

Donald E Ingber

List of Publications by Year in descending order

Source: [//exaly.com/author-pdf/4463884/publications.pdf](https://exaly.com/author-pdf/4463884/publications.pdf)

Version: 2024-02-01

253
papers

71,752
citations

709

121
h-index

772

249
g-index

291
all docs

291
docs citations

291
times ranked

51156
citing authors

#	ARTICLE	IF	CITATIONS
1	Geometric Control of Cell Life and Death. <i>Science</i> , 1997, 276, 1425-1428.	12.8	4,422
2	Reconstituting Organ-Level Lung Functions on a Chip. <i>Science</i> , 2010, 328, 1662-1668.	12.8	3,186
3	Mechanotransduction Across the Cell Surface and Through the Cytoskeleton. <i>Science</i> , 1993, 260, 1124-1127.	12.8	2,714
4	Microfluidic organs-on-chips. <i>Nature Biotechnology</i> , 2014, 32, 760-772.	17.6	2,468
5	Soft Lithography in Biology and Biochemistry. <i>Annual Review of Biomedical Engineering</i> , 2001, 3, 335-373.	12.4	2,380
6	Polycystins 1 and 2 mediate mechanosensation in the primary cilium of kidney cells. <i>Nature Genetics</i> , 2003, 33, 129-137.	21.6	1,822
7	Mechanotransduction at a distance: mechanically coupling the extracellular matrix with the nucleus. <i>Nature Reviews Molecular Cell Biology</i> , 2009, 10, 75-82.	37.2	1,538
8	From 3D cell culture to organs-on-chips. <i>Trends in Cell Biology</i> , 2011, 21, 745-754.	8.1	1,514
9	Demonstration of mechanical connections between integrins, cytoskeletal filaments, and nucleoplasm that stabilize nuclear structure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997, 94, 849-854.	7.2	1,476
10	Cellular mechanotransduction: putting all the pieces together again. <i>FASEB Journal</i> , 2006, 20, 811-827.	0.5	1,428
11	TENSEGRITY: THE ARCHITECTURAL BASIS OF CELLULAR MECHANOTRANSDUCTION. <i>Annual Review of Physiology</i> , 1997, 59, 575-599.	13.3	1,423
12	Engineering cell shape and function. <i>Science</i> , 1994, 264, 696-698.	12.8	1,418
13	Human gut-on-a-chip inhabited by microbial flora that experiences intestinal peristalsis-like motions and flow. <i>Lab on A Chip</i> , 2012, 12, 2165.	6.0	1,304
14	Tensegrity I. Cell structure and hierarchical systems biology. <i>Journal of Cell Science</i> , 2003, 116, 1157-1173.	2.0	1,124
15	Cellular tensegrity: defining new rules of biological design that govern the cytoskeleton. <i>Journal of Cell Science</i> , 1993, 104, 613-627.	2.0	980
16	Mechanochemical switching between growth and differentiation during fibroblast growth factor-stimulated angiogenesis in vitro: role of extracellular matrix. <i>Journal of Cell Biology</i> , 1989, 109, 317-330.	5.2	842
17	A Human Disease Model of Drug Toxicity-Induced Pulmonary Edema in a Lung-on-a-Chip Microdevice. <i>Science Translational Medicine</i> , 2012, 4, 159ra147.	12.6	804
18	Tensegrity II. How structural networks influence cellular information processing networks. <i>Journal of Cell Science</i> , 2003, 116, 1397-1408.	2.0	757

#	ARTICLE	IF	CITATIONS
19	Mechanical control of tissue and organ development. <i>Development (Cambridge)</i> , 2010, 137, 1407-1420.	2.6	732
20	Mechanobiology and diseases of mechanotransduction. <i>Annals of Medicine</i> , 2003, 35, 564-577.	3.8	726
21	The structural and mechanical complexity of cell-growth control. <i>Nature Cell Biology</i> , 1999, 1, E131-E138.	10.5	696
22	Contributions of microbiome and mechanical deformation to intestinal bacterial overgrowth and inflammation in a human gut-on-a-chip. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E7-15.	7.2	652
23	Human kidney proximal tubule-on-a-chip for drug transport and nephrotoxicity assessment. <i>Integrative Biology (United Kingdom)</i> , 2013, 5, 1119-1129.	1.3	649
24	Small airway-on-a-chip enables analysis of human lung inflammation and drug responses in vitro. <i>Nature Methods</i> , 2016, 13, 151-157.	19.2	620
25	Mechanical behavior in living cells consistent with the tensegrity model. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2001, 98, 7765-7770.	7.2	613
26	Cell Fates as High-Dimensional Attractor States of a Complex Gene Regulatory Network. <i>Physical Review Letters</i> , 2005, 94, 128701.	7.9	605
27	Viscoelastic Retraction of Single Living Stress Fibers and Its Impact on Cell Shape, Cytoskeletal Organization, and Extracellular Matrix Mechanics. <i>Biophysical Journal</i> , 2006, 90, 3762-3773.	0.5	601
28	Microtubules can bear enhanced compressive loads in living cells because of lateral reinforcement. <i>Journal of Cell Biology</i> , 2006, 173, 733-741.	5.2	585
29	Microengineered physiological biomimicry: Organs-on-Chips. <i>Lab on A Chip</i> , 2012, 12, 2156.	6.0	584
30	Modelling cancer in microfluidic human organs-on-chips. <i>Nature Reviews Cancer</i> , 2019, 19, 65-81.	28.6	582
31	A bioinspired omniphobic surface coating on medical devices prevents thrombosis and biofouling. <i>Nature Biotechnology</i> , 2014, 32, 1134-1140.	17.6	575
32	Gut-on-a-Chip microenvironment induces human intestinal cells to undergo villus differentiation. <i>Integrative Biology (United Kingdom)</i> , 2013, 5, 1130.	1.3	560
33	Microfabrication of human organs-on-chips. <i>Nature Protocols</i> , 2013, 8, 2135-2157.	12.2	558
34	Preparation of poly(glycolic acid) bonded fiber structures for cell attachment and transplantation. <i>Journal of Biomedical Materials Research Part B</i> , 1993, 27, 183-189.	3.1	546
35	COVID-19 tissue atlases reveal SARS-CoV-2 pathology and cellular targets. <i>Nature</i> , 2021, 595, 107-113.	28.1	537
36	Development of a primary human Small Intestine-on-a-Chip using biopsy-derived organoids. <i>Scientific Reports</i> , 2018, 8, 2871.	3.4	523

