Benjamin R Freedman

List of Publications by Year
in descending order

110 papers	26,678 citations	36303 51 h-index	24982 109 g-index
111 all docs	111 docs citations	111 times ranked	29174 citing authors

#	Article	IF	Citations
1	Immuneâ€responsive biodegradable scaffolds for enhancing neutrophil regeneration. Bioengineering and Translational Medicine, 2023, 8, .	7.1	2
2	Inhibition of glucose use improves structural recovery of injured Achilles tendon in mice. Journal of Orthopaedic Research, 2022, 40, 1409-1419.	2.3	1
3	Materials for Implantable Surface Electrode Arrays: Current Status and Future Directions. Advanced Materials, 2022, 34, e2107207.	21.0	21
4	Achilles Tendon Ruptures in Middle-Aged Rats Heal Poorly Compared With Those in Young and Old Rats. American Journal of Sports Medicine, 2022, 50, 170-181.	4.2	5
5	Nonsurgical treatment reduces tendon inflammation and elevates tendon markers in early healing. Journal of Orthopaedic Research, 2022, 40, 2308-2319.	2.3	5
6	Enhanced tendon healing by a tough hydrogel with an adhesive side and high drug-loading capacity. Nature Biomedical Engineering, 2022, 6, 1167-1179.	22.5	92
7	Cryogel vaccines effectively induce immune responses independent of proximity to the draining lymph nodes. Biomaterials, 2022, 281, 121329.	11.4	13
8	Scaffold Vaccines for Generating Robust and Tunable Antibody Responses. Advanced Functional Materials, 2022, 32, .	14.9	9
9	Recent and Future Strategies of Mechanotherapy for Tissue Regenerative Rehabilitation. ACS Biomaterials Science and Engineering, 2022, 8, 4639-4642.	5.2	9
10	Biglycan has a major role in maintenance of mature tendon mechanics. Journal of Orthopaedic Research, 2022, 40, 2546-2556.	2.3	6
11	Increasing Vascular Response to Injury Improves Tendon Early Healing Outcome in Aged Rats. Annals of Biomedical Engineering, 2022, 50, 587-600.	2.5	10
12	Aging and matrix viscoelasticity affect multiscale tendon properties and tendon derived cell behavior. Acta Biomaterialia, 2022, 143, 63-71.	8.3	16
13	Development of a liposomal near-infrared fluorescence lactate assay for human blood. Biomaterials, 2022, 283, 121475.	11.4	6
14	Rapid Ultratough Topological Tissue Adhesives. Advanced Materials, 2022, 34, .	21.0	31
15	Modulation of vascular response after injury in the rat Achilles tendon alters healing capacity. Journal of Orthopaedic Research, 2021, 39, 2000-2016.	2.3	7
16	A novel two-component, expandable bioadhesive for exposed defect coverage: Applicability to prenatal procedures. Journal of Pediatric Surgery, 2021, 56, 165-169.	1.6	11
17	Generation of the Compression-induced Dedifferentiated Adipocytes (CiDAs) Using Hypertonic Medium. Bio-protocol, 2021, 11, e3920.	0.4	3
18	Mechanical properties of the different rotator cuff tendons in the rat are similarly and adversely affected by age. Journal of Biomechanics, 2021, 117, 110249.	2.1	8

#	Article	IF	Citations
19	Degradable and Removable Tough Adhesive Hydrogels. Advanced Materials, 2021, 33, e2008553.	21.0	99
20	Viscoelastic surface electrode arrays to interface with viscoelastic tissues. Nature Nanotechnology, 2021, 16, 1019-1029.	31.5	144
21	Tendinopathy and tendon material response to load: What we can learn from small animal studies. Acta Biomaterialia, 2021, 134, 43-56.	8.3	12
22	Skeletal muscle regeneration with robotic actuationâ€"mediated clearance of neutrophils. Science Translational Medicine, 2021, 13, eabe8868.	12.4	42
