Donald E Ingber

List of Publications by Year in Descending Order

258 papers	57,684 citations	112 h-index	240 g-index
291 ext. papers	65,116 ext. citations	12.1 avg, IF	8.2 L-index

#	Paper	IF	Citations
258	Establishment of a Modular Anaerobic Human Intestine Chip. *Methods in Molecular Biology*, **2022**, 2373, 69-85	1.4	3
257	Establishment of physiologically relevant oxygen gradients in microfluidic organ chips.. *Lab on A Chip*, **2022**,	7.2	3
256	Human organs-on-chips for disease modelling, drug development and personalized medicine.. *Nature Reviews Genetics*, **2022**,	30.1	31
255	Ectopic Lymphoid Follicle Formation and Human Seasonal Influenza Vaccination Responses Recapitulated in an Organ-on-a-Chip.. *Advanced Science*, **2022**, e2103241	13.6	6
254	Mechanical control of innate immune responses against viral infection revealed in a human lung alveolus chip.. *Nature Communications*, **2022**, 13, 1928	17.4	5
253	Ultra-Rapid Method for Coating Electrochemical Sensors with Antifouling Conductive Nanomaterials Enables Highly Sensitive Multiplexed Detection in Whole Blood.. *Advanced Healthcare Materials*, **2021**, e2102244	10.1	4
252	Modeling pulmonary cystic fibrosis in a human lung airway-on-a-chip: Cystic fibrosis airway chip. *Journal of Cystic Fibrosis*, **2021**,	4.1	6
251	Changes in ABC Transporter Expression during Hematopoiesis Cause Lineage-Biased Cytopenias in Patients Treated with Aurora Kinase Inhibitors. *Blood*, **2021**, 138, 4292-4292	2.2	
250	Self-assembling short immunostimulatory duplex RNAs with broad spectrum antiviral activity **2021**,		1
249	Enteric Coronavirus Infection and Treatment Modeled With an Immunocompetent Human Intestine-On-A-Chip. *Frontiers in Pharmacology*, **2021**, 12, 718484	5.6	7
248	Harnessing Colon Chip Technology to Identify Commensal Bacteria That Promote Host Tolerance to Infection. *Frontiers in Cellular and Infection Microbiology*, **2021**, 11, 638014	5.9	14
247	Transferrin receptor targeting by de novo sheet extension. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	6
246	COVID-19 tissue atlases reveal SARS-CoV-2 pathology and cellular targets. *Nature*, **2021**, 595, 107-113	50.4	124
245	A human-airway-on-a-chip for the rapid identification of candidate antiviral therapeutics and prophylactics. *Nature Biomedical Engineering*, **2021**, 5, 815-829	19	62
244	Biomaterial vaccines capturing pathogen-associated molecular patterns protect against bacterial infections and septic shock. *Nature Biomedical Engineering*, **2021**,	19	5
243	Simulating drug concentrations in PDMS microfluidic organ chips. *Lab on A Chip*, **2021**, 21, 3509-3519	7.2	18
242	Anomalous COVID-19 tests hinder researchers. *Science*, **2021**, 371, 244-245	33.3	8

241	Graphene Enabled Low-Noise Surface Chemistry for Multiplexed Sepsis Biomarker Detection in Whole Blood. *Advanced Functional Materials*, **2021**, 31, 2010638	15.6	19
240	Enabling out-of-body experiences for living organs. *Journal of Experimental Medicine*, **2021**, 218,	16.6	3
239	Mechanosensation Mediates Long-Range Spatial Decision-Making in an Aneural Organism. *Advanced Materials*, **2021**, 33, e2008161	24	0
238	Laboratory-Generated DNA Can Cause Anomalous Pathogen Diagnostic Test Results. *Microbiology Spectrum*, **2021**, 9, e0031321	8.9	3
237	Clinically Relevant Influenza Virus Evolution Reconstituted in a Human Lung Airway-on-a-Chip. *Microbiology Spectrum*, **2021**, 9, e0025721	8.9	8
236	Enabling Multiplexed Electrochemical Detection of Biomarkers with High Sensitivity in Complex Biological Samples. *Accounts of Chemical Research*, **2021**, 54, 3529-3539	24.3	5
235	On-chip recapitulation of clinical bone marrow toxicities and patient-specific pathophysiology. *Nature Biomedical Engineering*, **2020**, 4, 394-406	19	97
234	Quantitative prediction of human pharmacokinetic responses to drugs via fluidically coupled vascularized organ chips. *Nature Biomedical Engineering*, **2020**, 4, 421-436	19	154
233	YAP Regulates Hematopoietic Stem Cell Formation in Response to the Biomechanical Forces of Blood Flow. *Developmental Cell*, **2020**, 52, 446-460.e5	10.2	25
232	Biology-inspired microphysiological systems to advance patient benefit and animal welfare in drug development. *ALTEX: Alternatives To Animal Experimentation*, **2020**, 37, 365-394	4.3	66
231	Increased phosphorylation of ACTN4 leads to podocyte vulnerability and proteinuric kidney disease and is stimulated by high glucose and TGF-b. *FASEB Journal*, **2020**, 34, 1-1	0.9	
230	Robotic fluidic coupling and interrogation of multiple vascularized organ chips. *Nature Biomedical Engineering*, **2020**, 4, 407-420	19	150
229	Biomimetic smoking robot for in vitro inhalation exposure compatible with microfluidic organ chips. *Nature Protocols*, **2020**, 15, 183-206	18.8	17
228	Human Colon-on-a-Chip Enables Continuous In□Vitro Analysis of Colon Mucus Layer Accumulation and Physiology. *Cellular and Molecular Gastroenterology and Hepatology*, **2020**, 9, 507-526	7.9	75
227	Molecular mapping of transmembrane mechanotransduction through the □ integrin-CD98hc-TRPV4 axis. *Journal of Cell Science*, **2020**, 133,	5.3	12
226	Origami microfluidics for radiant cooling with small temperature differences in buildings. *Applied Energy*, **2020**, 277, 115610	10.7	7
225	Human Organs-on-Chips for Virology. *Trends in Microbiology*, **2020**, 28, 934-946	12.4	50
224	Treatment of psoriasis with NFKBIZ siRNA using topical ionic liquid formulations. *Science Advances*, **2020**, 6, eabb6049	14.3	22