#	ARTICLE	IF	CITATIONS
37	Subcellular positioning of small molecules. <i>Nature</i> , 2001, 411, 1016-1016.	28.1	496
38	A mechanosensitive transcriptional mechanism that controls angiogenesis. <i>Nature</i> , 2009, 457, 1103-1108.	28.1	487
39	A complex human gut microbiome cultured in an anaerobic intestine-on-a-chip. <i>Nature Biomedical Engineering</i> , 2019, 3, 520-531.	22.9	487
40	How does extracellular matrix control capillary morphogenesis?. <i>Cell</i> , 1989, 58, 803-805.	29.2	473
41	Fibronectin controls capillary endothelial cell growth by modulating cell shape.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1990, 87, 3579-3583.	7.2	469
42	Engineered In Vitro Disease Models. <i>Annual Review of Pathology: Mechanisms of Disease</i> , 2015, 10, 195-262.	22.7	442
43	The Architecture of Life. <i>Scientific American</i> , 1998, 278, 48-57.	0.0	436
44	Directional control of lamellipodia extension by constraining cell shape and orienting cell tractional forces. <i>FASEB Journal</i> , 2002, 16, 1195-1204.	0.5	431
45	Shear-Activated Nanotherapeutics for Drug Targeting to Obstructed Blood Vessels. <i>Science</i> , 2012, 337, 738-742.	12.8	428
46	Microfluidic Organ-on-a-Chip Models of Human Intestine. <i>Cellular and Molecular Gastroenterology and Hepatology</i> , 2018, 5, 659-668.	4.6	423
47	Cellular adaptation to mechanical stress: role of integrins, Rho, cytoskeletal tension and mechanosensitive ion channels. <i>Journal of Cell Science</i> , 2006, 119, 508-518.	2.0	401
48	Geometric control of switching between growth, apoptosis, and differentiation during angiogenesis using micropatterned substrates. <i>In Vitro Cellular and Developmental Biology - Animal</i> , 1999, 35, 441-448.	1.5	392
49	Cell tension, matrix mechanics, and cancer development. <i>Cancer Cell</i> , 2005, 8, 175-176.	16.9	377
50	Mature induced-pluripotent-stem-cell-derived human podocytes reconstitute kidney glomerular-capillary-wall function on a chip. <i>Nature Biomedical Engineering</i> , 2017, 1, .	22.9	376
51	Paper-supported 3D cell culture for tissue-based bioassays. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 18457-18462.	7.2	373
52	Hypoxia-enhanced Blood-Brain Barrier Chip recapitulates human barrier function and shuttling of drugs and antibodies. <i>Nature Communications</i> , 2019, 10, 2621.	18.0	371
53	Bone marrow“on“a“chip replicates hematopoietic niche physiology in vitro. <i>Nature Methods</i> , 2014, 11, 663-669.	19.2	369
54	Mechanobiology and Developmental Control. <i>Annual Review of Cell and Developmental Biology</i> , 2013, 29, 27-61.	9.6	367

#	ARTICLE	IF	CITATIONS
55	Insoluble fibronectin activates the Na/H antiporter by clustering and immobilizing integrin alpha 5 beta 1, independent of cell shape.. Proceedings of the National Academy of Sciences of the United States of America, 1991, 88, 7849-7853.	7.2	363
56	Integrin binding and mechanical tension induce movement of mRNA and ribosomes to focal adhesions. Nature, 1998, 392, 730-733.	28.1	361
57	Human organs-on-chips for disease modelling, drug development and personalized medicine. Nature Reviews Genetics, 2022, 23, 467-491.	16.5	361
58	Self-assembly of three-dimensional prestressed tensegrity structures from DNA. Nature Nanotechnology, 2010, 5, 520-524.	32.1	354
59	Combined microfluidic-micromagnetic separation of living cells in continuous flow. Biomedical Microdevices, 2006, 8, 299-308.	2.9	348
60	Tensegrity, cellular biophysics, and the mechanics of living systems. Reports on Progress in Physics, 2014, 77, 046603.	20.3	339
61	Quantifying cell-generated mechanical forces within living embryonic tissues. Nature Methods, 2014, 11, 183-189.	19.2	336
62	Distinct Contributions of Astrocytes and Pericytes to Neuroinflammation Identified in a 3D Human Blood-Brain Barrier on a Chip. PLoS ONE, 2016, 11, e0150360.	2.5	335
63	Mechanosensitive mechanisms in transcriptional regulation. Journal of Cell Science, 2012, 125, 3061-73.	2.0	332
64	Prevascularization of porous biodegradable polymers. Biotechnology and Bioengineering, 1993, 42, 716-723.	3.4	331
65	Tumor-Derived Extracellular Vesicles Breach the Intact Blood-Brain Barrier <i>via</i> Transcytosis. ACS Nano, 2019, 13, 13853-13865.	14.9	326
66	Using Mixed Self-Assembled Monolayers Presenting RGD and (EG)3OH Groups To Characterize Long-Term Attachment of Bovine Capillary Endothelial Cells to Surfaces. Journal of the American Chemical Society, 1998, 120, 6548-6555.	14.2	325
67	Human Organ Chip Models Recapitulate Orthotopic Lung Cancer Growth, Therapeutic Responses, and Tumor Dormancy <i>In Vitro</i> . Cell Reports, 2017, 21, 508-516.	6.4	324
68	TRPV4 Channels Mediate Cyclic Strain-Induced Endothelial Cell Reorientation Through Integrin-to-Integrin Signaling. Circulation Research, 2009, 104, 1123-1130.	4.6	310
69	A linked organ-on-chip model of the human neurovascular unit reveals the metabolic coupling of endothelial and neuronal cells. Nature Biotechnology, 2018, 36, 865-874.	17.6	310
70	Mechanical control of tissue morphogenesis during embryological development. International Journal of Developmental Biology, 2006, 50, 255-266.	0.7	305
71	Organs-on-chips with integrated electrodes for trans-epithelial electrical resistance (TEER) measurements of human epithelial barrier function. Lab on A Chip, 2017, 17, 2264-2271.	6.0	300
72	Patterning Mammalian Cells Using Elastomeric Membranes. Langmuir, 2000, 16, 7811-7819.	3.6	295