23	A Modular Biomaterial Scaffoldâ€Based Vaccine Elicits Durable Adaptive Immunity to Subunit SARSâ€CoVâ€2 Antigens. Advanced Healthcare Materials, 2021, 10, e2101370.	7.6	10
24	Tendon Biomechanics and Crimp Properties Following Fatigue Loading Are Influenced by Tendon Type and Age in Mice. Journal of Orthopaedic Research, 2020, 38, 36-42.	2.3	25
25	Singleâ€Shot Mesoporous Silica Rods Scaffold for Induction of Humoral Responses Against Small Antigens. Advanced Functional Materials, 2020, 30, 2002448.	14.9	31
26	Biomaterials as Local Niches for Immunomodulation. Accounts of Chemical Research, 2020, 53, 1749-1760.	15.6	73
27	Effects of extracellular matrix viscoelasticity on cellular behaviour. Nature, 2020, 584, 535-546.	27.8	1,045
28	Localized delivery of ibuprofen via a bilayer delivery system (BiLDS) for supraspinatus tendon healing in a rat model. Journal of Orthopaedic Research, 2020, 38, 2339-2349.	2.3	8
29	Nearâ€Infrared Fluorescence Hydrogen Peroxide Assay for Versatile Metabolite Biosensing in Whole Blood. Small, 2020, 16, e2000369.	10.0	12
30	Induced Knockdown of Decorin, Alone and in Tandem With Biglycan Knockdown, Directly Increases Aged Murine Patellar Tendon Viscoelastic Properties. Journal of Biomechanical Engineering, 2020, 142, .	1.3	9
31	Microstructured thin-film electrode technology enables proof of concept of scalable, soft auditory brainstem implants. Science Translational Medicine, 2019, 11, .	12.4	47
32	Ultrasound Evaluation of Anti-Vascular Endothelial Growth Factorâ€"Induced Changes in Vascular Response Following Tendon Injury. Ultrasound in Medicine and Biology, 2019, 45, 1841-1849.	1.5	8
33	Ultrasoundâ€Guided Dry Needling of the Healthy Rat Supraspinatus Tendon Elicits Early Healing Without Causing Permanent Damage. Journal of Orthopaedic Research, 2019, 37, 2035-2042.	2.3	20
34	Biomaterials to Mimic and Heal Connective Tissues. Advanced Materials, 2019, 31, e1806695.	21.0	131
35	Effects of immobilization angle on tendon healing after achilles rupture in a rat model. Journal of Orthopaedic Research, 2019, 37, 562-573.	2.3	29
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	A facile approach to enhance antigen response for personalized cancer vaccination. Nature Materials, 2018, 17, 528-534.	27.5	313
38	Tough Composite Hydrogels with High Loading and Local Release of Biological Drugs. Advanced Healthcare Materials, 2018, 7, e1701393.	7.6	52
39	Injectable, Tough Alginate Cryogels as Cancer Vaccines. Advanced Healthcare Materials, 2018, 7, e1701469.	7.6	96
40	Modulating Glucose Metabolism and Lactate Synthesis in Injured Mouse Tendons: Treatment With Dichloroacetate, a Lactate Synthesis Inhibitor, Improves Tendon Healing. American Journal of Sports Medicine, 2018, 46, 2222-2231.	4.2	19
41	Dynamic Loading and Tendon Healing Affect Multiscale Tendon Properties and ECM Stress Transmission. Scientific Reports, 2018, 8, 10854.	3.3	58
42	Hydrolytically-degradable click-crosslinked alginate hydrogels. Biomaterials, 2018, 181, 189-198.	11.4	79
43	Engineering a 3D-Bioprinted Model of Human Heart Valve Disease Using Nanoindentation-Based Biomechanics. Nanomaterials, 2018, 8, 296.	4.1	81
44	Mechanical, histological, and functional properties remain inferior in conservatively treated Achilles tendons in rodents: Long term evaluation. Journal of Biomechanics, 2017, 56, 55-60.	2.1	22
45	Engineering reversible elasticity in ductile and brittle thin films supported by a plastic foil. Extreme Mechanics Letters, 2017, 15, 63-69.	4.1	26
