Somin Lee

List of Publications by Year
in descending order

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112 papers	5,744 citations	87723 38 h-index	88477 70 g-index
115 all docs	115 docs citations	115 times ranked	7805 citing authors

#	Article	IF	Citations
1	Engineering of functional, perfusable 3D microvascular networks on a chip. Lab on A Chip, 2013, 13, 1489.	3.1	717
2	Human eye-inspired soft optoelectronic device using high-density MoS2-graphene curved image sensor array. Nature Communications, 2017, 8, 1664.	5.8	381
3	A guide to the organ-on-a-chip. Nature Reviews Methods Primers, 2022, 2, .	11.8	247
4	Frequency modulation of <scp>ERK</scp> activation dynamics rewires cell fate. Molecular Systems Biology, 2015, 11, 838.	3.2	189
5	A Low Permeability Microfluidic Blood-Brain Barrier Platform with Direct Contact between Perfusable Vascular Network and Astrocytes. Scientific Reports, 2017, 7, 8083.	1.6	188
6	Interstitial flow regulates the angiogenic response and phenotype of endothelial cells in a 3D culture model. Lab on A Chip, 2016, 16, 4189-4199.	3.1	167
7	Microfluidics in nanoparticle drug delivery; From synthesis to pre-clinical screening. Advanced Drug Delivery Reviews, 2018, 128, 29-53.	6.6	159
8	IFN-Î³ drives inflammatory bowel disease pathogenesis through VE-cadherinâ€“directed vascular barrier disruption. Journal of Clinical Investigation, 2019, 129, 4691-4707.	3.9	141
9	Tumor spheroid-on-a-chip: a standardized microfluidic culture platform for investigating tumor angiogenesis. Lab on A Chip, 2019, 19, 2822-2833.	3.1	135
10	Three-dimensional biomimetic model to reconstitute sprouting lymphangiogenesis inÂvitro. Biomaterials, 2016, 78, 115-128.	5.7	125
11	Engineering of a Biomimetic Pericyte-Covered 3D Microvascular Network. PLoS ONE, 2015, 10, e0133880.	1.1	117
12	Piezo1 incorporates mechanical force signals into the genetic program that governs lymphatic valve development and maintenance. JCI Insight, 2019, 4, .	2.3	114
13	A microfluidic platform for quantitative analysis of cancer angiogenesis and intravasation. Biomicrofluidics, 2014, 8, 054102.	1.2	110
14	Spatio-temporal co-ordination of RhoA, Rac1 and Cdc42 activation during prototypical edge protrusion and retraction dynamics. Scientific Reports, 2016, 6, 21901.	1.6	106
15	Microfluidic vascularized bone tissue model with hydroxyapatite-incorporated extracellular matrix. Lab on A Chip, 2015, 15, 3984-3988.	3.1	103
16	Biomimetic Model of Tumor Microenvironment on Microfluidic Platform. Advanced Healthcare Materials, 2017, 6, 1700196.	3.9	102
17	Snake fangâ€“inspired stamping patch for transdermal delivery of liquid formulations. Science Translational Medicine, 2019, 11, .	5.8	95
18	Multiple roles of lymphatic vessels in peripheral lymph node development. Journal of Experimental Medicine, 2018, 215, 2760-2777.	4.2	85