#	ARTICLE	IF	CITATIONS
73	Reproducing human and cross-species drug toxicities using a Liver-Chip. <i>Science Translational Medicine</i> , 2019, 11, .	12.6	287
74	Nanomagnetic actuation of receptor-mediated signal transduction. <i>Nature Nanotechnology</i> , 2008, 3, 36-40.	32.1	285
75	Quantitative prediction of human pharmacokinetic responses to drugs via fluidically coupled vascularized organ chips. <i>Nature Biomedical Engineering</i> , 2020, 4, 421-436.	22.9	280
76	Tissue Engineering and Developmental Biology: Going Biomimetic. <i>Tissue Engineering</i> , 2006, 12, 3265-3283.	4.6	273
77	An antifouling coating that enables affinity-based electrochemical biosensing in complex biological fluids. <i>Nature Nanotechnology</i> , 2019, 14, 1143-1149.	32.1	266
78	A combined micromagnetic-microfluidic device for rapid capture and culture of rare circulating tumor cells. <i>Lab on A Chip</i> , 2012, 12, 2175.	6.0	261
79	Can cancer be reversed by engineering the tumor microenvironment?. <i>Seminars in Cancer Biology</i> , 2008, 18, 356-364.	9.7	259
80	Robotic fluidic coupling and interrogation of multiple vascularized organ chips. <i>Nature Biomedical Engineering</i> , 2020, 4, 407-420.	22.9	256
81	An extracorporeal blood-cleansing device for sepsis therapy. <i>Nature Medicine</i> , 2014, 20, 1211-1216.	31.0	254
82	Mechanical control of cyclic AMP signalling and gene transcription through integrins. <i>Nature Cell Biology</i> , 2000, 2, 666-668.	10.5	238
83	Primary Human Lung Alveolus-on-a-chip Model of Intravascular Thrombosis for Assessment of Therapeutics. <i>Clinical Pharmacology and Therapeutics</i> , 2018, 103, 332-340.	4.8	238
84	Control of basement membrane remodeling and epithelial branching morphogenesis in embryonic lung by Rho and cytoskeletal tension. <i>Developmental Dynamics</i> , 2005, 232, 268-281.	1.9	237
85	A human-airway-on-a-chip for the rapid identification of candidate antiviral therapeutics and prophylactics. <i>Nature Biomedical Engineering</i> , 2021, 5, 815-829.	22.9	228
86	Matched-Comparative Modeling of Normal and Diseased Human Airway Responses Using a Microengineered Breathing Lung Chip. <i>Cell Systems</i> , 2016, 3, 456-466.e4.	6.2	227
87	Ultra-rapid activation of TRPV4 ion channels by mechanical forces applied to cell surface β 1 integrins. <i>Integrative Biology (United Kingdom)</i> , 2010, 2, 435.	1.3	222
88	Selective Deposition of Proteins and Cells in Arrays of Microwells. <i>Langmuir</i> , 2001, 17, 2828-2834.	3.6	221
89	Cellular tensegrity: defining new rules of biological design that govern the cytoskeleton. <i>Journal of Cell Science</i> , 1993, 104 (Pt 3), 613-27.	2.0	219
90	Mechanotransduction of fluid stresses governs 3D cell migration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 2447-2452.	7.2	214