46	Temporal Healing of Achilles Tendons After Injury in Rodents Depends on Surgical Treatment and Activity. Journal of the American Academy of Orthopaedic Surgeons, The, 2017, 25, 635-647.	2.5	22
47	Decorin and biglycan are necessary for maintaining collagen fibril structure, fiber realignment, and mechanical properties of mature tendons. Matrix Biology, 2017, 64, 81-93.	3.6	159
48	Nonsurgical treatment and early return to activity leads to improved Achilles tendon fatigue mechanics and functional outcomes during early healing in an animal model. Journal of Orthopaedic Research, 2016, 34, 2172-2180.	2.3	53
49	Mechanisms of mesenchymal stem cell correction of the impaired biomechanical properties of diabetic skin: The role of miRâ€29a. Wound Repair and Regeneration, 2016, 24, 237-246.	3.0	24
50	Postinjury biomechanics of Achilles tendon vary by sex and hormone status. Journal of Applied Physiology, 2016, 121, 1106-1114.	2.5	21
51	Designing hydrogels for controlled drug delivery. Nature Reviews Materials, 2016, 1, .	48.7	2,817
52	Injury response of geriatric mouse patellar tendons. Journal of Orthopaedic Research, 2016, 34, 1256-1263.	2.3	22
53	Tendon mineralization is progressive and associated with deterioration of tendon biomechanical properties, and requires BMP-Smad signaling in the mouse Achilles tendon injury model. Matrix Biology, 2016, 52-54, 315-324.	3.6	36
54	Advances in Therapeutic Cancer Vaccines. Advances in Immunology, 2016, 130, 191-249.	2.2	88

#	Article	IF	Citations
55	Hydrogels with tunable stress relaxation regulate stem cell fate and activity. Nature Materials, 2016, 15, 326-334.	27.5	1,650
56	Injectable, Poreâ€Forming Hydrogels for In Vivo Enrichment of Immature Dendritic Cells. Advanced Healthcare Materials, 2015, 4, 2677-2687.	7.6	92
57	Genetic Response of Rat Supraspinatus Tendon and Muscle to Exercise. PLoS ONE, 2015, 10, e0139880.	2.5	13
58	Versatile click alginate hydrogels crosslinked via tetrazineâ€"norbornene chemistry. Biomaterials, 2015, 50, 30-37.	11.4	238
59	MRI-based analysis of patellofemoral cartilage contact, thickness, and alignment in extension, and during moderate and deep flexion. Knee, 2015, 22, 405-410.	1.6	13
60	Micromechanical poroelastic finite element and shear-lag models of tendon predict large strain dependent Poissonâ€™s ratios and fluid expulsion under tensile loading. Acta Biomaterialia, 2015, 22, 83-91.	8.3	47
61	Evaluating changes in tendon crimp with fatigue loading as an ex vivo structural assessment of tendon damage. Journal of Orthopaedic Research, 2015, 33, 904-910.	2.3	35
62	Regulatory role of collagen V in establishing mechanical properties of tendons and ligaments is tissue dependent. Journal of Orthopaedic Research, 2015, 33, 882-888.	2.3	32
63	The (dys)functional extracellular matrix. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 3153-3164.	4.1	72
64	Targeted Deletion of Collagen V in Tendons and Ligaments Results in a Classic Ehlers-Danlos Syndrome Joint Phenotype. American Journal of Pathology, 2015, 185, 1436-1447.	3.8	46
65	Injectable cryogel-based whole-cell cancer vaccines. Nature Communications, 2015, 6, 7556.	12.8	312
66	Matrix elasticity of void-forming hydrogels controls transplanted-stem-cell-mediated boneÂformation. Nature Materials, 2015, 14, 1269-1277.	27.5	390
67	Injectable, spontaneously assembling, inorganic scaffolds modulate immune cells in vivo and increase vaccine efficacy. Nature Biotechnology, 2015, 33, 64-72.	17.5	436