223	Proteomic and Metabolomic Characterization of Human Neurovascular Unit Cells in Response to Methamphetamine. *Advanced Biology*, **2020**, 4, e1900230	3.5	9
222	Is it Time for Reviewer 3 to Request Human Organ Chip Experiments Instead of Animal Validation Studies?. *Advanced Science*, **2020**, 7, 2002030	13.6	79
221	Emerging preclinical evidence does not support broad use of hydroxychloroquine in COVID-19 patients. *Nature Communications*, **2020**, 11, 4253	17.4	24
220	Controllable Fabrication of Inhomogeneous Microcapsules for Triggered Release by Osmotic Pressure. *Small*, **2019**, 15, e1903087	11	12
219	Tumor-Derived Extracellular Vesicles Breach the Intact Blood-Brain Barrier Transcytosis. *ACS Nano*, **2019**, 13, 13853-13865	16.7	167
218	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	7.2	66
217	Cellular nanoscale stiffness patterns governed by intracellular forces. *Nature Materials*, **2019**, 18, 1071-1077	27	36
216	Hypoxia-enhanced Blood-Brain Barrier Chip recapitulates human barrier function and shuttling of drugs and antibodies. *Nature Communications*, **2019**, 10, 2621	17.4	231
215	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	6.1	75
214	A complex human gut microbiome cultured in an anaerobic intestine-on-a-chip. *Nature Biomedical Engineering*, **2019**, 3, 520-531	19	283
213	Species-specific enhancement of enterohemorrhagic E. coli pathogenesis mediated by microbiome metabolites. *Microbiome*, **2019**, 7, 43	16.6	64
212	Reproducing human and cross-species drug toxicities using a Liver-Chip. *Science Translational Medicine*, **2019**, 11,	17.5	161
211	Broad-spectrum capture of clinical pathogens using engineered Fc-mannose-binding lectin enhanced by antibiotic treatment. *F1000Research*, **2019**, 8, 108	3.6	13
210	Platelet decoys inhibit thrombosis and prevent metastatic tumor formation in preclinical models. *Science Translational Medicine*, **2019**, 11,	17.5	32
209	An antifouling coating that enables affinity-based electrochemical biosensing in complex biological fluids. *Nature Nanotechnology*, **2019**, 14, 1143-1149	28.7	125
208	AAV-mediated gene therapy targeting TRPV4 mechanotransduction for inhibition of pulmonary vascular leakage. *APL Bioengineering*, **2019**, 3, 046103	6.6	15
207	Rapid Coating Process Generates Omniphobic Dentures in Minutes to Reduce Biofouling. *ACS Biomaterials Science and Engineering*, **2019**, 5, 420-424	5.5	7
206	Modelling cancer in microfluidic human organs-on-chips. *Nature Reviews Cancer*, **2019**, 19, 65-81	31.3	340