#	ARTICLE	IF	CITATIONS
91	The riddle of morphogenesis: A question of solution chemistry or molecular cell engineering?. <i>Cell</i> , 1993, 75, 1249-1252.	29.2	213
92	Probing transmembrane mechanical coupling and cytomechanics using magnetic twisting cytometry. <i>Biochemistry and Cell Biology</i> , 1995, 73, 327-335.	2.0	213
93	A Microstructural Approach to Cytoskeletal Mechanics based on Tensegrity. <i>Journal of Theoretical Biology</i> , 1996, 181, 125-136.	1.7	212
94	Mechanical forces alter zyxin unbinding kinetics within focal adhesions of living cells. <i>Journal of Cellular Physiology</i> , 2006, 207, 187-194.	4.1	201
95	Nanoparticle targeting of anti-cancer drugs that alter intracellular signaling or influence the tumor microenvironment. <i>Advanced Drug Delivery Reviews</i> , 2014, 79-80, 107-118.	13.9	199
96	Role of basal lamina in neoplastic disorganization of tissue architecture.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1981, 78, 3901-3905.	7.2	190
97	Role of RhoA, mDia, and ROCK in Cell Shape-dependent Control of the Skp2-p27 Pathway and the G1/S Transition. <i>Journal of Biological Chemistry</i> , 2004, 279, 26323-26330.	3.5	190
98	Mechanical control of tissue growth: Function follows form. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 11571-11572.	7.2	189
99	Cytoskeletal control of growth and cell fate switching. <i>Current Opinion in Cell Biology</i> , 2009, 21, 864-870.	5.5	189
100	Organs-on-Chips with combined multi-electrode array and transepithelial electrical resistance measurement capabilities. <i>Lab on A Chip</i> , 2017, 17, 2294-2302.	6.0	188
101	Controlling Mammalian Cell Spreading and Cytoskeletal Arrangement with Conveniently Fabricated Continuous Wavy Features on Poly(dimethylsiloxane). <i>Langmuir</i> , 2002, 18, 3273-3280.	3.6	185
102	Gene Expression Dynamics Inspector (GEDI): for integrative analysis of expression profiles. <i>Bioinformatics</i> , 2003, 19, 2321-2322.	4.1	184
103	Modulation of the Cellular Uptake of DNA Origami through Control over Mass and Shape. <i>Nano Letters</i> , 2018, 18, 3557-3564.	9.3	183
104	Extracellular matrix controls myosin light chain phosphorylation and cell contractility through modulation of cell shape and cytoskeletal prestress. <i>American Journal of Physiology - Cell Physiology</i> , 2004, 286, C518-C528.	4.7	182
105	Stability of Surface-Immobilized Lubricant Interfaces under Flow. <i>Chemistry of Materials</i> , 2015, 27, 1792-1800.	6.9	181
106	Micromagnetic microfluidic blood cleansing device. <i>Lab on A Chip</i> , 2009, 9, 1171.	6.0	178
107	Mechanochemical Control of Mesenchymal Condensation and Embryonic Tooth Organ Formation. <i>Developmental Cell</i> , 2011, 21, 758-769.	7.1	175
108	Reverse Engineering Human Pathophysiology with Organs-on-Chips. <i>Cell</i> , 2016, 164, 1105-1109.	29.2	170

#	ARTICLE	IF	CITATIONS
109	On-chip recapitulation of clinical bone marrow toxicities and patient-specific pathophysiology. <i>Nature Biomedical Engineering</i> , 2020, 4, 394-406.	22.9	170
110	Is it Time for Reviewer 3 to Request Human Organ Chip Experiments Instead of Animal Validation Studies?. <i>Advanced Science</i> , 2020, 7, 2002030.	11.4	159
111	Measuring direct current trans-epithelial electrical resistance in organ-on-a-chip microsystems. <i>Lab on A Chip</i> , 2015, 15, 745-752.	6.0	155
112	Human Gut-On-A-Chip Supports Polarized Infection of Coxsackie B1 Virus In Vitro. <i>PLoS ONE</i> , 2017, 12, e0169412.	2.5	148
113	Cytoskeletal Mechanics in Pressure-Overload Cardiac Hypertrophy. <i>Circulation Research</i> , 1997, 80, 281-289.	4.6	147
114	Mechanical continuity and reversible chromosome disassembly within intact genomes removed from living cells. <i>Journal of Cellular Biochemistry</i> , 1997, 65, 114-130.	2.6	141
115	Directional control of cell motility through focal adhesion positioning and spatial control of Rac activation. <i>FASEB Journal</i> , 2008, 22, 1649-1659.	0.5	140
116	Human Colon-on-a-Chip Enables Continuous In Vitro Analysis of Colon Mucus Layer Accumulation and Physiology. <i>Cellular and Molecular Gastroenterology and Hepatology</i> , 2020, 9, 507-526.	4.6	140
117	Modeling radiation injury-induced cell death and countermeasure drug responses in a human Gut-on-a-Chip. <i>Cell Death and Disease</i> , 2018, 9, 223.	6.4	138
118	A shear gradient-activated microfluidic device for automated monitoring of whole blood haemostasis and platelet function. <i>Nature Communications</i> , 2016, 7, 10176.	13.0	134
119	Physiologically Based Pharmacokinetic and Pharmacodynamic Analysis Enabled by Microfluidically Linked Organs-on-Chips. <i>Annual Review of Pharmacology and Toxicology</i> , 2018, 58, 37-64.	9.6	133
120	Hepatocyte culture on biodegradable polymeric substrates. <i>Biotechnology and Bioengineering</i> , 1991, 38, 145-158.	3.4	129
121	Mechanical properties of individual focal adhesions probed with a magnetic microneedle. <i>Biochemical and Biophysical Research Communications</i> , 2004, 313, 758-764.	2.2	128
122	Activation of mechanosensitive ion channel TRPV4 normalizes tumor vasculature and improves cancer therapy. <i>Oncogene</i> , 2016, 35, 314-322.	5.9	127
123	Human Intestinal Morphogenesis Controlled by Transepithelial Morphogen Gradient and Flow-Dependent Physical Cues in a Microengineered Gut-on-a-Chip. <i>IScience</i> , 2019, 15, 391-406.	4.1	127
124	Topographical Micropatterning of Poly(dimethylsiloxane) Using Laminar Flows of Liquids in Capillaries. <i>Advanced Materials</i> , 2001, 13, 570-574.	21.5	126
125	Directed differentiation of human induced pluripotent stem cells into mature kidney podocytes and establishment of a Glomerulus Chip. <i>Nature Protocols</i> , 2018, 13, 1662-1685.	12.2	125
126	A combinatorial cell-laden gel microarray for inducing osteogenic differentiation of human mesenchymal stem cells. <i>Scientific Reports</i> , 2014, 4, 3896.	3.4	123

