Adam J Engler

List of Publications by Year
in descending order

132 papers	29,111 citations	39113 52 h-index	20023 121 g-index
141 all docs	141 docs citations	141 times ranked	32596 citing authors

#	Article	IF	Citations
1	Improved epicardial cardiac fibroblast generation from iPSCs. Journal of Molecular and Cellular Cardiology, 2022, 164, 58-68.	0.9	3
2	Engineering the niche to differentiate and deploy cardiovascular cells. Current Opinion in Biotechnology, 2022, 74, 122-128.	3.3	2
3	Subcellular Remodeling in Filamin C Deficient Mouse Hearts Impairs Myocyte Tension Development during Progression of Dilated Cardiomyopathy. International Journal of Molecular Sciences, 2022, 23, 871.	1.8	8
4	The Hippo pathway mediates Semaphorin signaling. Science Advances, 2022, 8, .	4.7	6
5	Adhesion strength and contractility enable metastatic cells to become adurotactic. Cell Reports, 2021, 34, 108816.	2.9	34
6	Acetabular Bone Marrow Aspiration During Total Hip Arthroplasty. Journal of the American Academy of Orthopaedic Surgeons, The, 2021, 29, e815-e819.	1.1	0
7	Regenerative cross talk between cardiac cells and macrophages. American Journal of Physiology - Heart and Circulatory Physiology, 2021, 320, H2211-H2221.	1.5	15
8	Editorial: Understanding molecular interactions that underpin vascular mechanobiology. APL Bioengineering, 2021, 5, 030401.	3.3	3
9	High shear stress enhances endothelial permeability in the presence of the risk haplotype at 9p21.3. APL Bioengineering, 2021, 5, 036102.	3.3	3
10	Atomic Force for Live-Cell and Hydrogel Measurement. Methods in Molecular Biology, 2021, 2299, 217-226.	0.4	1
11	Computational models of migration modes improve our understanding of metastasis. APL Bioengineering, 2020, 4, 041505.	3.3	10
12	EGFRvIII uses intrinsic and extrinsic mechanisms to reduce glioma adhesion and increase migration. Journal of Cell Science, 2020, 133, .	1.2	8
13	Metabolic Dysregulation of the Lysophospholipid/Autotaxin Axis in the Chromosome 9p21 Gene SNP rs10757274. Circulation Genomic and Precision Medicine, 2020, 13, e002806.	1.6	6
14	Multi-scale cellular engineering: From molecules to organ-on-a-chip. APL Bioengineering, 2020, 4, 010906.	3.3	8
15	Academic vs industry perspectives in 3D bioprinting. APL Bioengineering, 2020, 4, 010401.	3.3	6
16	Matrix Rigidity Controls Epithelial-Mesenchymal Plasticity and Tumor Metastasis via a Mechanoresponsive EPHA2/LYN Complex. Developmental Cell, 2020, 54, 302-316.e7.	3.1	128
17	Cell Adhesiveness Serves as a Biophysical Marker for Metastatic Potential. Cancer Research, 2020, 80, 901-911.	0.4	46
18	Hâ€Ras Transformation of Mammary Epithelial Cells Induces ERKâ€Mediated Spreading on Low Stiffness Matrix. Advanced Healthcare Materials, 2020, 9, e1901366.	3.9	7

