Donald E Ingber

List of Publications by Year
in descending order

253 papers	71,752 citations	831 121 h-index	884 249 g-index
291 all docs	291 docs citations	291 times ranked	57388 citing authors

#	Article	IF	Citations
1	Geometric Control of Cell Life and Death. Science, 1997, 276, 1425-1428.	6.0	4,422
2	Reconstituting Organ-Level Lung Functions on a Chip. Science, 2010, 328, 1662-1668.	6.0	3,186
3	Mechanotransduction across the cell surface and through the cytoskeleton. Science, 1993, 260, 1124-1127.	6.0	2,714
4	Microfluidic organs-on-chips. Nature Biotechnology, 2014, 32, 760-772.	9.4	2,468
5	Soft Lithography in Biology and Biochemistry. Annual Review of Biomedical Engineering, 2001, 3, 335-373.	5.7	2,380
6	Polycystins 1 and 2 mediate mechanosensation in the primary cilium of kidney cells. Nature Genetics, 2003, 33, 129-137.	9.4	1,822
7	Mechanotransduction at a distance: mechanically coupling the extracellular matrix with the nucleus. Nature Reviews Molecular Cell Biology, 2009, 10, 75-82.	16.1	1,538
8	From 3D cell culture to organs-on-chips. Trends in Cell Biology, 2011, 21, 745-754.	3.6	1,514
9	Demonstration of mechanical connections between integrins, cytoskeletal filaments, and nucleoplasm that stabilize nuclear structure. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 849-854.	3.3	1,476
10	Cellular mechanotransduction: putting all the pieces together again. FASEB Journal, 2006, 20, 811-827.	0.2	1,428
11	TENSEGRITY: THE ARCHITECTURAL BASIS OF CELLULAR MECHANOTRANSDUCTION. Annual Review of Physiology, 1997, 59, 575-599.	5.6	1,423
12	Engineering cell shape and function. Science, 1994, 264, 696-698.	6.0	1,418
13	Human gut-on-a-chip inhabited by microbial flora that experiences intestinal peristalsis-like motions and flow. Lab on A Chip, 2012, 12, 2165.	3.1	1,304
14	Tensegrity I. Cell structure and hierarchical systems biology. Journal of Cell Science, 2003, 116, 1157-1173.	1.2	1,124
15	Cellular tensegrity: defining new rules of biological design that govern the cytoskeleton. Journal of Cell Science, 1993, 104, 613-627.	1.2	980
16	Mechanochemical switching between growth and differentiation during fibroblast growth factor-stimulated angiogenesis in vitro: role of extracellular matrix.. Journal of Cell Biology, 1989, 109, 317-330.	2.3	842
17	A Human Disease Model of Drug Toxicityâ€"Induced Pulmonary Edema in a Lung-on-a-Chip Microdevice. Science Translational Medicine, 2012, 4, 159ra147.	5.8	804
18	Tensegrity II. How structural networks influence cellular information processing networks. Journal of Cell Science, 2003, 116, 1397-1408.	1.2	757

