Brendon M Baker

List of Publications by Citations

65 papers	6,383 citations	29 h-index	74 g-index
74 ext. papers	7,310 ext. citations	10.4 avg, IF	6.06 L-index

#	Paper	IF	Citations
65	Rapid casting of patterned vascular networks for perfusable engineered three-dimensional tissues. *Nature Materials*, **2012**, 11, 768-74	27	1402
64	Deconstructing the third dimension: how 3D culture microenvironments alter cellular cues. *Journal of Cell Science*, **2012**, 125, 3015-24	5.3	1055
63	The potential to improve cell infiltration in composite fiber-aligned electrospun scaffolds by the selective removal of sacrificial fibers. *Biomaterials*, **2008**, 29, 2348-58	15.6	494
62	Cell-mediated fibre recruitment drives extracellular matrix mechanosensing in engineered fibrillar microenvironments. *Nature Materials*, **2015**, 14, 1262-8	27	356
61	The effect of nanofiber alignment on the maturation of engineered meniscus constructs. *Biomaterials*, **2007**, 28, 1967-77	15.6	302
60	Nanofibrous biologic laminates replicate the form and function of the annulus fibrosus. *Nature Materials*, **2009**, 8, 986-92	27	270
59	Endothelial cell sensing of flow direction. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2013**, 33, 2130-6	9.4	181
58	Fibrous hyaluronic acid hydrogels that direct MSC chondrogenesis through mechanical and adhesive cues. *Biomaterials*, **2013**, 34, 5571-80	15.6	177
57	Engineering on the straight and narrow: the mechanics of nanofibrous assemblies for fiber-reinforced tissue regeneration. *Tissue Engineering - Part B: Reviews*, **2009**, 15, 171-93	7.9	166
56	Matrix degradability controls multicellularity of 3D cell migration. *Nature Communications*, **2017**, 8, 371	17.4	145
55	A DNA-based molecular probe for optically reporting cellular traction forces. *Nature Methods*, **2014**, 11, 1229-32	21.6	133
54	Sacrificial nanofibrous composites provide instruction without impediment and enable functional tissue formation. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 14176-81	11.5	132
53	Microfluidics embedded within extracellular matrix to define vascular architectures and pattern diffusive gradients. *Lab on A Chip*, **2013**, 13, 3246-52	7.2	126
52	Remodeling of fibrous extracellular matrices by contractile cells: predictions from discrete fiber network simulations. *Biophysical Journal*, **2014**, 107, 1829-1840	2.9	112
51	Dynamic culture enhances stem cell infiltration and modulates extracellular matrix production on aligned electrospun nanofibrous scaffolds. *Acta Biomaterialia*, **2011**, 7, 485-91	10.8	90
50	New directions in nanofibrous scaffolds for soft tissue engineering and regeneration. *Expert Review of Medical Devices*, **2009**, 6, 515-32	3.5	90
49	Dynamic tensile loading improves the functional properties of mesenchymal stem cell-laden nanofiber-based fibrocartilage. *Tissue Engineering - Part A*, **2011**, 17, 1445-55	3.9	87