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19	3D brain angiogenesis model to reconstitute functional human bloodâ€“brain barrier in vitro. Biotechnology and Bioengineering, 2020, 117, 748-762.	1.7	79
20	Multiscale patterned transplantable stem cell patches for bone tissue regeneration. Biomaterials, 2014, 35, 9058-9067.	5.7	77
21	A bioengineered array of 3D microvessels for vascular permeability assay. Microvascular Research, 2014, 91, 90-98.	1.1	76
22	Microfluidic-based vascularized microphysiological systems. Lab on A Chip, 2018, 18, 2686-2709.	3.1	74
23	Microfluidics within a well: an injection-molded plastic array 3D culture platform. Lab on A Chip, 2018, 18, 2433-2440.	3.1	73
24	Monolithic digital patterning of polydimethylsiloxane with successive laser pyrolysis. Nature Materials, 2021, 20, 100-107.	13.3	71
25	Involvement of 14â€3â€3 in tubulin instability and impaired axon development is mediated by Tau. FASEB Journal, 2015, 29, 4133-4144.	0.2	69
26	High-Throughput Microfluidic 3D Cytotoxicity Assay for Cancer Immunotherapy (CACI-IMPACT) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 46	2.2	69
27	Nanogrooved substrate promotes direct lineage reprogramming ofÂfibroblasts to functional induced dopaminergic neurons. Biomaterials, 2015, 45, 36-45.	5.7	66
28	â€œOpen-topâ€•microfluidic device for in vitro three-dimensional capillary beds. Lab on A Chip, 2017, 17, 3405-3414.	3.1	65
29	Engineeringâ€Aligned 3D Neural Circuit in Microfluidic Device. Advanced Healthcare Materials, 2016, 5, 159-166.	3.9	63
30	Creation of a Hybrid Scaffold with Dual Configuration of Aligned and Random Electrospun Fibers. ACS Applied Materials & Interfaces, 2016, 8, 2826-2832.	4.0	57
31	Tumor Microenvironment on a Chip: The Progress and Future Perspective. Bioengineering, 2017, 4, 64.	1.6	56
32	Wetâ€AMD on a Chip: Modeling Outer Bloodâ€Retinal Barrier In Vitro. Advanced Healthcare Materials, 2018, 7, 1700028.	3.9	54
33	3D Microfluidic Bone Tumor Microenvironment Comprised of Hydroxyapatite/Fibrin Composite. Frontiers in Bioengineering and Biotechnology, 2019, 7, 168.	2.0	49
34	Protein kinase C and calcineurin cooperatively mediate cell survival under compressive mechanical stress. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13471-13476.	3.3	46
35	Engineering tumor vasculature on an injection-molded plastic array 3D culture (IMPACT) platform. Lab on A Chip, 2019, 19, 2071-2080.	3.1	45
36	Microfluidics-based skin irritation test using in vitro 3D angiogenesis platform. APL Bioengineering, 2019, 3, 036101.	3.3	44

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37	Injured Axons Instruct Schwann Cells to Build Constricting Actin Spheres to Accelerate Axonal Disintegration. Cell Reports, 2019, 27, 3152-3166.e7.	2.9	43
38	Microvascularized tumor organoids-on-chips: advancing preclinical drug screening with pathophysiological relevance. Nano Convergence, 2021, 8, 12.	6.3	43
39	Reconstituting ring-rafts in bud-mimicking topography of model membranes. Nature Communications, 2014, 5, 4507.	5.8	41
40	The proteasome controls presynaptic differentiation through modulation of an on-site pool of polyubiquitinated conjugates. Journal of Cell Biology, 2016, 212, 789-801.	2.3	41
41	Dickkopf-3 in aberrant endothelial secretome triggers renal fibroblast activation and endothelialâ€“mesenchymal transition. Nephrology Dialysis Transplantation, 2019, 34, 49-62.	0.4	41
42	Magnetic Nanoparticle-Embedded Hydrogel Sheet with a Groove Pattern for Wound Healing Application. ACS Biomaterials Science and Engineering, 2019, 5, 3909-3921.	2.6	38
43	UPF2 leads to degradation of dendritically targeted mRNAs to regulate synaptic plasticity and cognitive function. Molecular Psychiatry, 2020, 25, 3360-3379.	4.1	38
44	Modeling neural circuit, bloodâ€“brain barrier, and myelination on a microfluidic 96 well plate. Biofabrication, 2019, 11, 035013.	3.7	37
45	Human Ocular Angiogenesisâ€Inspired Vascular Models on an Injectionâ€Molded Microfluidic Chip. Advanced Healthcare Materials, 2019, 8, e1900328.	3.9	34
46	3D Microfluidic Platform and Tumor Vascular Mapping for Evaluating Anti-Angiogenic RNAi-Based Nanomedicine. ACS Nano, 2021, 15, 338-350.	7.3	34
47	Microfluidic platform for single cell analysis under dynamic spatial and temporal stimulation. Biosensors and Bioelectronics, 2018, 104, 58-64.	5.3	33
48	Biocompatible Costâ€Effective Electrophysiological Monitoring with Oxidationâ€Free Cuâ€“Au Coreâ€“Shell Nanowire. Advanced Materials Technologies, 2020, 5, 2000661.	3.0	33
49	A 3D disease and regeneration model of peripheral nervous systemâ€“onâ€“aâ€“chip. Science Advances, 2021, 7, .	4.7	33
50	A microfluidic based in vitro model of synaptic competition. Molecular and Cellular Neurosciences, 2014, 60, 43-52.	1.0	31
51	Three-dimensional microengineered vascularised endometrium-on-a-chip. Human Reproduction, 2021, 36, 2720-2731.	0.4	31
52	Enhanced Bone Repair by Guided Osteoblast Recruitment Using Topographically Defined Implant. Tissue Engineering - Part A, 2016, 22, 654-664.	1.6	30
53	Design rules for a tunable merged-tip microneedle. Microsystems and Nanoengineering, 2018, 4, 29.	3.4	29
54	Human bone marrow-derived mesenchymal stem cells play a role as a vascular pericyte in the reconstruction of human BBB on the angiogenesis microfluidic chip. Biomaterials, 2021, 279, 121210.	5.7	29