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19	Mechanical control of tissue and organ development. Development (Cambridge), 2010, 137, 1407-1420.	1.2	732
20	Mechanobiology and diseases of mechanotransduction. Annals of Medicine, 2003, 35, 564-577.	1.5	726
21	The structural and mechanical complexity of cell-growth control. Nature Cell Biology, 1999, 1, E131-E138.	4.6	696
22	Contributions of microbiome and mechanical deformation to intestinal bacterial overgrowth and inflammation in a human gut-on-a-chip. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E7-15.	3.3	652
23	Human kidney proximal tubule-on-a-chip for drug transport and nephrotoxicity assessment. Integrative Biology (United Kingdom), 2013, 5, 1119-1129.	0.6	649
24	Small airway-on-a-chip enables analysis of human lung inflammation and drug responses in vitro. Nature Methods, 2016, 13, 151-157.	9.0	620
25	Mechanical behavior in living cells consistent with the tensegrity model. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 7765-7770.	3.3	613
26	Cell Fates as High-Dimensional Attractor States of a Complex Gene Regulatory Network. Physical Review Letters, 2005, 94, 128701.	2.9	605
27	Viscoelastic Retraction of Single Living Stress Fibers and Its Impact on Cell Shape, Cytoskeletal Organization, and Extracellular Matrix Mechanics. Biophysical Journal, 2006, 90, 3762-3773.	0.2	601
28	Microtubules can bear enhanced compressive loads in living cells because of lateral reinforcement. Journal of Cell Biology, 2006, 173, 733-741.	2.3	585
29	Microengineered physiological biomimicry: Organs-on-Chips. Lab on A Chip, 2012, 12, 2156.	3.1	584
30	Modelling cancer in microfluidic human organs-on-chips. Nature Reviews Cancer, 2019, 19, 65-81.	12.8	582
31	A bioinspired omniphobic surface coating on medical devices prevents thrombosis and biofouling. Nature Biotechnology, 2014, 32, 1134-1140.	9.4	575
32	Gut-on-a-Chip microenvironment induces human intestinal cells to undergo villus differentiation. Integrative Biology (United Kingdom), 2013, 5, 1130.	0.6	560
33	Microfabrication of human organs-on-chips. Nature Protocols, 2013, 8, 2135-2157.	5.5	558
34	Preparation of poly(glycolic acid) bonded fiber structures for cell attachment and transplantation. Journal of Biomedical Materials Research Part B, 1993, 27, 183-189.	3.0	546
35	COVID-19 tissue atlases reveal SARS-CoV-2 pathology and cellular targets. Nature, 2021, 595, 107-113.	13.7	537
36	Development of a primary human Small Intestine-on-a-Chip using biopsy-derived organoids. Scientific Reports, 2018, 8, 2871.	1.6	523

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37	Subcellular positioning of small molecules. Nature, 2001, 411, 1016-1016.	13.7	496
38	A mechanosensitive transcriptional mechanism that controls angiogenesis. Nature, 2009, 457, 1103-1108.	13.7	487
39	A complex human gut microbiome cultured in an anaerobic intestine-on-a-chip. Nature Biomedical Engineering, 2019, 3, 520-531.	11.6	487
40	How does extracellular matrix control capillary morphogenesis?. Cell, 1989, 58, 803-805.	13.5	473
41	Fibronectin controls capillary endothelial cell growth by modulating cell shape.. Proceedings of the National Academy of Sciences of the United States of America, 1990, 87, 3579-3583.	3.3	469
42	Engineered In Vitro Disease Models. Annual Review of Pathology: Mechanisms of Disease, 2015, 10, 195-262.	9.6	442
43	The Architecture of Life. Scientific American, 1998, 278, 48-57.	1.0	436
44	Directional control of lamellipodia extension by constraining cell shape and orienting cell tractional forces. FASEB Journal, 2002, 16, 1195-1204.	0.2	431
45	Shear-Activated Nanotherapeutics for Drug Targeting to Obstructed Blood Vessels. Science, 2012, 337, 738-742.	6.0	428
46	Microfluidic Organ-on-a-Chip Models of Human Intestine. Cellular and Molecular Gastroenterology and Hepatology, 2018, 5, 659-668.	2.3	423
47	Cellular adaptation to mechanical stress: role of integrins, Rho, cytoskeletal tension and mechanosensitive ion channels. Journal of Cell Science, 2006, 119, 508-518.	1.2	401
48	Geometric control of switching between growth, apoptosis, and differentiation during angiogenesis using micropatterned substrates. In Vitro Cellular and Developmental Biology - Animal, 1999, 35, 441-448.	0.7	392
49	Cell tension, matrix mechanics, and cancer development. Cancer Cell, 2005, 8, 175-176.	7.7	377
50	Mature induced-pluripotent-stem-cell-derived human podocytes reconstitute kidney glomerular-capillary-wall function on a chip. Nature Biomedical Engineering, 2017, 1, .	11.6	376
51	Paper-supported 3D cell culture for tissue-based bioassays. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 18457-18462.	3.3	373
52	Hypoxia-enhanced Blood-Brain Barrier Chip recapitulates human barrier function and shuttling of drugs and antibodies. Nature Communications, 2019, 10, 2621.	5.8	371
53	Bone marrowâ€“onâ€“aâ€“chip replicates hematopoietic niche physiology in vitro. Nature Methods, 2014, 11, 663-669.	9.0	369
54	Mechanobiology and Developmental Control. Annual Review of Cell and Developmental Biology, 2013, 29, 27-61.	4.0	367