205	Multi-scale modeling reveals use of hierarchical tensegrity principles at the molecular, multi-molecular, and cellular levels. *Extreme Mechanics Letters*, **2018**, 20, 21-28	3.9	7
204	Organ-on-Chip Recapitulates Thrombosis Induced by an anti-CD154 Monoclonal Antibody: Translational Potential of Advanced Microengineered Systems. *Clinical Pharmacology and Therapeutics*, **2018**, 104, 1240-1248	6.1	62
203	Rapid Prototyping of Thermoplastic Microfluidic Devices. *Methods in Molecular Biology*, **2018**, 1771, 161-170	1.4	5
202	Modeling radiation injury-induced cell death and countermeasure drug responses in a human Gut-on-a-Chip. *Cell Death and Disease*, **2018**, 9, 223	9.8	100
201	Development of a primary human Small Intestine-on-a-Chip using biopsy-derived organoids. *Scientific Reports*, **2018**, 8, 2871	4.9	356
200	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	11.5	33
199	Physiologically Based Pharmacokinetic and Pharmacodynamic Analysis Enabled by Microfluidically Linked Organs-on-Chips. *Annual Review of Pharmacology and Toxicology*, **2018**, 58, 37-64	17.9	103
198	Microfluidic Organ-on-a-Chip Models of Human Intestine. *Cellular and Molecular Gastroenterology and Hepatology*, **2018**, 5, 659-668	7.9	299
197	Primary Human Lung Alveolus-on-a-chip Model of Intravascular Thrombosis for Assessment of Therapeutics. *Clinical Pharmacology and Therapeutics*, **2018**, 103, 332-340	6.1	161
196	Directed differentiation of human induced pluripotent stem cells into mature kidney podocytes and establishment of a Glomerulus Chip. *Nature Protocols*, **2018**, 13, 1662-1685	18.8	72
195	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	44.5	207
194	From mechanobiology to developmentally inspired engineering. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2018**, 373,	5.8	21
193	Scalable Fabrication of Stretchable, Dual Channel, Microfluidic Organ Chips. *Journal of Visualized Experiments*, **2018**,	1.6	18
192	Developmentally inspired human ↄrgans on chipsↃ *Development (Cambridge)*, **2018**, 145,	6.6	59
191	Modulation of the Cellular Uptake of DNA Origami through Control over Mass and Shape. *Nano Letters*, **2018**, 18, 3557-3564	11.5	121
190	Mature induced-pluripotent-stem-cell-derived human podocytes reconstitute kidney glomerular-capillary-wall function on a chip. *Nature Biomedical Engineering*, **2017**, 1,	19	253
189	SEBS elastomers for fabrication of microfluidic devices with reduced drug absorption by injection molding and extrusion. *Microfluidics and Nanofluidics*, **2017**, 21, 1	2.8	52
188	Human Lung Small Airway-on-a-Chip Protocol. *Methods in Molecular Biology*, **2017**, 1612, 345-365	1.4	40

187	Ultrasound-sensitive nanoparticle aggregates for targeted drug delivery. *Biomaterials*, **2017**, 139, 187-194	15.6	46
186	Organs-on-Chips with combined multi-electrode array and transepithelial electrical resistance measurement capabilities. *Lab on A Chip*, **2017**, 17, 2294-2302	7.2	134
185	Reproductive endocrinology: Cycling through the menstrual cycle - an out-of-body experience. *Nature Reviews Endocrinology*, **2017**, 13, 380-382	15.2	1
184	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	7.2	192
183	Human Organ Chip Models Recapitulate Orthotopic Lung Cancer Growth, Therapeutic Responses, and Tumor Dormancy In Vitro. *Cell Reports*, **2017**, 21, 508-516	10.6	204
182	A Biologically Inspired, Functionally Graded End Effector for Soft Robotics Applications. *Soft Robotics*, **2017**, 4, 317-323	9.2	33
181	Art Advancing Science: Filmmaking Leads to Molecular Insights at the Nanoscale. *ACS Nano*, **2017**, 11, 12156-12166	16.7	4
180	Theory and associated phenomenology for intrinsic mortality arising from natural selection. *PLoS ONE*, **2017**, 12, e0173677	3.7	6
179	Mechanical induction of dentin-like differentiation by adult mouse bone marrow stromal cells using compressive scaffolds. *Stem Cell Research*, **2017**, 24, 55-60	1.6	12
178	The Wyss institute: A new model for medical technology innovation and translation across the academic-industrial interface. *Bioengineering and Translational Medicine*, **2017**, 2, 247-257	14.8	9
177	An Engineered Human Fc-Mannose-Binding-Lectin Captures Circulating Tumor Cells. *Advanced Biology*, **2017**, 1, e1700094	3.5	8
176	Direct Bonding of Chitosan Biomaterials to Tissues Using Transglutaminase for Surgical Repair or Device Implantation. *Tissue Engineering - Part A*, **2017**, 23, 135-142	3.9	13
175	Human Gut-On-A-Chip Supports Polarized Infection of Coxsackie B1 Virus In Vitro. *PLoS ONE*, **2017**, 12, e0169412	3.7	112
174	Activation of mechanosensitive ion channel TRPV4 normalizes tumor vasculature and improves cancer therapy. *Oncogene*, **2016**, 35, 314-22	9.2	95
173	Commendation for Exposing Key Advantage of Organ Chip Approach. *Cell Systems*, **2016**, 3, 411	10.6	7
172	Matched-Comparative Modeling of Normal and Diseased Human Airway Responses Using a Microengineered Breathing Lung Chip. *Cell Systems*, **2016**, 3, 456-466.e4	10.6	152
171	Co-culture of Living Microbiome with Microengineered Human Intestinal Villi in a Gut-on-a-Chip Microfluidic Device. *Journal of Visualized Experiments*, **2016**,	1.6	34
170	A Broad-Spectrum Infection Diagnostic that Detects Pathogen-Associated Molecular Patterns (PAMPs) in Whole Blood. *EBioMedicine*, **2016**, 9, 217-227	8.8	24