68	Changing the Mindset in Life Sciences Toward Translation: A Consensus. Science Translational Medicine, 2014, 6, 264cm12.	12.4	42
69	Analysis of Collagen Organization in Mouse Achilles Tendon Using High-Frequency Ultrasound Imaging. Journal of Biomechanical Engineering, 2014, 136, 021029.	1.3	46
70	In situ fibril stretch and sliding is location-dependent in mouse supraspinatus tendons. Journal of Biomechanics, 2014, 47, 3794-3798.	2.1	17
71	Biomechanical and structural response of healing Achilles tendon to fatigue loading following acute injury. Journal of Biomechanics, 2014, 47, 2028-2034.	2.1	65
72	Injectable, porous, and cell-responsive gelatin cryogels. Biomaterials, 2014, 35, 2477-2487.	11.4	266

#	Article	IF	Citations
73	The Tendon Injury Response is Influenced by Decorin and Biglycan. Annals of Biomedical Engineering, 2014, 42, 619-630.	2.5	66
74	Re-evaluating the functional implications of the Q-angle and its relationship to in-vivo patellofemoral kinematics. Clinical Biomechanics, 2014, 29, 1139-1145.	1.2	38
75	The Detrimental Effects of Systemic Ibuprofen Delivery on Tendon Healing Are Time-Dependent. Clinical Orthopaedics and Related Research, 2014, 472, 2433-2439.	1.5	70
76	Extracellular matrix stiffness and composition jointly regulate the induction of malignant phenotypes in mammary epithelium. Nature Materials, 2014, 13, 970-978.	27.5	689
77	Performance and biocompatibility of extremely tough alginate/polyacrylamide hydrogels. Biomaterials, 2013, 34, 8042-8048.	11.4	282
78	Decorin expression is important for age-related changes in tendon structure and mechanical properties. Matrix Biology, 2013, 32, 3-13.	3.6	169
79	Predicting threeâ€dimensional patellofemoral kinematics from static imagingâ€based alignment measures. Journal of Orthopaedic Research, 2013, 31, 441-447.	2.3	34
80	Determining the contribution of glycosaminoglycans to tendon mechanical properties with a modified shear-lag model. Journal of Biomechanics, 2013, 46, 2497-2503.	2.1	52
81	Structureâ€“function relationships of postnatal tendon development: A parallel to healing. Matrix Biology, 2013, 32, 106-116.	3.6	100
82	The dynamics of collagen uncrimping and lateral contraction in tendon and the effect of ionic concentration. Journal of Biomechanics, 2013, 46, 2242-2249.	2.1	37
83	Materials based tumor immunotherapy vaccines. Current Opinion in Immunology, 2013, 25, 238-245.	5.5	53
84	Effect of Age and Proteoglycan Deficiency on Collagen Fiber Re-Alignment and Mechanical Properties in Mouse Supraspinatus Tendon. Journal of Biomechanical Engineering, 2013, 135, 021019.	1.3	73
85	Mechanical, compositional, and structural properties of the mouse patellar tendon with changes in biglycan gene expression. Journal of Orthopaedic Research, 2013, 31, 1430-1437.	2.3	61
86	Biaxial Tensile Testing and Constitutive Modeling of Human Supraspinatus Tendon. Journal of Biomechanical Engineering, 2012, 134, 021004.	1.3	63
87	Influence of Decorin on the Mechanical, Compositional, and Structural Properties of the Mouse Patellar Tendon. Journal of Biomechanical Engineering, 2012, 134, 031005.	1.3	77
88	Effect of Preconditioning and Stress Relaxation on Local Collagen Fiber Re-Alignment: Inhomogeneous Properties of Rat Supraspinatus Tendon. Journal of Biomechanical Engineering, 2012, 134, 031007.	1.3	63