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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.	3.3	363
56	Integrin binding and mechanical tension induce movement of mRNA and ribosomes to focal adhesions. Nature, 1998, 392, 730-733.	13.7	361
57	Human organs-on-chips for disease modelling, drug development and personalized medicine. Nature Reviews Genetics, 2022, 23, 467-491.	7.7	361
58	Self-assembly of three-dimensional prestressed tensegrity structures from DNA. Nature Nanotechnology, 2010, 5, 520-524.	15.6	354
59	Combined microfluidic-micromagnetic separation of living cells in continuous flow. Biomedical Microdevices, 2006, 8, 299-308.	1.4	348
60	Tensegrity, cellular biophysics, and the mechanics of living systems. Reports on Progress in Physics, 2014, 77, 046603.	8.1	339
61	Quantifying cell-generated mechanical forces within living embryonic tissues. Nature Methods, 2014, 11, 183-189.	9.0	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.	1.1	335
63	Mechanosensitive mechanisms in transcriptional regulation. Journal of Cell Science, 2012, 125, 3061-73.	1.2	332
64	Prevascularization of porous biodegradable polymers. Biotechnology and Bioengineering, 1993, 42, 716-723.	1.7	331
65	Tumor-Derived Extracellular Vesicles Breach the Intact Bloodâ€"Brain Barrier <i>via</i> Transcytosis. ACS Nano, 2019, 13, 13853-13865.	7.3	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.	6.6	325
67	Human Organ Chip Models Recapitulate Orthotopic Lung Cancer Growth, Therapeutic Responses, and Tumor Dormancy InÂVitro. Cell Reports, 2017, 21, 508-516.	2.9	324
68	TRPV4 Channels Mediate Cyclic Strainâ€"Induced Endothelial Cell Reorientation Through Integrin-to-Integrin Signaling. Circulation Research, 2009, 104, 1123-1130.	2.0	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.	9.4	310
70	Mechanical control of tissue morphogenesis during embryological development. International Journal of Developmental Biology, 2006, 50, 255-266.	0.3	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.	3.1	300
72	Patterning Mammalian Cells Using Elastomeric Membranes. Langmuir, 2000, 16, 7811-7819.	1.6	295

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73	Reproducing human and cross-species drug toxicities using a Liver-Chip. Science Translational Medicine, 2019, 11, .	5.8	287
74	Nanomagnetic actuation of receptor-mediated signal transduction. Nature Nanotechnology, 2008, 3, 36-40.	15.6	285
75	Quantitative prediction of human pharmacokinetic responses to drugs via fluidically coupled vascularized organ chips. Nature Biomedical Engineering, 2020, 4, 421-436.	11.6	280
76	Tissue Engineering and Developmental Biology: Going Biomimetic. Tissue Engineering, 2006, 12, 3265-3283.	4.9	273
77	An antifouling coating that enables affinity-based electrochemical biosensing in complex biological fluids. Nature Nanotechnology, 2019, 14, 1143-1149.	15.6	266
78	A combined micromagnetic-microfluidic device for rapid capture and culture of rare circulating tumor cells. Lab on A Chip, 2012, 12, 2175.	3.1	261
79	Can cancer be reversed by engineering the tumor microenvironment?. Seminars in Cancer Biology, 2008, 18, 356-364.	4.3	259
80	Robotic fluidic coupling and interrogation of multiple vascularized organ chips. Nature Biomedical Engineering, 2020, 4, 407-420.	11.6	256
81	An extracorporeal blood-cleansing device for sepsis therapy. Nature Medicine, 2014, 20, 1211-1216.	15.2	254
82	Mechanical control of cyclic AMP signalling and gene transcription through integrins. Nature Cell Biology, 2000, 2, 666-668.	4.6	238
83	Primary Human Lung Alveolusâ€onâ€aâ€chip Model of Intravascular Thrombosis for Assessment of Therapeutics. Clinical Pharmacology and Therapeutics, 2018, 103, 332-340.	2.3	238
84	Control of basement membrane remodeling and epithelial branching morphogenesis in embryonic lung by Rho and cytoskeletal tension. Developmental Dynamics, 2005, 232, 268-281.	0.8	237
85	A human-airway-on-a-chip for the rapid identification of candidate antiviral therapeutics and prophylactics. Nature Biomedical Engineering, 2021, 5, 815-829.	11.6	228
86	Matched-Comparative Modeling of Normal and Diseased Human Airway Responses Using a Microengineered Breathing Lung Chip. Cell Systems, 2016, 3, 456-466.e4.	2.9	227
87	Ultra-rapid activation of TRPV4 ion channels by mechanical forces applied to cell surface Î²1 integrins. Integrative Biology (United Kingdom), 2010, 2, 435.	0.6	222
88	Selective Deposition of Proteins and Cells in Arrays of Microwells. Langmuir, 2001, 17, 2828-2834.	1.6	221
89	Cellular tensegrity: defining new rules of biological design that govern the cytoskeleton. Journal of Cell Science, 1993, 104 (Pt 3), 613-27.	1.2	219
90	Mechanotransduction of fluid stresses governs 3D cell migration. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 2447-2452.	3.3	214