169	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	11.5	523
168	Modeling Hematopoiesis and Responses to Radiation Countermeasures in a Bone Marrow-on-a-Chip. *Tissue Engineering - Part C: Methods*, **2016**, 22, 509-15	2.9	40
167	Reverse Engineering Human Pathophysiology with Organs-on-Chips. *Cell*, **2016**, 164, 1105-1109	56.2	131
166	Small airway-on-a-chip enables analysis of human lung inflammation and drug responses in vitro. *Nature Methods*, **2016**, 13, 151-7	21.6	426
165	A shear gradient-activated microfluidic device for automated monitoring of whole blood haemostasis and platelet function. *Nature Communications*, **2016**, 7, 10176	17.4	109
164	A Chemical APC Mimetic Protects Endothelium from Thromboinflammatory Injury. *Blood*, **2016**, 128, 3835-3835	2.2	2
163	Rapid Isolation of Staphylococcus aureus Pathogens from Infected Clinical Samples Using Magnetic Beads Coated with Fc-Mannose Binding Lectin. *PLoS ONE*, **2016**, 11, e0156287	3.7	17
162	Distinct Contributions of Astrocytes and Pericytes to Neuroinflammation Identified in a 3D Human Blood-Brain Barrier on a Chip. *PLoS ONE*, **2016**, 11, e0150360	3.7	258
161	Application of a Halbach magnetic array for long-range cell and particle separations in biological samples. *Applied Physics Letters*, **2016**, 108, 213702	3.4	11
160	Assessment of whole blood thrombosis in a microfluidic device lined by fixed human endothelium. *Biomedical Microdevices*, **2016**, 18, 73	3.7	80
159	Improved treatment of systemic blood infections using antibiotics with extracorporeal opsonin hemoadsorption. *Biomaterials*, **2015**, 67, 382-92	15.6	48
158	Control of cancer formation by intrinsic genetic noise and microenvironmental cues. *Nature Reviews Cancer*, **2015**, 15, 499-509	31.3	44
157	Programed Death is Favored by Natural Selection in Spatial Systems. *Physical Review Letters*, **2015**, 114, 238103	7.4	19
156	Biomechanical forces promote blood development through prostaglandin E2 and the cAMP-PKA signaling axis. *Journal of Experimental Medicine*, **2015**, 212, 665-80	16.6	58
155	Generation of biocompatible droplets for in vivo and in vitro measurement of cell-generated mechanical stresses. *Methods in Cell Biology*, **2015**, 125, 373-90	1.8	12
154	Targeted drug delivery to flow-obstructed blood vessels using mechanically activated nanotherapeutics. *JAMA Neurology*, **2015**, 72, 119-22	17.2	31
153	Shear-Activated Nanoparticle Aggregates Combined With Temporary Endovascular Bypass to Treat Large Vessel Occlusion. *Stroke*, **2015**, 46, 3507-13	6.7	32
152	Developmentally Inspired Regenerative Organ Engineering **2015**, 17-24		

151	Mesenchymal condensation-dependent accumulation of collagen VI stabilizes organ-specific cell fates during embryonic tooth formation. *Developmental Dynamics*, **2015**, 244, 713-23	2.9	14
150	Optimization of Pathogen Capture in Flowing Fluids with Magnetic Nanoparticles. *Small*, **2015**, 11, 5657-66	8.6	32
149	Stability of Surface-Immobilized Lubricant Interfaces under Flow. *Chemistry of Materials*, **2015**, 27, 1792-1800	9.8	136
148	Engineered in vitro disease models. *Annual Review of Pathology: Mechanisms of Disease*, **2015**, 10, 195-262	24	373
147	Measuring direct current trans-epithelial electrical resistance in organ-on-a-chip microsystems. *Lab on A Chip*, **2015**, 15, 745-52	7.2	105
146	A combinatorial cell-laden gel microarray for inducing osteogenic differentiation of human mesenchymal stem cells. *Scientific Reports*, **2014**, 4, 3896	4.9	102
145	Manufacturing of Large-Scale Functional Objects Using Biodegradable Chitosan Bioplastic. *Macromolecular Materials and Engineering*, **2014**, 299, 932-938	3.9	77
144	Bone marrow-on-a-chip replicates hematopoietic niche physiology in vitro. *Nature Methods*, **2014**, 11, 663-9	21.6	293
143	Nanoparticle targeting of anti-cancer drugs that alter intracellular signaling or influence the tumor microenvironment. *Advanced Drug Delivery Reviews*, **2014**, 79-80, 107-18	18.5	163
142	Tensegrity, cellular biophysics, and the mechanics of living systems. *Reports on Progress in Physics*, **2014**, 77, 046603	14.4	254
141	Quantifying cell-generated mechanical forces within living embryonic tissues. *Nature Methods*, **2014**, 11, 183-9	21.6	257
140	Silencing HoxA1 by intraductal injection of siRNA lipidoid nanoparticles prevents mammary tumor progression in mice. *Science Translational Medicine*, **2014**, 6, 217ra2	17.5	55
139	A bioinspired omniphobic surface coating on medical devices prevents thrombosis and biofouling. *Nature Biotechnology*, **2014**, 32, 1134-40	44.5	433
138	A microdevice for rapid optical detection of magnetically captured rare blood pathogens. *Lab on A Chip*, **2014**, 14, 182-8	7.2	45
137	Microfluidic organs-on-chips. *Nature Biotechnology*, **2014**, 32, 760-72	44.5	1875
136	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, 11293-8	11.5	52
135	An extracorporeal blood-cleansing device for sepsis therapy. *Nature Medicine*, **2014**, 20, 1211-6	50.5	199
134	Mechanotransduction of fluid stresses governs 3D cell migration. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 2447-52	11.5	173