#	ARTICLE	IF	CITATIONS
127	Biology-inspired microphysiological systems to advance medicines for patient benefit and animal welfare. <i>ALTEX: Alternatives To Animal Experimentation</i> , 2020, 37, 365-394.	1.5	123
128	Control of lung vascular permeability and endotoxin-induced pulmonary oedema by changes in extracellular matrix mechanics. <i>Nature Communications</i> , 2013, 4, 1759.	13.0	119
129	Platform for High-Throughput Testing of the Effect of Soluble Compounds on 3D Cell Cultures. <i>Analytical Chemistry</i> , 2013, 85, 8085-8094.	6.6	115
130	Global cytoskeletal control of mechanotransduction in kidney epithelial cells. <i>Experimental Cell Research</i> , 2004, 301, 23-30.	2.6	110
131	Non-invasive sensing of transepithelial barrier function and tissue differentiation in organs-on-chips using impedance spectroscopy. <i>Lab on A Chip</i> , 2019, 19, 452-463.	6.0	106
132	Manufacturing of Large-Scale Functional Objects Using Biodegradable Chitosan Bioplastic. <i>Macromolecular Materials and Engineering</i> , 2014, 299, 932-938.	3.6	102
133	Species-specific enhancement of enterohemorrhagic <i>E. coli</i> pathogenesis mediated by microbiome metabolites. <i>Microbiome</i> , 2019, 7, 43.	11.3	102
134	Clear castable polyurethane elastomer for fabrication of microfluidic devices. <i>Lab on A Chip</i> , 2013, 13, 3956.	6.0	101
135	Assessment of whole blood thrombosis in a microfluidic device lined by fixed human endothelium. <i>Biomedical Microdevices</i> , 2016, 18, 73.	2.9	101
136	Inhibition of Mammary Tumor Growth Using Lysyl Oxidase-Targeting Nanoparticles to Modify Extracellular Matrix. <i>Nano Letters</i> , 2012, 12, 3213-3217.	9.3	97
137	Unexpected Strength and Toughness in Chitosan-Fibroin Laminates Inspired by Insect Cuticle. <i>Advanced Materials</i> , 2012, 24, 480-484.	21.5	97
138	Filamin links cell shape and cytoskeletal structure to Rho regulation by controlling accumulation of p190RhoGAP in lipid rafts. <i>Journal of Cell Science</i> , 2007, 120, 456-467.	2.0	93
139	Basement membrane as a spatial organizer of polarized epithelia. Exogenous basement membrane reorients pancreatic epithelial tumor cells in vitro. <i>American Journal of Pathology</i> , 1986, 122, 129-39.	3.9	93
140	Organ-on-a-Chip Recapitulates Thrombosis Induced by an anti-CD154 Monoclonal Antibody: Translational Potential of Advanced Microengineered Systems. <i>Clinical Pharmacology and Therapeutics</i> , 2018, 104, 1240-1248.	4.8	91
141	From Cellular Mechanotransduction to Biologically Inspired Engineering. <i>Annals of Biomedical Engineering</i> , 2010, 38, 1148-1161.	2.5	85
142	A multi-modular tensegrity model of an actin stress fiber. <i>Journal of Biomechanics</i> , 2008, 41, 2379-2387.	2.1	84
143	Human Organs-on-Chips for Virology. <i>Trends in Microbiology</i> , 2020, 28, 934-946.	7.8	81
144	Developmentally inspired human "organs on chips"™. <i>Development (Cambridge)</i> , 2018, 145, .	2.6	77

#	ARTICLE	IF	CITATIONS
145	Biomechanical forces promote blood development through prostaglandin E2 and the cAMP/PKA signaling axis. <i>Journal of Experimental Medicine</i> , 2015, 212, 665-680.	8.6	74
146	A Discrete Cell Cycle Checkpoint in Late G1 That Is Cytoskeleton-Dependent and MAP Kinase (Erk)-Independent. <i>Experimental Cell Research</i> , 2002, 275, 255-264.	2.6	73
147	Silencing <i>HoxA1</i> by Intraductal Injection of siRNA Lipidoid Nanoparticles Prevents Mammary Tumor Progression in Mice. <i>Science Translational Medicine</i> , 2014, 6, 217ra2.	12.6	66
148	Improved treatment of systemic blood infections using antibiotics with extracorporeal opsonin hemoadsorption. <i>Biomaterials</i> , 2015, 67, 382-392.	11.6	65
149	Control of cancer formation by intrinsic genetic noise and microenvironmental cues. <i>Nature Reviews Cancer</i> , 2015, 15, 499-509.	28.6	65
150	SEBS elastomers for fabrication of microfluidic devices with reduced drug absorption by injection molding and extrusion. <i>Microfluidics and Nanofluidics</i> , 2017, 21, 1.	2.2	65
151	YAP Regulates Hematopoietic Stem Cell Formation in Response to the Biomechanical Forces of Blood Flow. <i>Developmental Cell</i> , 2020, 52, 446-460.e5.	7.1	65
152	Stationary nanoliter droplet array with a substrate of choice for single adherent/nonadherent cell incubation and analysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 11293-11298.	7.2	64
153	Tensegrity-guided self assembly: from molecules to living cells. <i>Soft Matter</i> , 2009, 5, 1137-1145.	2.8	62
154	A mini-microscope for in situ monitoring of cells. <i>Lab on A Chip</i> , 2012, 12, 3976.	6.0	60
155	Cellular nanoscale stiffness patterns governed by intracellular forces. <i>Nature Materials</i> , 2019, 18, 1071-1077.	28.1	60
156	Mechanical continuity and reversible chromosome disassembly within intact genomes removed from living cells. <i>Journal of Cellular Biochemistry</i> , 1997, 65, 114-30.	2.6	59
157	Human Lung Small Airway-on-a-Chip Protocol. <i>Methods in Molecular Biology</i> , 2017, 1612, 345-365.	0.9	58
158	Ultrasound-sensitive nanoparticle aggregates for targeted drug delivery. <i>Biomaterials</i> , 2017, 139, 187-194.	11.6	58
159	Cytoskeletal filament assembly and the control of cell spreading and function by extracellular matrix. <i>Journal of Cell Science</i> , 1995, 108 (Pt 6), 2311-20.	2.0	57
160	A microdevice for rapid optical detection of magnetically captured rare blood pathogens. <i>Lab on A Chip</i> , 2014, 14, 182-188.	6.0	55
161	PAR1 agonists stimulate APC-like endothelial cytoprotection and confer resistance to thromboinflammatory injury. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E982-E991.	7.2	55
162	Platelet decoys inhibit thrombosis and prevent metastatic tumor formation in preclinical models. <i>Science Translational Medicine</i> , 2019, 11, .	12.6	55