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91	The riddle of morphogenesis: A question of solution chemistry or molecular cell engineering?. Cell, 1993, 75, 1249-1252.	13.5	213
92	Probing transmembrane mechanical coupling and cytomechanics using magnetic twisting cytometry. Biochemistry and Cell Biology, 1995, 73, 327-335.	0.9	213
93	A Microstructural Approach to Cytoskeletal Mechanics based on Tensegrity. Journal of Theoretical Biology, 1996, 181, 125-136.	0.8	212
94	Mechanical forces alter zyxin unbinding kinetics within focal adhesions of living cells. Journal of Cellular Physiology, 2006, 207, 187-194.	2.0	201
95	Nanoparticle targeting of anti-cancer drugs that alter intracellular signaling or influence the tumor microenvironment. Advanced Drug Delivery Reviews, 2014, 79-80, 107-118.	6.6	199
96	Role of basal lamina in neoplastic disorganization of tissue architecture.. Proceedings of the National Academy of Sciences of the United States of America, 1981, 78, 3901-3905.	3.3	190
97	Role of RhoA, mDia, and ROCK in Cell Shape-dependent Control of the Skp2-p27 Pathway and the G1/S Transition. Journal of Biological Chemistry, 2004, 279, 26323-26330.	1.6	190
98	Mechanical control of tissue growth: Function follows form. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 11571-11572.	3.3	189
99	Cytoskeletal control of growth and cell fate switching. Current Opinion in Cell Biology, 2009, 21, 864-870.	2.6	189
100	Organs-on-Chips with combined multi-electrode array and transepithelial electrical resistance measurement capabilities. Lab on A Chip, 2017, 17, 2294-2302.	3.1	188
101	Controlling Mammalian Cell Spreading and Cytoskeletal Arrangement with Conveniently Fabricated Continuous Wavy Features on Poly(dimethylsiloxane). Langmuir, 2002, 18, 3273-3280.	1.6	185
102	Gene Expression Dynamics Inspector (GEDI): for integrative analysis of expression profiles. Bioinformatics, 2003, 19, 2321-2322.	1.8	184
103	Modulation of the Cellular Uptake of DNA Origami through Control over Mass and Shape. Nano Letters, 2018, 18, 3557-3564.	4.5	183
104	Extracellular matrix controls myosin light chain phosphorylation and cell contractility through modulation of cell shape and cytoskeletal prestress. American Journal of Physiology - Cell Physiology, 2004, 286, C518-C528.	2.1	182
105	Stability of Surface-Immobilized Lubricant Interfaces under Flow. Chemistry of Materials, 2015, 27, 1792-1800.	3.2	181
106	Micromagneticâ€"microfluidic blood cleansing device. Lab on A Chip, 2009, 9, 1171.	3.1	178
107	Mechanochemical Control of Mesenchymal Condensation and Embryonic Tooth Organ Formation. Developmental Cell, 2011, 21, 758-769.	3.1	175
108	Reverse Engineering Human Pathophysiology with Organs-on-Chips. Cell, 2016, 164, 1105-1109.	13.5	170