133	Developmentally-inspired shrink-wrap polymers for mechanical induction of tissue differentiation. *Advanced Materials*, **2014**, 26, 3253-7	24	20
132	Mechanobiology, Tissue Development and Organ Engineering **2014**, 309-322		2
131	Paxillin controls endothelial cell migration and tumor angiogenesis by altering neuropilin 2 expression. *Journal of Cell Science*, **2014**, 127, 1672-83	5.3	25
130	An artificial vasculature for adaptive thermal control of windows. *Solar Energy Materials and Solar Cells*, **2013**, 117, 429-436	6.4	24
129	Bioinspired Chitinous Material Solutions for Environmental Sustainability and Medicine. *Advanced Functional Materials*, **2013**, 23, 4454-4466	15.6	43
128	Breast cancer normalization induced by embryonic mesenchyme is mediated by extracellular matrix biglycan. *Integrative Biology (United Kingdom)*, **2013**, 5, 1045-56	3.7	26
127	Shear-Responsive Platelet Mimetics for Targeted Drug Delivery. *Israel Journal of Chemistry*, **2013**, 53, n/a-n/a	3.4	2
126	Platform for high-throughput testing of the effect of soluble compounds on 3D cell cultures. *Analytical Chemistry*, **2013**, 85, 8085-94	7.8	103
125	Clear castable polyurethane elastomer for fabrication of microfluidic devices. *Lab on A Chip*, **2013**, 13, 3956-64	7.2	85
124	Mechanobiology and developmental control. *Annual Review of Cell and Developmental Biology*, **2013**, 29, 27-61	12.6	279
123	Microfabrication of human organs-on-chips. *Nature Protocols*, **2013**, 8, 2135-57	18.8	441
122	SLLISWD sequence in the 10FNIII domain initiates fibronectin fibrillogenesis. *Journal of Biological Chemistry*, **2013**, 288, 21329-21340	5.4	21
121	Gut-on-a-Chip microenvironment induces human intestinal cells to undergo villus differentiation. *Integrative Biology (United Kingdom)*, **2013**, 5, 1130-40	3.7	438
120	Control of lung vascular permeability and endotoxin-induced pulmonary oedema by changes in extracellular matrix mechanics. *Nature Communications*, **2013**, 4, 1759	17.4	87
119	Human kidney proximal tubule-on-a-chip for drug transport and nephrotoxicity assessment. *Integrative Biology (United Kingdom)*, **2013**, 5, 1119-29	3.7	514
118	Intraductal injection for localized drug delivery to the mouse mammary gland. *Journal of Visualized Experiments*, **2013**,	1.6	22
117	How changes in extracellular matrix mechanics and gene expression variability might combine to drive cancer progression. *PLoS ONE*, **2013**, 8, e76122	3.7	28
116	Unexpected strength and toughness in chitosan-fibroin laminates inspired by insect cuticle. *Advanced Materials*, **2012**, 24, 480-4	24	74