#	ARTICLE	IF	CITATIONS
163	The origin of cellular life. <i>BioEssays</i> , 2000, 22, 1160-1170.	2.5	54
164	Graphene Enabled Low-Noise Surface Chemistry for Multiplexed Sepsis Biomarker Detection in Whole Blood. <i>Advanced Functional Materials</i> , 2021, 31, 2010638.	15.1	54
165	Modeling Hematopoiesis and Responses to Radiation Countermeasures in a Bone Marrow-on-a-Chip. <i>Tissue Engineering - Part C: Methods</i> , 2016, 22, 509-515.	2.1	53
166	Mechanical control of innate immune responses against viral infection revealed in a human lung alveolus chip. <i>Nature Communications</i> , 2022, 13, 1928.	13.0	53
167	Synaptic Reorganization in Scaled Networks of Controlled Size. <i>Journal of Neuroscience</i> , 2007, 27, 13581-13589.	3.7	52
168	Treatment of psoriasis with NFKBIZ siRNA using topical ionic liquid formulations. <i>Science Advances</i> , 2020, 6, eabb6049.	10.5	52
169	Enteric Coronavirus Infection and Treatment Modeled With an Immunocompetent Human Intestine-On-A-Chip. <i>Frontiers in Pharmacology</i> , 2021, 12, 718484.	3.6	52
170	Modeling pulmonary cystic fibrosis in a human lung airway-on-a-chip. <i>Journal of Cystic Fibrosis</i> , 2022, 21, 606-615.	0.6	52
171	Control of Embryonic Lung Branching Morphogenesis by the Rho Activator, Cytotoxic Necrotizing Factor 1. <i>Journal of Surgical Research</i> , 2002, 104, 95-100.	1.6	50
172	Bioinspired Chitinous Material Solutions for Environmental Sustainability and Medicine. <i>Advanced Functional Materials</i> , 2013, 23, 4454-4466.	15.1	50
173	Simulating drug concentrations in PDMS microfluidic organ chips. <i>Lab on A Chip</i> , 2021, 21, 3509-3519.	6.0	50
174	Mechanical control of cAMP signaling through integrins is mediated by the heterotrimeric G $\beta\gamma$ protein. <i>Journal of Cellular Biochemistry</i> , 2009, 106, 529-538.	2.6	49
175	Hollow Fibers for Hepatocyte Encapsulation and Transplantation: Studies of Survival and Function in Rats. <i>Cell Transplantation</i> , 1994, 3, 373-385.	2.5	45
176	Fibronectin Unfolding Revisited: Modeling Cell Traction-Mediated Unfolding of the Tenth Type-III Repeat. <i>PLoS ONE</i> , 2008, 3, e2373.	2.5	45
177	Targeted Drug Delivery to Flow-Obstructed Blood Vessels Using Mechanically Activated Nanotherapeutics. <i>JAMA Neurology</i> , 2015, 72, 119.	9.2	43
178	Co-culture of Living Microbiome with Microengineered Human Intestinal Villi in a Gut-on-a-Chip Microfluidic Device. <i>Journal of Visualized Experiments</i> , 2016, , .	0.3	43
179	Emerging preclinical evidence does not support broad use of hydroxychloroquine in COVID-19 patients. <i>Nature Communications</i> , 2020, 11, 4253.	13.0	43
180	A Biologically Inspired, Functionally Graded End Effector for Soft Robotics Applications. <i>Soft Robotics</i> , 2017, 4, 317-323.	8.1	41