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109	On-chip recapitulation of clinical bone marrow toxicities and patient-specific pathophysiology. Nature Biomedical Engineering, 2020, 4, 394-406.	11.6	170
110	Is it Time for Reviewer 3 to Request Human Organ Chip Experiments Instead of Animal Validation Studies?. Advanced Science, 2020, 7, 2002030.	5.6	159
111	Measuring direct current trans-epithelial electrical resistance in organ-on-a-chip microsystems. Lab on A Chip, 2015, 15, 745-752.	3.1	155
112	Human Gut-On-A-Chip Supports Polarized Infection of Coxsackie B1 Virus In Vitro. PLoS ONE, 2017, 12, e0169412.	1.1	148
113	Cytoskeletal Mechanics in Pressure-Overload Cardiac Hypertrophy. Circulation Research, 1997, 80, 281-289.	2.0	147
114	Mechanical continuity and reversible chromosome disassembly within intact genomes removed from living cells. Journal of Cellular Biochemistry, 1997, 65, 114-130.	1.2	141
115	Directional control of cell motility through focal adhesion positioning and spatial control of Rac activation. FASEB Journal, 2008, 22, 1649-1659.	0.2	140
116	Human Colon-on-a-Chip Enables Continuous InÂVitro Analysis of Colon Mucus Layer Accumulation and Physiology. Cellular and Molecular Gastroenterology and Hepatology, 2020, 9, 507-526.	2.3	140
117	Modeling radiation injury-induced cell death and countermeasure drug responses in a human Gut-on-a-Chip. Cell Death and Disease, 2018, 9, 223.	2.7	138
118	A shear gradient-activated microfluidic device for automated monitoring of whole blood haemostasis and platelet function. Nature Communications, 2016, 7, 10176.	5.8	134
119	Physiologically Based Pharmacokinetic and Pharmacodynamic Analysis Enabled by Microfluidically Linked Organs-on-Chips. Annual Review of Pharmacology and Toxicology, 2018, 58, 37-64.	4.2	133
120	Hepatocyte culture on biodegradable polymeric substrates. Biotechnology and Bioengineering, 1991, 38, 145-158.	1.7	129
121	Mechanical properties of individual focal adhesions probed with a magnetic microneedle. Biochemical and Biophysical Research Communications, 2004, 313, 758-764.	1.0	128
122	Activation of mechanosensitive ion channel TRPV4 normalizes tumor vasculature and improves cancer therapy. Oncogene, 2016, 35, 314-322.	2.6	127
123	Human Intestinal Morphogenesis Controlled by Transepithelial Morphogen Gradient and Flow-Dependent Physical Cues in a Microengineered Gut-on-a-Chip. IScience, 2019, 15, 391-406.	1.9	127
124	Topographical Micropatterning of Poly(dimethylsiloxane) Using Laminar Flows of Liquids in Capillaries. Advanced Materials, 2001, 13, 570-574.	11.1	126
125	Directed differentiation of human induced pluripotent stem cells into mature kidney podocytes and establishment of a Glomerulus Chip. Nature Protocols, 2018, 13, 1662-1685.	5.5	125
126	A combinatorial cell-laden gel microarray for inducing osteogenic differentiation of human mesenchymal stem cells. Scientific Reports, 2014, 4, 3896.	1.6	123