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19	Matrix stiffness mechanically conditions EMT and migratory behavior of oral squamous cell carcinoma. Journal of Cell Science, 2019, 132, .	1.2	60
20	Substrate stiffness directs diverging vascular fates. Acta Biomaterialia, 2019, 96, 321-329.	4.1	32
21	3D collagen architecture regulates cell adhesion through degradability, thereby controlling metabolic and oxidative stress. Integrative Biology (United Kingdom), 2019, 11, 221-234.	0.6	33
22	Macromolecular crowding tunes 3D collagen architecture and cell morphogenesis. Biomaterials Science, 2019, 7, 618-633.	2.6	37
23	Mechanical activation of noncoding-RNA-mediated regulation of disease-associated phenotypes in human cardiomyocytes. Nature Biomedical Engineering, 2019, 3, 137-146.	11.6	30
24	Mechanical influences on cardiovascular differentiation and disease modeling. Experimental Cell Research, 2019, 377, 103-108.	1.2	4
25	Combinatorial interactions of genetic variants in human cardiomyopathy. Nature Biomedical Engineering, 2019, 3, 147-157.	11.6	37
26	Dynamically stiffened matrix promotes malignant transformation of mammary epithelial cells via collective mechanical signaling. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 3502-3507.	3.3	108
27	Fifteen years of <i>Servitude et Grandeur</i> to the application of a biophysical technique in medicine: The tale of AFMBioMed. Journal of Molecular Recognition, 2019, 32, e2773.	1.1	4
28	The role of mechanobiology in progression of rotator cuff muscle atrophy and degeneration. Journal of Orthopaedic Research, 2018, 36, 546-556.	1.2	21
29	Recent Advances in Extrusionâ€Based 3D Printing for Biomedical Applications. Advanced Healthcare Materials, 2018, 7, e1701161.	3.9	289
30	Extracellular matrix in lung development, homeostasis and disease. Matrix Biology, 2018, 73, 77-104.	1.5	200
31	Rationally engineered advances in cancer research. APL Bioengineering, 2018, 2, 031601.	3.3	2
32	Unveiling the Role of the Most Impactful Cardiovascular Risk Locus through Haplotype Editing. Cell, 2018, 175, 1796-1810.e20.	13.5	95
33	Biomaterials to model and measure epithelial cancers. Nature Reviews Materials, 2018, 3, 418-430.	23.3	51
34	Preserved cardiac function by vinculin enhances glucose oxidation and extends health- and life-span. APL Bioengineering, 2018, 2, .	3.3	5
35	RAP2 mediates mechanoresponses of the Hippo pathway. Nature, 2018, 560, 655-660.	13.7	266
36	Heterogeneous muscle gene expression patterns in patients with massive rotator cuff tears. PLoS ONE, 2018, 13, e0190439.	1.1	8

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37	Biomaterials to model and measure epithelial cancers. Nature Reviews Materials, 2018, 3, 418-430.	23.3	12
38	Modest overexpression of <i><scp>FOXO</scp></i> maintains cardiac proteostasis and ameliorates ageâ€associated functional decline. Aging Cell, 2017, 16, 93-103.	3.0	31
39	Metastatic State of Cancer Cells May Be Indicated by Adhesion Strength. Biophysical Journal, 2017, 112, 736-745.	0.2	65
40	Mechanically patterned neuromuscular junctions-in-a-dish have improved functional maturation. Molecular Biology of the Cell, 2017, 28, 1950-1958.	0.9	48
41	Mechanical regulation of cardiac fibroblast profibrotic phenotypes. Molecular Biology of the Cell, 2017, 28, 1871-1882.	0.9	160
42	Stem cell migration and mechanotransduction on linear stiffness gradient hydrogels. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5647-5652.	3.3	370
43	The provisional matrix: setting the stage for tissue repair outcomes. Matrix Biology, 2017, 60-61, 1-4.	1.5	117
44	Understanding the extracellular forces that determine cell fate and maintenance. Development (Cambridge), 2017, 144, 4261-4270.	1.2	147
45	Extracellular matrix downregulation in the Drosophila heart preserves contractile function and improves lifespan. Matrix Biology, 2017, 62, 15-27.	1.5	25
46	Rotator cuff tear state modulates self-renewal and differentiation capacity of human skeletal muscle progenitor cells. Journal of Orthopaedic Research, 2017, 35, 1816-1823.	1.2	4
47	Muscle architectural changes after massive human rotator cuff tear. Journal of Orthopaedic Research, 2016, 34, 2089-2095.	1.2	21
48	Mechanical Regulation of Cardiac Aging in Model Systems. Circulation Research, 2016, 118, 1553-1562.	2.0	42
49	High content image analysis of focal adhesion-dependent mechanosensitive stem cell differentiation. Integrative Biology (United Kingdom), 2016, 8, 1049-1058.	0.6	21
50	Sixth International AFM BioMed Conference on AFM in life sciences and medicine, December 13 to 17, 2014, San Diego, California. Journal of Molecular Recognition, 2016, 29, 404-405.	1.1	4
51	Vinculin Remodeling of the Sarcomere Lattice Regulates Contractile Function. Biophysical Journal, 2016, 110, 94a.	0.2	0
52	Mechanical Forces Reshape Differentiation Cues That Guide Cardiomyogenesis. Circulation Research, 2016, 118, 296-310.	2.0	58
53	Mechanical Characterization of a Dynamic and Tunable Methacrylated Hyaluronic Acid Hydrogel. Journal of Biomechanical Engineering, 2016, 138, 021003.	0.6	46
54	Layered hydrogels accelerate iPSC-derived neuronal maturation and reveal migration defects caused by MeCP2 dysfunction. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3185-3190.	3.3	136