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55	Liposomal co-delivery-based quantitative evaluation of chemosensitivity enhancement in breast cancer stem cells by knockdown of GRP78/CLU. Journal of Liposome Research, 2019, 29, 44-52.	1.5	28
56	Perfusable micro-vascularized 3D tissue array for high-throughput vascular phenotypic screening. Nano Convergence, 2022, 9, 16.	6.3	28
57	Engineering a Blood Vessel Network Module for Body-on-a-Chip Applications. Journal of the Association for Laboratory Automation, 2015, 20, 296-301.	2.8	26
58	Investigation on vascular cytotoxicity and extravascular transport of cationic polymer nanoparticles using perfusable 3D microvessel model. Acta Biomaterialia, 2018, 76, 154-163.	4.1	26
59	Optogenetic neuronal stimulation promotes axon outgrowth and myelination of motor neurons in a threeâ€dimensional motor neuronâ€“Schwann cell coculture model on a microfluidic biochip. Biotechnology and Bioengineering, 2019, 116, 2425-2438.	1.7	26
60	Synaptogenesis Stimulates a Proteasome-Mediated Ribosome Reduction in Axons. Cell Reports, 2019, 28, 864-876.e6.	2.9	25
61	High-Throughput 3D In Vitro Tumor Vasculature Model for Real-Time Monitoring of Immune Cell Infiltration and Cytotoxicity. Frontiers in Immunology, 2021, 12, 733317.	2.2	25
62	One-photon and two-photon stimulation of neurons in a microfluidic culture system. Lab on A Chip, 2016, 16, 1684-1690.	3.1	24
63	Development of highly functional bioengineered human liver with perfusable vasculature. Biomaterials, 2021, 265, 120417.	5.7	24
64	Microvessels-on-a-Chip to Assess Targeted Ultrasound-Assisted Drug Delivery. ACS Applied Materials & Interfaces, 2016, 8, 31541-31549.	4.0	23
65	Artificial Slanted Nanocilia Array as a Mechanotransducer for Controlling Cell Polarity. ACS Nano, 2017, 11, 730-741.	7.3	22
66	High-throughput injection molded microfluidic device for single-cell analysis of spatiotemporal dynamics. Lab on A Chip, 2021, 21, 3150-3158.	3.1	21
67	A Growth Factor-Induced, Spatially Organizing Cytoskeletal Module Enables Rapid and Persistent Fibroblast Migration. Developmental Cell, 2014, 30, 701-716.	3.1	20
68	Vascularization of iNSC spheroid in a 3D spheroidâ€onâ€aâ€chip platform enhances neural maturation. Biotechnology and Bioengineering, 2022, 119, 566-574.	1.7	20
69	Highly Efficient and Rapid Neural Differentiation of Mouse Embryonic Stem Cells Based on Retinoic Acid Encapsulated Porous Nanoparticle. ACS Applied Materials & Interfaces, 2017, 9, 34634-34640.	4.0	19
70	Snail1 induced in breast cancer cells in 3D collagen I gel environment suppresses cortactin and impairs effective invadopodia formation. Biochimica Et Biophysica Acta - Molecular Cell Research, 2014, 1843, 2037-2054.	1.9	18
71	Multiplex microfluidic system integrating sequential operations of microalgal lipid production. Analyst, The, 2016, 141, 1218-1225.	1.7	17
72	Detecting the functional complexities between high-density lipoprotein mimetics. Biomaterials, 2018, 170, 58-69.	5.7	17