89	Examining Differences in Local Collagen Fiber Crimp Frequency Throughout Mechanical Testing in a Developmental Mouse Supraspinatus Tendon Model. Journal of Biomechanical Engineering, 2012, 134, 041004.	1.3	42
90	Highly stretchable and tough hydrogels. Nature, 2012, 489, 133-136.	27.8	4,089

#	Article	IF	Citations
91	Development and evaluation of multiple tendon injury models in the mouse. Journal of Biomechanics, 2012, 45, 1550-1553.	2.1	61
92	Characterizing local collagen fiber re-alignment and crimp behavior throughout mechanical testing in a mature mouse supraspinatus tendon model. Journal of Biomechanics, 2012, 45, 2061-2065.	2.1	84
93	Alginate: Properties and biomedical applications. Progress in Polymer Science, 2012, 37, 106-126.	24.7	5,658
94	Mechanical, Compositional, and Structural Properties of the Post-natal Mouse Achilles Tendon. Annals of Biomedical Engineering, 2011, 39, 1904-1913.	2.5	83
95	Relationship of vaccine efficacy to the kinetics of DC and T-cell responses induced by PLG-based cancer vaccines. Biomatter, 2011, 1, 66-75.	2.6	31
96	Exercise following a short immobilization period is detrimental to tendon properties and joint mechanics in a rat rotator cuff injury model. Journal of Orthopaedic Research, 2010, 28, 841-845.	2.3	65
97	Transient decreases in forelimb gait and ground reaction forces following rotator cuff injury and repair in a rat model. Journal of Biomechanics, 2010, 43, 778-782.	2.1	43
98	Harnessing traction-mediated manipulation of the cell/matrix interface to control stem-cell fate. Nature Materials, 2010, 9, 518-526.	27.5	1,319
99	The Effect of Postoperative Passive Motion on Rotator Cuff Healing in a Rat Model. Journal of Bone and Joint Surgery - Series A, 2009, 91, 2421-2429.	3.0	103
100	In Situ Regulation of DC Subsets and T Cells Mediates Tumor Regression in Mice. Science Translational Medicine, 2009, 1, 8ra19.	12.4	211
101	Effect of fiber distribution and realignment on the nonlinear and inhomogeneous mechanical properties of human supraspinatus tendon under longitudinal tensile loading. Journal of Orthopaedic Research, 2009, 27, 1596-1602.	2.3	259
102	Infection-mimicking materials to program dendritic cells in situ. Nature Materials, 2009, 8, 151-158.	27.5	386
103	After rotator cuff repair, stiffnessâ€"but not the loss in range of motionâ€"increased transiently for immobilized shoulders in a rat model. Journal of Shoulder and Elbow Surgery, 2008, 17, S108-S113.	2.6	51
104	Tendon healing in interleukin-4 and interleukin-6 knockout mice. Journal of Biomechanics, 2006, 39, 61-69.	2.1	128
105	Decorin regulates assembly of collagen fibrils and acquisition of biomechanical properties during tendon development. Journal of Cellular Biochemistry, 2006, 98, 1436-1449.	2.6	361
106	Controlling alginate gel degradation utilizing partial oxidation and bimodal molecular weight distribution. Biomaterials, 2005, 26, 2455-2465.	11.4	565
107	Influence of Decorin and Biglycan on Mechanical Properties of Multiple Tendons in Knockout Mice. Journal of Biomechanical Engineering, 2005, 127, 181-185.	1.3	167
108	The tensile properties of alginate hydrogels. Biomaterials, 2004, 25, 3187-3199.	11.4	469

#	Article	IF	Citations
109	Effect of Altered Matrix Proteins on Quasilinear Viscoelastic Properties in Transgenic Mouse Tail Tendons. Annals of Biomedical Engineering, 2003, 31, 599-605.	2.5	176
110	Degradation of Partially Oxidized Alginate and Its Potential Application for Tissue Engineering. Biotechnology Progress, 2001, 17, 945-950.	2.6	573