#	ARTICLE	IF	CITATIONS
181	Paxillin Mediates Sensing of Physical Cues and Regulates Directional Cell Motility by Controlling Lamellipodia Positioning. PLoS ONE, 2011, 6, e28303.	2.5	40
182	A Broad-Spectrum Infection Diagnostic that Detects Pathogen-Associated Molecular Patterns (PAMPs) in Whole Blood. EBioMedicine, 2016, 9, 217-227.	6.2	40
183	Integrins $\alpha 1$, $\alpha 6$, and $\alpha 3$ contribute to mechanical strain-induced differentiation of fetal lung type II epithelial cells via distinct mechanisms. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2006, 290, L343-L350.	2.9	39
184	Shear-Activated Nanoparticle Aggregates Combined With Temporary Endovascular Bypass to Treat Large Vessel Occlusion. Stroke, 2015, 46, 3507-3513.	2.0	39
185	Optimization of Pathogen Capture in Flowing Fluids with Magnetic Nanoparticles. Small, 2015, 11, 5657-5666.	10.2	38
186	Enabling Multiplexed Electrochemical Detection of Biomarkers with High Sensitivity in Complex Biological Samples. Accounts of Chemical Research, 2021, 54, 3529-3539.	16.1	37
187	Paxillin controls endothelial cell migration and tumor angiogenesis by altering neuropilin 2 expression. Journal of Cell Science, 2014, 127, 1672-1683.	2.0	35
188	Control of capillary growth and differentiation by extracellular matrix. Use of a tensegrity (tensional integrity) mechanism for signal processing. Chest, 1991, 99, 34S-40S.	0.9	35
189	Breast cancer normalization induced by embryonic mesenchyme is mediated by extracellular matrix biglycan. Integrative Biology (United Kingdom), 2013, 5, 1045-1056.	1.3	33
190	From mechanobiology to developmentally inspired engineering. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170323.	4.1	32
191	How Changes in Extracellular Matrix Mechanics and Gene Expression Variability Might Combine to Drive Cancer Progression. PLoS ONE, 2013, 8, e76122.	2.5	32
192	Ectopic Lymphoid Follicle Formation and Human Seasonal Influenza Vaccination Responses Recapitulated in an Organ-on-a-Chip. Advanced Science, 2022, 9, e2103241.	11.4	32
193	DNA topoisomerase II can drive changes in higher order chromosome architecture without enzymatically modifying DNA. , 1998, 69, 127-142.		31
194	Biomaterial vaccines capturing pathogen-associated molecular patterns protect against bacterial infections and septic shock. Nature Biomedical Engineering, 2022, 6, 8-18.	22.9	31
195	Clinically Relevant Influenza Virus Evolution Reconstituted in a Human Lung Airway-on-a-Chip. Microbiology Spectrum, 2021, 9, e0025721.	3.1	31
196	Programed Death is Favored by Natural Selection in Spatial Systems. Physical Review Letters, 2015, 114, 238103.	7.9	30
197	Biomimetic smoking robot for in vitro inhalation exposure compatible with microfluidic organ chips. Nature Protocols, 2020, 15, 183-206.	12.2	30
198	Rapid Isolation of Staphylococcus aureus Pathogens from Infected Clinical Samples Using Magnetic Beads Coated with Fc-Mannose Binding Lectin. PLoS ONE, 2016, 11, e0156287.	2.5	30

#	ARTICLE	IF	CITATIONS
199	An artificial vasculature for adaptive thermal control of windows. <i>Solar Energy Materials and Solar Cells</i> , 2013, 117, 429-436.	6.2	29
200	Ultrarapid Method for Coating Electrochemical Sensors with Antifouling Conductive Nanomaterials Enables Highly Sensitive Multiplexed Detection in Whole Blood. <i>Advanced Healthcare Materials</i> , 2022, 11, e2102244.	7.7	29
201	Integrins, tensegrity, and mechanotransduction. <i>Gravitational and Space Biology Bulletin: Publication of the American Society for Gravitational and Space Biology</i> , 1997, 10, 49-55.	1.0	29
202	Harnessing Colon Chip Technology to Identify Commensal Bacteria That Promote Host Tolerance to Infection. <i>Frontiers in Cellular and Infection Microbiology</i> , 2021, 11, 638014.	4.0	28
203	Intraductal Injection for Localized Drug Delivery to the Mouse Mammary Gland. <i>Journal of Visualized Experiments</i> , 2013, , .	0.3	27
204	Developmentallyâ€inspired Shrinkâ€Wrap Polymers for Mechanical Induction of Tissue Differentiation. <i>Advanced Materials</i> , 2014, 26, 3253-3257.	21.5	25
205	SLISWD Sequence in the 10FNIII Domain Initiates Fibronectin Fibrillogenesis. <i>Journal of Biological Chemistry</i> , 2013, 288, 21329-21340.	3.5	24
206	Scalable Fabrication of Stretchable, Dual Channel, Microfluidic Organ Chips. <i>Journal of Visualized Experiments</i> , 2018, , .	0.3	24
207	Controllable Fabrication of Inhomogeneous Microcapsules for Triggered Release by Osmotic Pressure. <i>Small</i> , 2019, 15, e1903087.	10.2	23
208	Broad-spectrum capture of clinical pathogens using engineered Fc-mannose-binding lectin enhanced by antibiotic treatment. <i>F1000Research</i> , 2019, 8, 108.	1.6	23
209	Molecular mapping of transmembrane mechanotransduction through the Î²1 integrin-CD98hc-TRPV4 axis. <i>Journal of Cell Science</i> , 2020, 133, .	2.0	21
210	AAV-mediated gene therapy targeting TRPV4 mechanotransduction for inhibition of pulmonary vascular leakage. <i>APL Bioengineering</i> , 2019, 3, 046103.	6.3	20
211	Origami microfluidics for radiant cooling with small temperature differences in buildings. <i>Applied Energy</i> , 2020, 277, 115610.	10.1	20
212	Nutritional deficiency in an intestine-on-a-chip recapitulates injury hallmarks associated with environmental enteric dysfunction. <i>Nature Biomedical Engineering</i> , 2022, 6, 1236-1247.	22.9	20
213	Mesenchymal condensationâ€dependent accumulation of collagen VI stabilizes organâ€specific cell fates during embryonic tooth formation. <i>Developmental Dynamics</i> , 2015, 244, 713-723.	1.9	19
214	Establishment of physiologically relevant oxygen gradients in microfluidic organ chips. <i>Lab on A Chip</i> , 2022, 22, 1584-1593.	6.0	18
215	Paxillin controls directional cell motility in response to physical cues. <i>Cell Adhesion and Migration</i> , 2012, 6, 502-508.	2.7	17
216	Direct Bonding of Chitosan Biomaterials to Tissues Using Transglutaminase for Surgical Repair or Device Implantation. <i>Tissue Engineering - Part A</i> , 2017, 23, 135-142.	3.1	17