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73	High-throughput chemical screening to discover new modulators of microRNA expression in living cells by using graphene-based biosensor. Scientific Reports, 2018, 8, 11413.	1.6	17
74	Optogenetic stimulation promotes Schwann cell proliferation, differentiation, and myelination in vitro. Scientific Reports, 2019, 9, 3487.	1.6	17
75	Piezo1-Regulated Mechanotransduction Controls Flow-Activated Lymphatic Expansion. Circulation Research, 2022, 131, .	2.0	16
76	Modeling 3D Human Tumor Lymphatic Vessel Network Using Highâ€Throughput Platform. Advanced Biology, 2021, 5, 2000195.	1.4	15
77	Microfluidic perfusion bioreactor for optimization of microalgal lipid productivity. Bioresource Technology, 2017, 233, 433-437.	4.8	14
78	Anchorâ€IMPACT: A standardized microfluidic platform for highâ€throughput antiangiogenic drug screening. Biotechnology and Bioengineering, 2021, 118, 2524-2535.	1.7	13
79	A FRET assay for the quantitation of inhibitors of exonuclease EcoRV by using parchment paper inkjet-printed with graphene oxide and FAM-labelled DNA. Mikrochimica Acta, 2019, 186, 211.	2.5	12
80	Pneumatically Actuated Microfluidic Platform for Reconstituting 3D Vascular Tissue Compression. Applied Sciences (Switzerland), 2020, 10, 2027.	1.3	12
81	3D micromesh-based hybrid bioprinting: multidimensional liquid patterning for 3D microtissue engineering. NPG Asia Materials, 2022, 14, .	3.8	12
82	PDMS microchannel surface modification with teflon for algal lipid research. Biochip Journal, 2017, 11, 180-186.	2.5	11
83	Reducing tumor invasiveness by ramucirumab and TGFâ€Î²2 receptor kinase inhibitor in a diffuseâ€type gastric cancer patientâ€derived cell model. Cancer Medicine, 2021, 10, 7253-7262.	1.3	10
84	Integrated Platform for Monitoring Single-cell MAPK Kinetics in Computer-controlled Temporal Stimulations. Scientific Reports, 2018, 8, 11126.	1.6	9
85	Probing the Effect of Bioinspired Nanomaterials on Angiogenic Sprouting With a Microengineered Vascular System. IEEE Nanotechnology Magazine, 2018, 17, 393-397.	1.1	8
86	Self-detachable UV-curable polymers for open-access microfluidic platforms. Lab on A Chip, 2020, 20, 4215-4224.	3.1	8
87	From microchannels to microphysiological systems: Development of application specific devices. Microelectronic Engineering, 2018, 202, 9-18.	1.1	7
88	Relationship between Pericytes and Endothelial Cells in Retinal Neovascularization: A Histological and Immunofluorescent Study of Retinal Angiogenesis. Korean Journal of Ophthalmology: KJO, 2018, 32, 70.	0.5	7
89	Overproduction of recombinant E. coli malate synthase enhances Chlamydomonas reinhardtii biomass by upregulating heterotrophic metabolism. Bioresource Technology, 2019, 272, 594-598.	4.8	7
90	3D Microphysiological Systemâ€Inspired Scalable Vascularized Tissue Constructs for Regenerative Medicine. Advanced Functional Materials, 2022, 32, 2105475.	7.8	7