48	Differentiation alters stem cell nuclear architecture, mechanics, and mechano-sensitivity. *ELife*, **2016**, 5,	8.9	86
47	The influence of an aligned nanofibrous topography on human mesenchymal stem cell fibrochondrogenesis. *Biomaterials*, **2010**, 31, 6190-200	15.6	83
46	Mechano-topographic modulation of stem cell nuclear shape on nanofibrous scaffolds. *Acta Biomaterialia*, **2011**, 7, 57-66	10.8	76
45	Fabrication and modeling of dynamic multipolymer nanofibrous scaffolds. *Journal of Biomechanical Engineering*, **2009**, 131, 101012	2.1	68
44	Actomyosin contractility-dependent matrix stretch and recoil induces rapid cell migration. *Nature Communications*, **2019**, 10, 1186	17.4	66
43	Therapeutic Targeting of TAZ and YAP by Dimethyl Fumarate in Systemic Sclerosis Fibrosis. *Journal of Investigative Dermatology*, **2018**, 138, 78-88	4.3	61
42	Multiscale model predicts increasing focal adhesion size with decreasing stiffness in fibrous matrices. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E4549-E4555	11.5	60
41	Electrospinning of photocrosslinked and degradable fibrous scaffolds. *Journal of Biomedical Materials Research - Part A*, **2008**, 87, 1034-43	5.4	56
40	Cell force-mediated matrix reorganization underlies multicellular network assembly. *Scientific Reports*, **2019**, 9, 12	4.9	52
39	Extracellular matrix alignment dictates the organization of focal adhesions and directs uniaxial cell migration. *APL Bioengineering*, **2018**, 2, 046107	6.6	47
38	Fiber stretch and reorientation modulates mesenchymal stem cell morphology and fibrous gene expression on oriented nanofibrous microenvironments. *Annals of Biomedical Engineering*, **2011**, 39, 2780-90	4.7	40
37	Fiber Density Modulates Cell Spreading in 3D Interstitial Matrix Mimetics. *ACS Biomaterials Science and Engineering*, **2019**, 5, 2965-2975	5.5	39
36	Microengineered 3D pulmonary interstitial mimetics highlight a critical role for matrix degradation in myofibroblast differentiation. *Science Advances*, **2020**, 6,	14.3	28
35	Functional angiogenesis requires microenvironmental cues balancing endothelial cell migration and proliferation. *Lab on A Chip*, **2020**, 20, 1153-1166	7.2	27
34	Requirement for scleraxis in the recruitment of mesenchymal progenitors during embryonic tendon elongation. *Development (Cambridge)*, **2019**, 146,	6.6	25
33	Meniscus tissue engineering on the nanoscale: from basic principles to clinical application. *Journal of Knee Surgery*, **2009**, 22, 45-59	2.4	25
32	Engineered Fibrous Networks To Investigate the Influence of Fiber Mechanics on Myofibroblast Differentiation. *ACS Biomaterials Science and Engineering*, **2019**, 5, 3899-3908	5.5	23
31	Myofibroblast activation in synthetic fibrous matrices composed of dextran vinyl sulfone. *Acta Biomaterialia*, **2020**, 105, 78-86	10.8	23

