGs) composed of natural chondroitin sulfate bristles grafted onto a poly(acrylic acid) core for molecular engineering of the extracellular matrix. Acta Biomaterialia, 2018, 75, 93-104.	8.3	24
48	Osteoarthritis: toward a comprehensive understanding of pathological mechanism. Bone Research, 2017, 5, 16044.	11.4	731
49	Micromechanical anisotropy and heterogeneity of the meniscus extracellular matrix. Acta Biomaterialia, 2017, 54, 356-366.	8.3	76
50	Biomimetic Proteoglycans Mimic Macromolecular Architecture and Water Uptake of Natural Proteoglycans. Biomacromolecules, 2017, 18, 1713-1723.	5.4	28
51	Intermittent Parathyroid Hormone After Prolonged Alendronate Treatment Induces Substantial New Bone Formation and Increases Bone Tissue Heterogeneity in Ovariectomized Rats. Journal of Bone and Mineral Research, 2017, 32, 1703-1715.	2.8	9
52	Mechanically dynamic PDMS substrates to investigate changing cell environments. Biomaterials, 2017, 145, 23-32.	11.4	68
53	AFM-Nanomechanical Test: An Interdisciplinary Tool That Links the Understanding of Cartilage and Meniscus Biomechanics, Osteoarthritis Degeneration, and Tissue Engineering. ACS Biomaterials Science and Engineering, 2017, 3, 2033-2049.	5.2	42
54	Biomechanical properties of murine TMJ articular disc and condyle cartilage via AFM-nanoindentation. Journal of Biomechanics, 2017, 60, 134-141.	2.1	21

#	Article	IF	Citations
55	Cuts Guided Deterministic Buckling in Arrays of Soft Parallel Plates for Multifunctionality. ACS Applied Materials & Interfaces, 2017, 9, 29345-29354.	8.0	9
56	Mutable polyelectrolyte tube arrays: mesoscale modeling and lateral force microscopy. Soft Matter, 2017, 13, 5543-5557.	2.7	3
57	Non-additive impacts of covalent cross-linking on the viscoelastic nanomechanics of ionic polyelectrolyte complexes. RSC Advances, 2017, 7, 53334-53345.	3.6	6
58	Self-similar Hierarchical Wrinkles as a Potential Multifunctional Smart Window with Simultaneously Tunable Transparency, Structural Color, and Droplet Transport. ACS Applied Materials & Interfaces, 2017, 9, 26510-26517.	8.0	85
59	Nanoindentation modulus of murine cartilage: a sensitive indicator of the initiation and progression of post-traumatic osteoarthritis. Osteoarthritis and Cartilage, 2017, 25, 108-117.	1.3	70
60	Reproduction Differentially Affects Trabecular Bone Depending on Its Mechanical Versus Metabolic Role. Journal of Biomechanical Engineering, 2017, 139, .	1.3	14
61	Alpha 5 Integrin Mediates Osteoarthritic Changes in Mouse Knee Joints. PLoS ONE, 2016, 11, e0156783.	2.5	19
62	Endorepellin-evoked Autophagy Contributes to Angiostasis. Journal of Biological Chemistry, 2016, 291, 19245-19256.	3.4	39
63	Evolution of hierarchical porous structures in supramolecular guestâ€“host hydrogels. Soft Matter, 2016, 12, 7839-7847.	2.7	21
64	EGFR signaling is critical for maintaining the superficial layer of articular cartilage and preventing osteoarthritis initiation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14360-14365.	7.1	83
65	Collagen V-heterozygous and -null supraspinatus tendons exhibit altered dynamic mechanical behaviour at multiple hierarchical scales. Interface Focus, 2016, 6, 20150043.	3.0	19
66	Towards controlled polymer brushes via a self-assembly-assisted-grafting-to approach. Nature Communications, 2016, 7, 11119.	12.8	81
67	Highly robust crystalsome via directed polymer crystallization at curved liquid/liquid interface. Nature Communications, 2016, 7, 10599.	12.8	63
68	Nanomechanics of layer-by-layer polyelectrolyte complexes: a manifestation of ionic cross-links and fixed charges. Soft Matter, 2016, 12, 1158-1169.	2.7	25
69	Design of Hierarchically Cut Hinges for Highly Stretchable and Reconfigurable Metamaterials with Enhanced Strength. Advanced Materials, 2015, 27, 7181-7190.	21.0	151
70	Layer-by-layer films assembled from natural polymers for sustained release of neurotrophin. Biomedical Materials (Bristol), 2015, 10, 055006.	3.3	16
71	Roles of the Fibrous Superficial Zone in the Mechanical Behavior of TMJ Condylar Cartilage. Annals of Biomedical Engineering, 2015, 43, 2652-2662.	2.5	38
72	Aggrecan Nanoscale Solidâ€“Fluid Interactions Are a Primary Determinant of Cartilage Dynamic Mechanical Properties. ACS Nano, 2015, 9, 2614-2625.	14.6	61