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127	Biology-inspired microphysiological systems to advance medicines for patient benefit and animal welfare. ALTEX: Alternatives To Animal Experimentation, 2020, 37, 365-394.	0.9	123
128	Control of lung vascular permeability and endotoxin-induced pulmonary oedema by changes in extracellular matrix mechanics. Nature Communications, 2013, 4, 1759.	5.8	119
129	Platform for High-Throughput Testing of the Effect of Soluble Compounds on 3D Cell Cultures. Analytical Chemistry, 2013, 85, 8085-8094.	3.2	115
130	Global cytoskeletal control of mechanotransduction in kidney epithelial cells. Experimental Cell Research, 2004, 301, 23-30.	1.2	110
131	Non-invasive sensing of transepithelial barrier function and tissue differentiation in organs-on-chips using impedance spectroscopy. Lab on A Chip, 2019, 19, 452-463.	3.1	106
132	Manufacturing of Largeâ€Scale Functional Objects Using Biodegradable Chitosan Bioplastic. Macromolecular Materials and Engineering, 2014, 299, 932-938.	1.7	102
133	Species-specific enhancement of enterohemorrhagic E. coli pathogenesis mediated by microbiome metabolites. Microbiome, 2019, 7, 43.	4.9	102
134	Clear castable polyurethane elastomer for fabrication of microfluidic devices. Lab on A Chip, 2013, 13, 3956.	3.1	101
135	Assessment of whole blood thrombosis in a microfluidic device lined by fixed human endothelium. Biomedical Microdevices, 2016, 18, 73.	1.4	101
136	Inhibition of Mammary Tumor Growth Using Lysyl Oxidase-Targeting Nanoparticles to Modify Extracellular Matrix. Nano Letters, 2012, 12, 3213-3217.	4.5	97
137	Unexpected Strength and Toughness in Chitosanâ€Fibroin Laminates Inspired by Insect Cuticle. Advanced Materials, 2012, 24, 480-484.	11.1	97
138	Filamin links cell shape and cytoskeletal structure to Rho regulation by controlling accumulation of p190RhoGAP in lipid rafts. Journal of Cell Science, 2007, 120, 456-467.	1.2	93
139	Basement membrane as a spatial organizer of polarized epithelia. Exogenous basement membrane reorients pancreatic epithelial tumor cells in vitro. American Journal of Pathology, 1986, 122, 129-39.	1.9	93
140	Organâ€onâ€Chip Recapitulates Thrombosis Induced by an antiâ€CD154 Monoclonal Antibody: Translational Potential of Advanced Microengineered Systems. Clinical Pharmacology and Therapeutics, 2018, 104, 1240-1248.	2.3	91
141	From Cellular Mechanotransduction to Biologically Inspired Engineering. Annals of Biomedical Engineering, 2010, 38, 1148-1161.	1.3	85
142	A multi-modular tensegrity model of an actin stress fiber. Journal of Biomechanics, 2008, 41, 2379-2387.	0.9	84
143	Human Organs-on-Chips for Virology. Trends in Microbiology, 2020, 28, 934-946.	3.5	81
144	Developmentally inspired human â€˜organs on chipsâ€™. Development (Cambridge), 2018, 145, .	1.2	77

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145	Biomechanical forces promote blood development through prostaglandin E2 and the cAMPâ€"PKA signaling axis. Journal of Experimental Medicine, 2015, 212, 665-680.	4.2	74
146	A Discrete Cell Cycle Checkpoint in Late G1 That Is Cytoskeleton-Dependent and MAP Kinase (Erk)-Independent. Experimental Cell Research, 2002, 275, 255-264.	1.2	73
147	Silencing <i>HoxA1</i> by Intraductal Injection of siRNA Lipidoid Nanoparticles Prevents Mammary Tumor Progression in Mice. Science Translational Medicine, 2014, 6, 217ra2.	5.8	66
148	Improved treatment of systemic blood infections using antibiotics with extracorporeal opsonin hemoadsorption. Biomaterials, 2015, 67, 382-392.	5.7	65
149	Control of cancer formation by intrinsic genetic noise and microenvironmental cues. Nature Reviews Cancer, 2015, 15, 499-509.	12.8	65
150	SEBS elastomers for fabrication of microfluidic devices with reduced drug absorption by injection molding and extrusion. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	65
151	YAP Regulates Hematopoietic Stem Cell Formation in Response to the Biomechanical Forces of Blood Flow. Developmental Cell, 2020, 52, 446-460.e5.	3.1	65
152	Stationary nanoliter droplet array with a substrate of choice for single adherent/nonadherent cell incubation and analysis. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11293-11298.	3.3	64
153	Tensegrity-guided self assembly: from molecules to living cells. Soft Matter, 2009, 5, 1137-1145.	1.2	62
154	A mini-microscope for in situ monitoring of cells. Lab on A Chip, 2012, 12, 3976.	3.1	60
155	Cellular nanoscale stiffness patterns governed by intracellular forces. Nature Materials, 2019, 18, 1071-1077.	13.3	60
156	Mechanical continuity and reversible chromosome disassembly within intact genomes removed from living cells. Journal of Cellular Biochemistry, 1997, 65, 114-30.	1.2	59
157	Human Lung Small Airway-on-a-Chip Protocol. Methods in Molecular Biology, 2017, 1612, 345-365.	0.4	58
158	Ultrasound-sensitive nanoparticle aggregates for targeted drug delivery. Biomaterials, 2017, 139, 187-194.	5.7	58
159	Cytoskeletal filament assembly and the control of cell spreading and function by extracellular matrix. Journal of Cell Science, 1995, 108 (Pt 6), 2311-20.	1.2	57
160	A microdevice for rapid optical detection of magnetically captured rare blood pathogens. Lab on A Chip, 2014, 14, 182-188.	3.1	55
161	PAR1 agonists stimulate APC-like endothelial cytoprotection and confer resistance to thromboinflammatory injury. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E982-E991.	3.3	55
162	Platelet decoys inhibit thrombosis and prevent metastatic tumor formation in preclinical models. Science Translational Medicine, 2019, 11, .	5.8	55