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55	Mechanical Signaling in Epithelialâ€Mesenchymal Transition. FASEB Journal, 2016, 30, 222.3.	0.2	0
56	Extracellular matrix regulation in the muscle satellite cell niche. Connective Tissue Research, 2015, 56, 1-8.	1.1	143
57	Acute shear stress direction dictates adherent cell remodeling and verifies shear profile of spinning disk assays. Physical Biology, 2015, 12, 016011.	0.8	16
58	3D surface topology guides stem cell adhesion and differentiation. Biomaterials, 2015, 52, 140-147.	5.7	165
59	Haptotaxis is Cell Type Specific and Limited by Substrate Adhesiveness. Cellular and Molecular Bioengineering, 2015, 8, 530-542.	1.0	31
60	Epimuscular Fat in the Human Rotator Cuff Is a Novel Beige Depot. Stem Cells Translational Medicine, 2015, 4, 764-774.	1.6	24
61	Epigenetic Regulation of Phosphodiesterases 2A and 3A Underlies Compromised Î²-Adrenergic Signaling in an iPSC Model of Dilated Cardiomyopathy. Cell Stem Cell, 2015, 17, 89-100.	5.2	170
62	The Cytoskeleton Regulates Cell Attachment Strength. Biophysical Journal, 2015, 109, 57-65.	0.2	26
63	Vinculin networkâ€"mediated cytoskeletal remodeling regulates contractile function in the aging heart. Science Translational Medicine, 2015, 7, 292ra99.	5.8	81
64	Muscle progenitor cell regenerative capacity in the torn rotator cuff. Journal of Orthopaedic Research, 2015, 33, 421-429.	1.2	27
65	Nonlinear 3D projection printing of concave hydrogel microstructures for long-term multicellular spheroid and embryoid body culture. Lab on A Chip, 2015, 15, 2412-2418.	3.1	85
66	Traction forces mediated by integrin signaling are necessary for definitive endoderm specification. Journal of Cell Science, 2015, 128, 1961-1968.	1.2	26
67	Transfer stamping of human mesenchymal stem cell patches using thermally expandable hydrogels with tunable cell-adhesive properties. Biomaterials, 2015, 54, 44-54.	5.7	30
68	Matrix stiffness drives epithelialâ€"mesenchymal transition and tumour metastasis through a TWIST1â€"G3BP2 mechanotransduction pathway. Nature Cell Biology, 2015, 17, 678-688.	4.6	699
69	Traction forces mediated by integrin signaling are necessary for definitive endoderm specification. Development (Cambridge), 2015, 142, e1106-e1106.	1.2	0
70	Cation Type Specific Cell Remodeling Regulates Attachment Strength. PLoS ONE, 2014, 9, e102424.	1.1	17
71	Cellular Signaling. , 2014, , 111-148.		1
72	A <i>Drosophila melanogaster</i> Model of Diastolic Dysfunction and Cardiomyopathy Based on Impaired Troponin-T Function. Circulation Research, 2014, 114, e6-17.	2.0	40