#	Article	IF	Citations
73	Biomechanical properties of murine meniscus surface via AFM-based nanoindentation. Journal of Biomechanics, 2015, 48, 1364-1370.	2.1	38
74	Dynamic nanomechanics of individual bone marrow stromal cells and cell-matrix composites during chondrogenic differentiation. Journal of Biomechanics, 2015, 48, 171-175.	2.1	10
75	Complex Collagen Fiber and Membrane Morphologies of the Whole Porcine Aortic Valve. PLoS ONE, 2014, 9, e86087.	2.5	20
76	In situ fibril stretch and sliding is location-dependent in mouse supraspinatus tendons. Journal of Biomechanics, 2014, 47, 3794-3798.	2.1	17
77	Mechanically and Chemically Tunable Cell Culture System for Studying the Myofibroblast Phenotype. Langmuir, 2014, 30, 5481-5487.	3.5	29
78	Molecular Adhesion between Cartilage Extracellular Matrix Macromolecules. Biomacromolecules, 2014, 15, 772-780.	5.4	44
79	Nanomechanical phenotype of chondroadherin-null murine articular cartilage. Matrix Biology, 2014, 38, 84-90.	3.6	42
80	Age-related nanostructural and nanomechanical changes of individual human cartilage aggrecan monomers and their glycosaminoglycan side chains. Journal of Structural Biology, 2013, 181, 264-273.	2.8	50
81	High-Bandwidth AFM-Based Rheology Reveals that Cartilage is Most Sensitive to High Loading Rates at Early Stages of Impairment. Biophysical Journal, 2013, 104, 1529-1537.	0.5	90
82	Effects of Chondroadherin on Cartilage Nanostructure and Biomechanics via Murine Model. , 2013, , .		0
83	Tunable stimulus-responsive friction mechanisms of polyelectrolyte films and tube forests. Soft Matter, 2012, 8, 8642.	2.7	19
84	Drastically Lowered Protein Adsorption on Microbicidal Hydrophobic/Hydrophilic Polyelectrolyte Multilayers. Biomacromolecules, 2012, 13, 719-726.	5.4	93
85	Direct Quantification of the Mechanical Anisotropy and Fracture of an Individual Exoskeleton Layer via Uniaxial Compression of Micropillars. Nano Letters, 2011, 11, 3868-3874.	9.1	49
86	Nanomechanics of the Cartilage Extracellular Matrix. Annual Review of Materials Research, 2011, 41, 133-168.	9.3	159
87	Time-Dependent Nanomechanics of Cartilage. Biophysical Journal, 2011, 100, 1846-1854.	0.5	105
88	Poroelasticity of Cartilage at the Nanoscale. Biophysical Journal, 2011, 101, 2304-2313.	0.5	113
89	Geometrically Controlled Mechanically Responsive Polyelectrolyte Tube Arrays. Advanced Materials, 2011, 23, 4667-4673.	21.0	14
90	Dynamic mechanical properties of the tissue-engineered matrix associated with individual chondrocytes. Journal of Biomechanics, 2010, 43, 469-476.	2.1	40

#	Article	IF	Citations
91	Cartilage Aggrecan Can Undergo Self-Adhesion. Biophysical Journal, 2008, 95, 4862-4870.	0.5	42
92	Nanobiomechanics of Repair Bone Regenerated by Genetically Modified Mesenchymal Stem Cells. Tissue Engineering - Part A, 2008, 14, 1709-1720.	3.1	60
93	Lateral Nanomechanics of Cartilage Aggrecan Macromolecules. Biophysical Journal, 2007, 92, 1384-1398.	0.5	68
94	Nanoscale Shear Deformation Mechanisms of Opposing Cartilage Aggrecan Macromolecules. Biophysical Journal, 2007, 93, L23-L25.	0.5	29
95	Synthesis, preparation, and conformation of stimulus-responsive end-grafted poly(methacrylic) Tj ETQq1 1 0.784314 rgBT /Overlock 10	2.7	35
96	Compressive nanomechanics of opposing aggrecan macromolecules. Journal of Biomechanics, 2006, 39, 2555-2565.	2.1	85
97	Nanoscale Conformation and Compressibility of Cartilage Aggrecan Using Microcontact Printing and Atomic Force Microscopy. Macromolecules, 2005, 38, 4047-4049.	4.8	39