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91	Measurement of Lipid Droplet Accumulation Kinetics in Chlamydomonas reinhardtii Using Seoul-Fluor. Energies, 2013, 6, 5703-5716.	1.6	6
92	Topographyâ€Guided Control of Local Migratory Behaviors and Protein Expression of Cancer Cells. Advanced Healthcare Materials, 2017, 6, 1700155.	3.9	6
93	The Schwann Cell as an Active Synaptic Partner. ChemPhysChem, 2018, 19, 1123-1127.	1.0	6
94	PDMS Sylgard 527-Based Freely Suspended Ultrathin Membranes Exhibiting Mechanistic Characteristics of Vascular Basement Membranes. ACS Applied Materials & Interfaces, 2018, 10, 40388-40400.	4.0	6
95	Role of Human Primary Renal Fibroblast in TGF-Î²1-Mediated Fibrosis-Mimicking Devices. International Journal of Molecular Sciences, 2021, 22, 10758.	1.8	6
96	Kinase pathway inhibition restores PSD95 induction in neurons lacking fragile X mental retardation protein. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 12007-12012.	3.3	5
97	Aspiration-mediated hydrogel micropatterning using rail-based open microfluidic devices for high-throughput 3D cell culture. Scientific Reports, 2021, 11, 19986.	1.6	5
98	Identification of the First Selective Activin Receptor-Like Kinase 1 Inhibitor, a Reversible Version of L-783277. Journal of Medicinal Chemistry, 2017, 60, 1495-1508.	2.9	4
99	Optimal diameter reduction ratio of acinar airways in human lungs. PLoS ONE, 2019, 14, e0204191.	1.1	4
100	Vibration-induced stress priming during seed culture increases microalgal biomass in high shear field-cultivation. Bioresource Technology, 2018, 254, 340-346.	4.8	3
101	Comparison of the Efficacy of Optogenetic Stimulation of Glia versus Neurons in Myelination. ACS Chemical Neuroscience, 2020, 11, 4280-4288.	1.7	3
102	Wearable Electronics: Biocompatible Costâ€Effective Electrophysiological Monitoring with Oxidationâ€Free Cuâ€“Au Coreâ€“Shell Nanowire (Adv. Mater. Technol. 12/2020). Advanced Materials Technologies, 2020, 5, 2070073.	3.0	3
103	3D Highâ€Content Culturing and Drug Screening Platform to Study Vascularized Hepatocellular Carcinoma in Hypoxic Condition. Advanced NanoBiomed Research, 2021, 1, 2100078.	1.7	3
104	A Petri-Dish with Micromolded Pattern as a Coordinate Indicator for Live-Cell Time Lapse Microscopy. Biochip Journal, 2022, 16, 27-32.	2.5	3
105	Advances in 3D Vascularized Tumor-on-a-Chip Technology. Advances in Experimental Medicine and Biology, 2022, , 231-256.	0.8	3
106	Wearable skin sensor using programmable interlocking of nanofibers. , 2013, , .		2
107	Use of Microfluidic Technology to Monitor the Differentiation and Migration of Human ESC-Derived Neural Cells. Methods in Molecular Biology, 2016, 1502, 223-235.	0.4	2
108	Quantum-dot nanoprobes and AOTF based cross talk eliminated six color imaging of biomolecules in cellular system. Analytica Chimica Acta, 2017, 985, 166-174.	2.6	2

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109	Angiogenesis: Human Ocular Angiogenesisâ€Inspired Vascular Models on an Injectionâ€Molded Microfluidic Chip (Adv. Healthcare Mater. 15/2019). Advanced Healthcare Materials, 2019, 8, 1970063.	3.9	2
110	Nanoelectrokinetic radial preconcentrator/extractor based on ion concentration polarization. , 2017, , .		1
111	Three-Dimensional Microfluidic Drug Screening Platform to Study Vascularized Hepatocellular Carcinoma in Hypoxic Condition. , 2021, , .		1
112	Macular Degeneration: Wetâ€AMD on a Chip: Modeling Outer Bloodâ€Retinal Barrier In Vitro (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	3.9	0