115	A human disease model of drug toxicity-induced pulmonary edema in a lung-on-a-chip microdevice. *Science Translational Medicine*, **2012**, 4, 159ra147	17.5	624
114	A mini-microscope for in situ monitoring of cells. *Lab on A Chip*, **2012**, 12, 3976-82	7.2	55
113	Inhibition of mammary tumor growth using lysyl oxidase-targeting nanoparticles to modify extracellular matrix. *Nano Letters*, **2012**, 12, 3213-7	11.5	83
112	A combined micromagnetic-microfluidic device for rapid capture and culture of rare circulating tumor cells. *Lab on A Chip*, **2012**, 12, 2175-81	7.2	235
111	Human gut-on-a-chip inhabited by microbial flora that experiences intestinal peristalsis-like motions and flow. *Lab on A Chip*, **2012**, 12, 2165-74	7.2	991
110	Mechanosensitive mechanisms in transcriptional regulation. *Journal of Cell Science*, **2012**, 125, 3061-73	5.3	285
109	Microengineered physiological biomimicry: organs-on-chips. *Lab on A Chip*, **2012**, 12, 2156-64	7.2	505
108	Shear-activated nanotherapeutics for drug targeting to obstructed blood vessels. *Science*, **2012**, 337, 738-42	33.3	347
107	Paxillin controls directional cell motility in response to physical cues. *Cell Adhesion and Migration*, **2012**, 6, 502-8	3.2	12
106	Mechanochemical control of mesenchymal condensation and embryonic tooth organ formation. *Developmental Cell*, **2011**, 21, 758-69	10.2	137
105	Paxillin mediates sensing of physical cues and regulates directional cell motility by controlling lamellipodia positioning. *PLoS ONE*, **2011**, 6, e28303	3.7	33
104	From 3D cell culture to organs-on-chips. *Trends in Cell Biology*, **2011**, 21, 745-54	18.3	1235
103	Self-assembly of three-dimensional prestressed tensegrity structures from DNA. *Nature Nanotechnology*, **2010**, 5, 520-4	28.7	301
102	Mechanical control of tissue and organ development. *Development (Cambridge)*, **2010**, 137, 1407-20	6.6	604
101	Reconstituting organ-level lung functions on a chip. *Science*, **2010**, 328, 1662-8	33.3	2416
100	Ultra-rapid activation of TRPV4 ion channels by mechanical forces applied to cell surface beta1 integrins. *Integrative Biology (United Kingdom)*, **2010**, 2, 435-42	3.7	179
99	From cellular mechanotransduction to biologically inspired engineering: 2009 Pritzker Award Lecture, BMES Annual Meeting October 10, 2009. *Annals of Biomedical Engineering*, **2010**, 38, 1148-61	4.7	75
98	Paper-supported 3D cell culture for tissue-based bioassays. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 18457-62	11.5	322

97	TRPV4 channels mediate cyclic strain-induced endothelial cell reorientation through integrin-to-integrin signaling. *Circulation Research*, **2009**, 104, 1123-30	15.7	259
96	Cytoskeletal control of growth and cell fate switching. *Current Opinion in Cell Biology*, **2009**, 21, 864-70	9	170
95	Mechanical control of cAMP signaling through integrins is mediated by the heterotrimeric Galphas protein. *Journal of Cellular Biochemistry*, **2009**, 106, 529-38	4.7	42
94	A mechanosensitive transcriptional mechanism that controls angiogenesis. *Nature*, **2009**, 457, 1103-8	50.4	416
93	Mechanotransduction at a distance: mechanically coupling the extracellular matrix with the nucleus. *Nature Reviews Molecular Cell Biology*, **2009**, 10, 75-82	48.7	1245
92	Micromagnetic-microfluidic blood cleansing device. *Lab on A Chip*, **2009**, 9, 1171-7	7.2	160
91	Tensegrity-guided self assembly: from molecules to living cells. *Soft Matter*, **2009**, 5, 1137-1145	3.6	55
90	Nanomagnetic actuation of receptor-mediated signal transduction. *Nature Nanotechnology*, **2008**, 3, 36-40	28.7	247
89	Can cancer be reversed by engineering the tumor microenvironment?. *Seminars in Cancer Biology*, **2008**, 18, 356-64	12.7	229
88	Directional control of cell motility through focal adhesion positioning and spatial control of Rac activation. *FASEB Journal*, **2008**, 22, 1649-59	0.9	125
87	A multi-modular tensegrity model of an actin stress fiber. *Journal of Biomechanics*, **2008**, 41, 2379-87	2.9	78
86	Fibronectin unfolding revisited: modeling cell traction-mediated unfolding of the tenth type-III repeat. *PLoS ONE*, **2008**, 3, e2373	3.7	40
85	Synaptic reorganization in scaled networks of controlled size. *Journal of Neuroscience*, **2007**, 27, 13581-9	6.6	41
84	Filamin links cell shape and cytoskeletal structure to Rho regulation by controlling accumulation of p190RhoGAP in lipid rafts. *Journal of Cell Science*, **2007**, 120, 456-67	5.3	87
83	Mechanical forces alter zyxin unbinding kinetics within focal adhesions of living cells. *Journal of Cellular Physiology*, **2006**, 207, 187-94	7	184
82	Integrins beta1, alpha6, and alpha3 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, L343-50	5.8	35
81	Cellular adaptation to mechanical stress: role of integrins, Rho, cytoskeletal tension and mechanosensitive ion channels. *Journal of Cell Science*, **2006**, 119, 508-18	5.3	361
80	Microtubules can bear enhanced compressive loads in living cells because of lateral reinforcement. *Journal of Cell Biology*, **2006**, 173, 733-41	7.3	503