#	ARTICLE	IF	CITATIONS
217	Transferrin receptor targeting by de novo sheet extension. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.2	17
218	Application of a Halbach magnetic array for long-range cell and particle separations in biological samples. Applied Physics Letters, 2016, 108, .	3.4	16
219	Mechanical induction of dentin-like differentiation by adult mouse bone marrow stromal cells using compressive scaffolds. Stem Cell Research, 2017, 24, 55-60.	0.7	15
220	The Wyss institute: A new model for medical technology innovation and translation across the academicâ€Industrial interface. Bioengineering and Translational Medicine, 2017, 2, 247-257.	7.2	15
221	Multi-scale modeling reveals use of hierarchical tensegrity principles at the molecular, multi-molecular, and cellular levels. Extreme Mechanics Letters, 2018, 20, 21-28.	4.1	15
222	Biofabrication of Multiplexed Electrochemical Immunosensors for Simultaneous Detection of Clinical Biomarkers in Complex Fluids. Advanced Healthcare Materials, 2022, 11, .	7.7	14
223	What Can an Organ-on-a-Chip Teach Us About Human Lung Pathophysiology?. Physiology, 2022, 37, 242-252.	3.1	14
224	Generation of biocompatible droplets for in vivo and in vitro measurement of cell-generated mechanical stresses. Methods in Cell Biology, 2015, 125, 373-390.	1.1	13
225	Evidence generation and reproducibility in cell and gene therapy research: A call to action. Molecular Therapy - Methods and Clinical Development, 2021, 22, 11-14.	4.1	13
226	Proteomic and Metabolomic Characterization of Human Neurovascular Unit Cells in Response to Methamphetamine. Advanced Biology, 2020, 4, 1900230.	3.0	12
227	Anomalous COVID-19 tests hinder researchers. Science, 2021, 371, 244-245.	12.8	11
228	Mechanosensation Mediates Longâ€Range Spatial Decisionâ€Making in an Aneural Organism. Advanced Materials, 2021, 33, e2008161.	21.5	11
229	Rapid Coating Process Generates Omniphobic Dentures in Minutes to Reduce <i>C. albicans</i> Biofouling. ACS Biomaterials Science and Engineering, 2019, 5, 420-424.	5.3	10
230	Laboratory-Generated DNA Can Cause Anomalous Pathogen Diagnostic Test Results. Microbiology Spectrum, 2021, 9, e0031321.	3.1	10
231	Commendation for Exposing Key Advantage of Organ Chip Approach. Cell Systems, 2016, 3, 411.	6.2	9
232	An Engineered Human Fcâ€Mannoseâ€Bindingâ€Lectin Captures Circulating Tumor Cells. Advanced Biology, 2017, 1, e1700094.	3.0	9
233	Rapid Prototyping of Thermoplastic Microfluidic Devices. Methods in Molecular Biology, 2018, 1771, 161-170.	0.9	9
234	Art Advancing Science: Filmmaking Leads to Molecular Insights at the Nanoscale. ACS Nano, 2017, 11, 12156-12166.	14.9	8

#	ARTICLE	IF	CITATIONS
235	Theory and associated phenomenology for intrinsic mortality arising from natural selection. PLoS ONE, 2017, 12, e0173677.	2.5	8
236	Control of the direction of lamellipodia extension through changes in the balance between Rac and Rho activities. MCB Molecular and Cellular Biomechanics, 2005, 2, 135-43.	0.7	8
237	Shear-Responsive Platelet Mimetics for Targeted Drug Delivery. Israel Journal of Chemistry, 2013, 53, 610-615.	2.4	5
238	New anticoagulant coatings and hemostasis assessment tools to avoid complications with pediatric left ventricular assist devices. Journal of Thoracic and Cardiovascular Surgery, 2017, 154, 1364-1366.	0.9	5
239	Establishment of a Modular Anaerobic Human Intestine Chip. Methods in Molecular Biology, 2022, 2373, 69-85.	0.9	5
240	Enabling out-of-body experiences for living organs. Journal of Experimental Medicine, 2021, 218, .	8.6	4
241	Mechanobiology, Tissue Development and Organ Engineering. , 2014, , 309-322.		3
242	A Chemical APC Mimetic Protects Endothelium from Thromboinflammatory Injury. Blood, 2016, 128, 3835-3835.	1.4	3
243	Enhancers of Host Immune Tolerance to Bacterial Infection Discovered Using Linked Computational and Experimental Approaches. Advanced Science, 2022, 9, .	11.4	3
244	Bioinspired design and optimization for thin film wearable and building cooling systems. Bioinspiration and Biomimetics, 2022, 17, 015003.	2.9	2
245	Vascular Control through Tensegrity-Based Integration of Mechanics and Chemistry. , 0, , 1786-1792.		1
246	Developmentally Inspired Regenerative Organ Engineering. , 2015, , 17-24.		1
247	Cycling through the menstrual cycle – an out-of-body experience. Nature Reviews Endocrinology, 2017, 13, 380-382.	9.7	1
248	Chitosan-Fibroin Laminates: Unexpected Strength and Toughness in Chitosan-Fibroin Laminates Inspired by Insect Cuticle (Adv. Mater. 4/2012). Advanced Materials, 2012, 24, 446-446.	21.5	0
249	Seeing Your Way to New Insights in Biology. Journal of Molecular Biology, 2019, 431, 2485-2486.	4.3	0
250	Abstract WP437: Shear-activated Nanoparticle Aggregate Lysis Combined With Temporary Stent-bypass to Treat Emergent Large Vessel Occlusions (ELVO). Stroke, 2016, 47, .	2.0	0
251	Increased phosphorylation of ACTN4 leads to podocyte vulnerability and proteinuric kidney disease and is stimulated by high glucose and TGF- β . FASEB Journal, 2020, 34, 1-1.	0.5	0
252	Cell Motility in Microfabricated Models of the Tissue Microenvironment. , 2001, , .		0

#	ARTICLE	IF	CITATIONS
253	Changes in ABC Transporter Expression during Hematopoiesis Cause Lineage-Biased Cytopenias in Patients Treated with Aurora Kinase Inhibitors. <i>Blood</i> , 2021, 138, 4292-4292.	1.4	0