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163	The origin of cellular life. BioEssays, 2000, 22, 1160-1170.	1.2	54
164	Graphene Enabled Lowâ€Noise Surface Chemistry for Multiplexed Sepsis Biomarker Detection in Whole Blood. Advanced Functional Materials, 2021, 31, 2010638.	7.8	54
165	Modeling Hematopoiesis and Responses to Radiation Countermeasures in a Bone Marrow-on-a-Chip. Tissue Engineering - Part C: Methods, 2016, 22, 509-515.	1.1	53
166	Mechanical control of innate immune responses against viral infection revealed in a human lung alveolus chip. Nature Communications, 2022, 13, 1928.	5.8	53
167	Synaptic Reorganization in Scaled Networks of Controlled Size. Journal of Neuroscience, 2007, 27, 13581-13589.	1.7	52
168	Treatment of psoriasis with NFKBIZ siRNA using topical ionic liquid formulations. Science Advances, 2020, 6, eabb6049.	4.7	52
169	Enteric Coronavirus Infection and Treatment Modeled With an Immunocompetent Human Intestine-On-A-Chip. Frontiers in Pharmacology, 2021, 12, 718484.	1.6	52
170	Modeling pulmonary cystic fibrosis in a human lung airway-on-a-chip. Journal of Cystic Fibrosis, 2022, 21, 606-615.	0.3	52
171	Control of Embryonic Lung Branching Morphogenesis by the Rho Activator, Cytotoxic Necrotizing Factor 1. Journal of Surgical Research, 2002, 104, 95-100.	0.8	50
172	Bioinspired Chitinous Material Solutions for Environmental Sustainability and Medicine. Advanced Functional Materials, 2013, 23, 4454-4466.	7.8	50
173	Simulating drug concentrations in PDMS microfluidic organ chips. Lab on A Chip, 2021, 21, 3509-3519.	3.1	50
174	Mechanical control of cAMP signaling through integrins is mediated by the heterotrimeric GÎ±s protein. Journal of Cellular Biochemistry, 2009, 106, 529-538.	1.2	49
175	Hollow Fibers for Hepatocyte Encapsulation and Transplantation: Studies of Survival and Function in Rats. Cell Transplantation, 1994, 3, 373-385.	1.2	45
176	Fibronectin Unfolding Revisited: Modeling Cell Traction-Mediated Unfolding of the Tenth Type-III Repeat. PLoS ONE, 2008, 3, e2373.	1.1	45
177	Targeted Drug Delivery to Flow-Obstructed Blood Vessels Using Mechanically Activated Nanotherapeutics. JAMA Neurology, 2015, 72, 119.	4.5	43
178	Co-culture of Living Microbiome with Microengineered Human Intestinal Villi in a Gut-on-a-Chip Microfluidic Device. Journal of Visualized Experiments, 2016, , .	0.2	43
179	Emerging preclinical evidence does not support broad use of hydroxychloroquine in COVID-19 patients. Nature Communications, 2020, 11, 4253.	5.8	43
180	A Biologically Inspired, Functionally Graded End Effector for Soft Robotics Applications. Soft Robotics, 2017, 4, 317-323.	4.6	41

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181	Paxillin Mediates Sensing of Physical Cues and Regulates Directional Cell Motility by Controlling Lamellipodia Positioning. PLoS ONE, 2011, 6, e28303.	1.1	40
182	A Broad-Spectrum Infection Diagnostic that Detects Pathogen-Associated Molecular Patterns (PAMPs) in Whole Blood. EBioMedicine, 2016, 9, 217-227.	2.7	40
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