30	Micropatterned multicolor dynamically adhesive substrates to control cell adhesion and multicellular organization. *Langmuir*, **2014**, 30, 1327-35	4	21
29	Fabrication and evaluation of biomimetic-synthetic nanofibrous composites for soft tissue regeneration. *Cell and Tissue Research*, **2012**, 347, 803-13	4.2	21
28	The emerin-binding transcription factor Lmo7 is regulated by association with p130Cas at focal adhesions. *PeerJ*, **2013**, 1, e134	3.1	18
27	Immobilization after injury alters extracellular matrix and stem cell fate. *Journal of Clinical Investigation*, **2020**, 130, 5444-5460	15.9	12
26	Engineering of fiber-reinforced tissues with anisotropic biodegradable nanofibrous scaffolds. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2006**, 2006, 787-90		11
25	Microenvironmental determinants of organized iPSC-cardiomyocyte tissues on synthetic fibrous matrices. *Biomaterials Science*, **2021**, 9, 93-107	7.4	11
24	Stable and transient bubble formation in acoustically-responsive scaffolds by acoustic droplet vaporization: theory and application in sequential release. *Ultrasonics Sonochemistry*, **2021**, 72, 105430	8.9	8
23	Spatiotemporal control of micromechanics and microstructure in acoustically-responsive scaffolds using acoustic droplet vaporization. *Soft Matter*, **2020**, 16, 6501-6513	3.6	7
22	Fiber Crimp Confers Matrix Mechanical Nonlinearity, Regulates Endothelial Cell Mechanosensing, and Promotes Microvascular Network Formation. *Journal of Biomechanical Engineering*, **2020**, 142,	2.1	6
21	Stromal cell identity modulates vascular morphogenesis in a microvasculature-on-a-chip platform. *Lab on A Chip*, **2021**, 21, 1150-1163	7.2	6
20	Sequestered cell-secreted extracellular matrix proteins improve murine folliculogenesis and oocyte maturation for fertility preservation. *Acta Biomaterialia*, **2021**, 132, 313-324	10.8	6
19	Optical coherence tomography and fluorescence microscopy dual-modality imaging for in vivo single-cell tracking with nanowire lasers. *Biomedical Optics Express*, **2020**, 11, 3659-3672	3.5	5
18	Magnetic Alignment of Electrospun Fiber Segments Within a Hydrogel Composite Guides Cell Spreading and Migration Phenotype Switching. *Frontiers in Bioengineering and Biotechnology*, **2021**, 9, 679165	5.8	5
17	Direct comparison of angiogenesis in natural and synthetic biomaterials reveals that matrix porosity regulates endothelial cell invasion speed and sprout diameter. *Acta Biomaterialia*, **2021**, 135, 260-273	10.8	5
16	Dynamic Endothelial Stalk Cell-Matrix Interactions Regulate Angiogenic Sprout Diameter. *Frontiers in Bioengineering and Biotechnology*, **2021**, 9, 620128	5.8	4
15	Engineered Extracellular Matrices with Integrated Wireless Microactuators to Study Mechanobiology. *Advanced Materials*, **2021**, 33, e2102641	24	4
14	The living interface between synthetic biology and biomaterial design.. *Nature Materials*, **2022**, 21, 390-397	27	4
13	Physiologic biomechanics enhance reproducible contractile development in a stem cell derived cardiac muscle platform. *Nature Communications*, **2021**, 12, 6167	17.4	3

12	The Role of Rho GTPases During Fibroblast Spreading, Migration, and Myofibroblast Differentiation in 3D Synthetic Fibrous Matrices. *Cellular and Molecular Bioengineering*, **2021**, 14, 381-396	3.9	3
11	Engineering Control over 3D Morphogenesis by Tissue Origami. *Developmental Cell*, **2018**, 44, 131-132	10.2	2
10	Mechanics and Cytocompatibility of Genipin Crosslinked Type I Collagen Nanofibrous Scaffolds **2008**,		2
9	Aligned Networks of Engineered Fibrillar Fibronectin Guide Cellular Orientation and Motility. *Small Structures*, **2021**, 2, 2000137	8.7	2
8	Nonswelling and Hydrolytically Stable Hydrogels Uncover Cellular Mechanosensing in 3D.. *Advanced Science*, **2022**, e2105325	13.6	2
7	Fabrication and Modeling of an Electrospun Tri-Polymer Composite for the Engineering of Fibrous Tissues **2008**,		1
6	Spatiotemporal control of myofibroblast activation in acoustically-responsive scaffolds via ultrasound-induced matrix stiffening. *Acta Biomaterialia*, **2021**,	10.8	1
5	Facile formation of giant elastin-like polypeptide vesicles as synthetic cells. *Chemical Communications*, **2021**, 57, 13202-13205	5.8	1
4	Fiber density and matrix stiffness modulate distinct cell migration modes in a 3D stroma mimetic composite hydrogel		1
3	Quantification and immunoprofiling of bladder cancer cell-derived extracellular vesicles with microfluidic chemiluminescent ELISA. *Biosensors and Bioelectronics: X*, **2021**, 8, 100066	2.9	1
2	Printable Organic Electronic Materials for Precisely Positioned Cell Attachment. *Langmuir*, **2021**, 37, 1874-1881	4	1
1	Fresh and cryopreserved ovarian tissue from deceased young donors yields viable follicles.. *F&S Science*, **2021**, 2, 248-258	0.4	0