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73	Preface. Progress in Molecular Biology and Translational Science, 2014, 126, xiii-xiv.	0.9	0
74	Digital Plasmonic Patterning for Localized Tuning of Hydrogel Stiffness. Advanced Functional Materials, 2014, 24, 4922-4926.	7.8	39
75	A dual role for integrinâ€linked kinase and Î²1â€integrin in modulating cardiac aging. Aging Cell, 2014, 13, 431-440.	3.0	49
76	From Stem Cells to Cardiomyocytes. Progress in Molecular Biology and Translational Science, 2014, 126, 219-242.	0.9	9
77	Integrin Avidity and Cytoskeletal Remodeling Regulate Force-Mediated Cell Detachment. Biophysical Journal, 2014, 106, 358a.	0.2	0
78	Materials as stem cell regulators. Nature Materials, 2014, 13, 547-557.	13.3	794
79	Interplay of matrix stiffness and protein tethering in stem cell differentiation. Nature Materials, 2014, 13, 979-987.	13.3	812
80	Mechanosensitive Kinases Regulate Stiffness-Induced Cardiomyocyte Maturation. Scientific Reports, 2014, 4, 6425.	1.6	56
81	In situ mechanotransduction via vinculin regulates stem cell differentiation. Stem Cells, 2013, 31, 2467-2477.	1.4	100
82	Dynamic and reversible surface topography influences cell morphology. Journal of Biomedical Materials Research - Part A, 2013, 101A, 2313-2321.	2.1	47
83	In vivo response to dynamic hyaluronic acid hydrogels. Acta Biomaterialia, 2013, 9, 7151-7157.	4.1	30
84	Stimulation of adipogenesis of adult adipose-derived stem cells using substrates that mimic the stiffness of adipose tissue. Biomaterials, 2013, 34, 8581-8588.	5.7	197
85	Post-degradation forces kick in. Nature Materials, 2013, 12, 384-386.	13.3	16
86	Defined extracellular matrix components are necessary for definitive endoderm induction. Stem Cells, 2013, 31, 2084-2094.	1.4	39
87	Engineered ECM Microenvironments and Their Regulation of Stem Cells. Biology of Extracellular Matrix, 2013, , 133-160.	0.3	2
88	A co-culture device with a tunable stiffness to understand combinatorial cellâ€“cell and cellâ€“matrix interactions. Integrative Biology (United Kingdom), 2013, 5, 1344.	0.6	23
89	Mesenchymal stem cell durotaxis depends on substrate stiffness gradient strength. Biotechnology Journal, 2013, 8, 472-484.	1.8	219
90	Density Gradient Multilayered Polymerization (DGMP): A Novel Technique for Creating Multi-compartment, Customizable Scaffolds for Tissue Engineering. Journal of Visualized Experiments, 2013, , .	0.2	5

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91	Control of stem cell fate and function by engineering physical microenvironments. Integrative Biology (United Kingdom), 2012, 4, 1008-1018.	0.6	226
92	Cell Instructive Microporous Scaffolds through Interface Engineering. Journal of the American Chemical Society, 2012, 134, 20103-20109.	6.6	66
93	The alignment and fusion assembly of adipose-derived stem cells on mechanically patterned matrices. Biomaterials, 2012, 33, 6943-6951.	5.7	141
94	Measuring passive myocardial stiffness in <i><scp>D</scp>rosophila melanogaster</i> to investigate diastolic dysfunction. Journal of Cellular and Molecular Medicine, 2012, 16, 1656-1662.	1.6	27
95	Surface Chemistry of Protein Adhesion Domains on Diblock Copolymer Films Characterized by Chemical Force Spectroscopy Mapping Technique. Biophysical Journal, 2012, 102, 178a.	0.2	0
96	Mechanical derivation of functional myotubes from adipose-derived stem cells. Biomaterials, 2012, 33, 2482-2491.	5.7	99
97	In Vivo Application of Dynamic Hyaluronic Acid Material for Myocardial Infarction Therapy. FASEB Journal, 2012, 26, .	0.2	0
98	Musculoskeletal Cell Mechanics. , 2012, , 301-324.		1
99	Controlling Polymersome Surface Topology at the Nanoscale by Membrane Confined Polymer/Polymer Phase Separation. ACS Nano, 2011, 5, 1775-1784.	7.3	154
100	In Situ Mechanical Analysis of Myofibrillar Perturbation and Aging on Soft, Bilayered Drosophila Myocardium. Biophysical Journal, 2011, 101, 2629-2637.	0.2	48
101	More than a feeling: discovering, understanding, and influencing mechanosensing pathways. Current Opinion in Biotechnology, 2011, 22, 648-654.	3.3	124
102	Wet Nanoscale Imaging and Testing of Polymersomes. Small, 2011, 7, 2010-2015.	5.2	25
103	Hydrogels with time-dependent material properties enhance cardiomyocyte differentiation in vitro. Biomaterials, 2011, 32, 1002-1009.	5.7	318
104	Stiffness Gradients Mimicking In Vivo Tissue Variation Regulate Mesenchymal Stem Cell Fate. PLoS ONE, 2011, 6, e15978.	1.1	392
105	Stem Cells for Cardiac Tissue Engineering. , 2011, , 95-114.		0
106	Innovations in Cell Mechanobiology. Journal of Biomechanics, 2010, 43, 1.	0.9	13
107	Intrinsic extracellular matrix properties regulate stem cell differentiation. Journal of Biomechanics, 2010, 43, 55-62.	0.9	697
108	Stressed-out stem cells. Nature Materials, 2010, 9, 4-6.	13.3	22