79	Viscoelastic retraction of single living stress fibers and its impact on cell shape, cytoskeletal organization, and extracellular matrix mechanics. *Biophysical Journal*, **2006**, 90, 3762-73	2.9	511
78	Tissue engineering and developmental biology: going biomimetic. *Tissue Engineering*, **2006**, 12, 3265-83		233
77	Cellular mechanotransduction: putting all the pieces together again. *FASEB Journal*, **2006**, 20, 811-27	0.9	1240
76	Mechanical control of tissue morphogenesis during embryological development. *International Journal of Developmental Biology*, **2006**, 50, 255-66	1.9	275
75	Combined microfluidic-micromagnetic separation of living cells in continuous flow. *Biomedical Microdevices*, **2006**, 8, 299-308	3.7	307
74	Cell fates as high-dimensional attractor states of a complex gene regulatory network. *Physical Review Letters*, **2005**, 94, 128701	7.4	480
73	Cell tension, matrix mechanics, and cancer development. *Cancer Cell*, **2005**, 8, 175-6	24.3	321
72	Control of basement membrane remodeling and epithelial branching morphogenesis in embryonic lung by Rho and cytoskeletal tension. *Developmental Dynamics*, **2005**, 232, 268-81	2.9	222
71	Mechanical control of tissue growth: function follows form. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 11571-2	11.5	173
70	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	1.2	8
69	Role of RhoA, mDia, and ROCK in cell shape-dependent control of the Skp2-p27kip1 pathway and the G1/S transition. *Journal of Biological Chemistry*, **2004**, 279, 26323-30	5.4	172
68	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, C518-28	5.4	162
67	Mechanical properties of individual focal adhesions probed with a magnetic microneedle. *Biochemical and Biophysical Research Communications*, **2004**, 313, 758-64	3.4	123
66	Global cytoskeletal control of mechanotransduction in kidney epithelial cells. *Experimental Cell Research*, **2004**, 301, 23-30	4.2	101
65	Gene Expression Dynamics Inspector (GEDI): for integrative analysis of expression profiles. *Bioinformatics*, **2003**, 19, 2321-2	7.2	161
64	Polycystins 1 and 2 mediate mechanosensation in the primary cilium of kidney cells. *Nature Genetics* , **2003**, 33, 129-37	36.3	1593
63	Mechanobiology and diseases of mechanotransduction. *Annals of Medicine*, **2003**, 35, 564-77	1.5	597
62	Tensegrity II. How structural networks influence cellular information processing networks. *Journal of Cell Science*, **2003**, 116, 1397-408	5.3	683

61	Tensegrity I. Cell structure and hierarchical systems biology. *Journal of Cell Science*, **2003**, 116, 1157-73	5.3	985
60	Directional control of lamellipodia extension by constraining cell shape and orienting cell tractional forces. *FASEB Journal*, **2002**, 16, 1195-204	0.9	390
59	Controlling Mammalian Cell Spreading and Cytoskeletal Arrangement with Conveniently Fabricated Continuous Wavy Features on Poly(dimethylsiloxane). *Langmuir*, **2002**, 18, 3273-3280	4	169
58	A discrete cell cycle checkpoint in late G(1) that is cytoskeleton-dependent and MAP kinase (Erk)-independent. *Experimental Cell Research*, **2002**, 275, 255-64	4.2	67
57	Control of embryonic lung branching morphogenesis by the Rho activator, cytotoxic necrotizing factor 1. *Journal of Surgical Research*, **2002**, 104, 95-100	2.5	48
56	Topographical Micropatterning of Poly(dimethylsiloxane) Using Laminar Flows of Liquids in Capillaries. *Advanced Materials*, **2001**, 13, 570-574	24	114
55	Subcellular positioning of small molecules. *Nature*, **2001**, 411, 1016	50.4	419
54	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, 7765-70	11.5	538
53	Soft lithography in biology and biochemistry. *Annual Review of Biomedical Engineering*, **2001**, 3, 335-73	12	2115
52	Selective Deposition of Proteins and Cells in Arrays of Microwells. *Langmuir*, **2001**, 17, 2828-2834	4	201
51	The origin of cellular life. *BioEssays*, **2000**, 22, 1160-70	4.1	46
50	Mechanical control of cyclic AMP signalling and gene transcription through integrins. *Nature Cell Biology*, **2000**, 2, 666-8	23.4	221
49	Patterning Mammalian Cells Using Elastomeric Membranes. *Langmuir*, **2000**, 16, 7811-7819	4	271
48	The structural and mechanical complexity of cell-growth control. *Nature Cell Biology*, **1999**, 1, E131-8	23.4	610
47	Geometric control of switching between growth, apoptosis, and differentiation during angiogenesis using micropatterned substrates. *In Vitro Cellular and Developmental Biology - Animal*, **1999**, 35, 441-8	2.6	350
46	Integrin binding and mechanical tension induce movement of mRNA and ribosomes to focal adhesions. *Nature*, **1998**, 392, 730-3	50.4	327
45	The architecture of life. *Scientific American*, **1998**, 278, 48-57	0.5	337
44	DNA topoisomerase II can drive changes in higher order chromosome architecture without enzymatically modifying DNA. *Journal of Cellular Biochemistry*, **1998**, 69, 127-42	4.7	27

43	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	16.4	300
42	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, 849-54	11.5	1319
41	Tensegrity: the architectural basis of cellular mechanotransduction. *Annual Review of Physiology*, **1997**, 59, 575-99	23.1	1268
40	Geometric control of cell life and death. *Science*, **1997**, 276, 1425-8	33.3	3949
39	Mechanical continuity and reversible chromosome disassembly within intact genomes removed from living cells. *Journal of Cellular Biochemistry*, **1997**, 65, 114-130	4.7	124
38	Cytoskeletal mechanics in pressure-overload cardiac hypertrophy. *Circulation Research*, **1997**, 80, 281-9	15.7	126
37	Mechanical continuity and reversible chromosome disassembly within intact genomes removed from living cells. *Journal of Cellular Biochemistry*, **1997**, 65, 114-30	4.7	52
36	Integrins, tensegrity, and mechanotransduction. *Gravitational and Space Biology Bulletin: Publication of the American Society for Gravitational and Space Biology*, **1997**, 10, 49-55		28
35	A microstructural approach to cytoskeletal mechanics based on tensegrity. *Journal of Theoretical Biology*, **1996**, 181, 125-36	2.3	187
34	Probing transmembrane mechanical coupling and cytomechanics using magnetic twisting cytometry. *Biochemistry and Cell Biology*, **1995**, 73, 327-35	3.6	192
33	Cytoskeletal filament assembly and the control of cell spreading and function by extracellular matrix. *Journal of Cell Science*, **1995**, 108 (Pt 6), 2311-20	5.3	57
32	Engineering cell shape and function. *Science*, **1994**, 264, 696-8	33.3	1270
31	Hollow fibers for hepatocyte encapsulation and transplantation: studies of survival and function in rats. *Cell Transplantation*, **1994**, 3, 373-85	4	41
30	Mechanotransduction across the cell surface and through the cytoskeleton. *Science*, **1993**, 260, 1124-7	33.3	2466
29	The riddle of morphogenesis: a question of solution chemistry or molecular cell engineering?. *Cell*, **1993**, 75, 1249-52	56.2	194
28	Prevascularization of porous biodegradable polymers. *Biotechnology and Bioengineering*, **1993**, 42, 716-23	4.9	297
27	Preparation of poly(glycolic acid) bonded fiber structures for cell attachment and transplantation. *Journal of Biomedical Materials Research Part B*, **1993**, 27, 183-9		476
26	Cellular tensegrity: defining new rules of biological design that govern the cytoskeleton. *Journal of Cell Science*, **1993**, 104 (Pt 3), 613-27	5.3	216

25	Cellular tensegrity: defining new rules of biological design that govern the cytoskeleton. *Journal of Cell Science*, **1993**, 104, 613-627	5.3	777
24	Hepatocyte culture on biodegradable polymeric substrates. *Biotechnology and Bioengineering*, **1991**, 38, 145-58	4.9	119
23	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, 7849-53	11.5	344
22	Control of capillary growth and differentiation by extracellular matrix. Use of a tensegrity (tensional integrity) mechanism for signal processing. *Chest*, **1991**, 99, 34S-40S	5.3	33
21	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, 3579-83	11.5	427
20	Mechanochemical switching between growth and differentiation during fibroblast growth factor-stimulated angiogenesis in vitro: role of extracellular matrix. *Journal of Cell Biology*, **1989**, 109, 317-30	7.3	774
19	How does extracellular matrix control capillary morphogenesis?. *Cell*, **1989**, 58, 803-5	56.2	429
18	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	5.8	91
17	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, 3901-5	11.5	168
16	Vascular Control through Tensegrity-Based Integration of Mechanics and Chemistry1786-1792		1
15	Nutritional deficiency recapitulates intestinal injury associated with environmental enteric dysfunction in patient-derived Organ Chips		1
14	Human bone marrow disorders recapitulated in vitro using organ chip technology		3
13	Modular biomaterials vaccine technology protects against multiple pathogens and septic shock		1
12	Human organ chip-enabled pipeline to rapidly repurpose therapeutics during viral pandemics		39
11	Complex human gut microbiome cultured in anaerobic human intestine chips		7
10	Hypoxia-enhanced Blood-Brain Barrier Chip recapitulates human barrier function, drug penetration, and antibody shuttling properties		1
9	Species-specific enhancement of enterohemorrhagic E. Coli pathogenesis mediated by microbiome metabolites		1
8	A robotic platform for fluidically-linked human body-on-chips experimentation		1

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5	Human colon-on-a-chip enables continuous in vitro analysis of colon mucus layer accumulation and physiology	1
4	Mechanical control of innate immune responses against viral infection revealed in a human Lung Alveolus Chip	2
3	Rapid antifouling nanocomposite coating enables highly sensitive multiplexed electrochemical detection of myocardial infarction and concussion markers	1
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