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109	Detecting cell-adhesive sites in extracellular matrix using force spectroscopy mapping. Journal of Physics Condensed Matter, 2010, 22, 194102.	0.7	19
110	Preparation of Hydrogel Substrates with Tunable Mechanical Properties. Current Protocols in Cell Biology, 2010, 47, Unit 10.16.	2.3	676
111	Nanoscopic mechanical anisotropy in hydrogel surfaces. Soft Matter, 2010, 6, 4466.	1.2	39
112	Intrinsic Extracellular Matrix Properties Regulate Embryonic Stem Cell Fate. FASEB Journal, 2010, 24, 299.3.	0.2	0
113	A novel mode of cell detachment from fibrillar fibronectin matrix under shear. Journal of Cell Science, 2009, 122, 1647-1653.	1.2	48
114	Matrix Strains Induced by Cells: Computing How Far Cells Can Feel. Cellular and Molecular Bioengineering, 2009, 2, 39-48.	1.0	172
115	Stem cell fate dictated solely by altered nanotube dimension. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 2130-2135.	3.3	1,085
116	Multiscale Modeling of Form and Function. Science, 2009, 324, 208-212.	6.0	172
117	Embryonic cardiomyocytes beat best on a matrix with heart-like elasticity: scar-like rigidity inhibits beating. Journal of Cell Science, 2008, 121, 3794-3802.	1.2	773
118	Fibronectin Expression Modulates Mammary Epithelial Cell Proliferation during Acinar Differentiation. Cancer Research, 2008, 68, 3185-3192.	0.4	171
119	Microtissue Elasticity: Measurements by Atomic Force Microscopy and Its Influence on Cell Differentiation. Methods in Cell Biology, 2007, 83, 521-545.	0.5	158
120	Microscopic Methods for Measuring the Elasticity of Gel Substrates for Cell Culture: Microspheres, Microindenters, and Atomic Force Microscopy. Methods in Cell Biology, 2007, 83, 47-65.	0.5	59
121	Cell responses to the mechanochemical microenvironmentâ€"Implications for regenerative medicine and drug deliveryâ˜†. Advanced Drug Delivery Reviews, 2007, 59, 1329-1339.	6.6	351
122	Matrix Elasticity Directs Stem Cell Lineage Specification. Cell, 2006, 126, 677-689.	13.5	11,769
123	A hemoglobin fragment found in cervicovaginal fluid from women in labor potentiates the action of agents that promote contraction of smooth muscle cells. Peptides, 2006, 27, 1794-1800.	1.2	13
124	Mesenchymal stem cell injection after myocardial infarction improves myocardial compliance. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H2196-H2203.	1.5	593
125	Power-Law Rheology of Isolated Nuclei with Deformation Mapping of Nuclear Substructures. Biophysical Journal, 2005, 89, 2855-2864.	0.2	293
126	Photopolymerization in Microfluidic Gradient Generators: Microscale Control of Substrate Compliance to Manipulate Cell Response. Advanced Materials, 2004, 16, 2133-2137.	11.1	248

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127	Surface probe measurements of the elasticity of sectioned tissue, thin gels and polyelectrolyte multilayer films: Correlations between substrate stiffness and cell adhesion. Surface Science, 2004, 570, 142-154.	0.8	305
128	Myotubes differentiate optimally on substrates with tissue-like stiffness. Journal of Cell Biology, 2004, 166, 877-887.	2.3	1,501
129	Targeted Worm Micelles. Biomacromolecules, 2004, 5, 1714-1719.	2.6	128
130	Elasticity of Native and Cross-Linked Polyelectrolyte Multilayer Films. Biomacromolecules, 2004, 5, 1908-1916.	2.6	223
131	Substrate Compliance versus Ligand Density in Cell on Gel Responses. Biophysical Journal, 2004, 86, 617-628.	0.2	1,005
132	Patterning, Prestress, and Peeling Dynamics of Myocytes. Biophysical Journal, 2004, 86, 1209-1222.	0.2	48