

Seok Chung

List of Publications by Year in descending order

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122
papers

7,471
citations

66343

42
h-index

58581

82
g-index

125
all docs

125
docs citations

125
times ranked

9463
citing authors

#	ARTICLE	IF	CITATIONS
1	A high-throughput biomimetic bone-on-a-chip platform with artificial intelligence-assisted image analysis for osteoporosis drug testing. <i>Bioengineering and Translational Medicine</i> , 2023, 8, .	7.1	17
2	Microfluidic one-directional interstitial flow generation from cancer to cancer associated fibroblast. <i>Acta Biomaterialia</i> , 2022, 144, 258-265.	8.3	10
3	Recapitulated Crosstalk between Cerebral Metastatic Lung Cancer Cells and Brain Perivascular Tumor Microenvironment in a Microfluidic Co-culture Chip. <i>Advanced Science</i> , 2022, 9, .	11.2	12
4	Generation of uniform liver spheroids from human pluripotent stem cells for imaging-based drug toxicity analysis. <i>Biomaterials</i> , 2021, 269, 120529.	11.4	38
5	Nano-Interstice Driven Powerless Blood Plasma Extraction in a Membrane Filter Integrated Microfluidic Device. <i>Sensors</i> , 2021, 21, 1366.	3.8	6
6	Microfluidic Reconstitution of Tumor Microenvironment for Nanomedical Applications. <i>Advanced Healthcare Materials</i> , 2021, 10, 2002122.	7.6	4
7	Highly efficient and scalable biomarker preconcentrator based on nanoelectrokinetics. <i>Biosensors and Bioelectronics</i> , 2021, 176, 112904.	10.1	7
8	Mutation-specific non-canonical pathway of PTEN as a distinct therapeutic target for glioblastoma. <i>Cell Death and Disease</i> , 2021, 12, 374.	6.3	15
9	Transcriptomic profiling of three-dimensional cholangiocyte spheroids long term exposed to repetitive <i>Clonorchis sinensis</i> excretory-secretory products. <i>Parasites and Vectors</i> , 2021, 14, 213.	2.5	4
10	SRPS—deep-learning-based photometric stereo using superresolution images. <i>Journal of Computational Design and Engineering</i> , 2021, 8, 995-1012.	3.1	3
11	Simulation and Experimental Study of Ion Concentration Polarization Induced Electroconvective Vortex and Particle Movement. <i>Micromachines</i> , 2021, 12, 903.	2.9	2
12	Gamma irradiation exposure for collapsed cell junctions and reduced angiogenesis of 3-D in vitro blood vessels. <i>Scientific Reports</i> , 2021, 11, 18230.	3.3	5
13	Drug screening by uniform patient derived colorectal cancer hydro-organoids. <i>Biomaterials</i> , 2021, 276, 121004.	11.4	12
14	A rapid quantitative on-site coronavirus disease 19 serological test. <i>Biosensors and Bioelectronics</i> , 2021, 191, 113406.	10.1	10
15	A three-dimensional in vitro model of the peripheral nervous system. <i>NPG Asia Materials</i> , 2021, 13, .	7.9	14
16	Modulation of Nogo receptor 1 expression orchestrates myelin-associated infiltration of glioblastoma. <i>Brain</i> , 2021, 144, 636-654.	7.6	16
17	Inhibition of tumor progression and M2 microglial polarization by extracellular vesicle-mediated microRNA-124 in a 3D microfluidic glioblastoma microenvironment. <i>Theranostics</i> , 2021, 11, 9687-9704.	10.0	38
18	Isolation of extracellular vesicles from small volumes of plasma using a microfluidic aqueous two-phase system. <i>Lab on A Chip</i> , 2020, 20, 3552-3559.	6.0	17

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19	Transcriptional regulatory networks of tumor-associated macrophages that drive malignancy in mesenchymal glioblastoma. <i>Genome Biology</i> , 2020, 21, 216.	8.8	73
20	Phenotypic Heterogeneity and Plasticity of Cancer Cell Migration in a Pancreatic Tumor Three-Dimensional Culture Model. <i>Cancers</i> , 2020, 12, 1305.	3.7	21
21	Remote Manipulation of Slidable Nano-Ligand Switch Regulates the Adhesion and Regenerative Polarization of Macrophages. <i>Advanced Functional Materials</i> , 2020, 30, 2001446.	14.9	27
22	Microfluidic immunoassay for point-of-care testing using simple fluid vent control. <i>Sensors and Actuators B: Chemical</i> , 2020, 316, 128094.	7.8	15
23	Blood-Brain Barrier Dysfunction in a 3D In Vitro Model of Alzheimer's Disease. <i>Advanced Science</i> , 2019, 6, 1900962.	11.2	168
24	Balance of interstitial flow magnitude and vascular endothelial growth factor concentration modulates three-dimensional microvascular network formation. <i>APL Bioengineering</i> , 2019, 3, 036102.	6.2	63
25	Repurposing Penfluridol in Combination with Temozolomide for the Treatment of Glioblastoma. <i>Cancers</i> , 2019, 11, 1310.	3.7	18
26	Clonorchis sinensis excretory-secretory products increase malignant characteristics of cholangiocarcinoma cells in three-dimensional co-culture with biliary ductal plates. <i>PLoS Pathogens</i> , 2019, 15, e1007818.	4.7	32
27	Pre-Metastatic Niches: Macrophages-Triggered Sequential Remodeling of Endothelium-Interstitial Matrix to Form Pre-Metastatic Niche in Microfluidic Tumor Microenvironment (<i>Adv. Sci.</i> 11/2019). <i>Advanced Science</i> , 2019, 6, 1970068.	11.2	2
28	Effect of cross-linking on the dimensional stability and biocompatibility of a tailored 3D-bioprinted gelatin scaffold. <i>International Journal of Biological Macromolecules</i> , 2019, 135, 659-667.	7.5	23
29	Wire Electrodes Embedded in Artificial Conduit for Long-term Monitoring of the Peripheral Nerve Signal. <i>Micromachines</i> , 2019, 10, 184.	2.9	4
30	Self-organization of hepatocyte morphogenesis depending on the size of collagen microbeads relative to hepatocytes. <i>Biofabrication</i> , 2019, 11, 035007.	7.1	7
31	Endothelial-neurosphere crosstalk in microwell arrays regulates self-renewal and differentiation of human neural stem cells. <i>Journal of Industrial and Engineering Chemistry</i> , 2019, 74, 148-157.	5.8	6
32	Macrophages-Triggered Sequential Remodeling of Endothelium-Interstitial Matrix to Form Pre-Metastatic Niche in Microfluidic Tumor Microenvironment. <i>Advanced Science</i> , 2019, 6, 1900195.	11.2	74
33	Identification of different gene expressions between diffuse- and intestinal-type spheroid-forming gastric cancer cells. <i>Gastric Cancer</i> , 2019, 22, 967-979.	5.3	8
34	Origami-paper-based device for microvesicle/exosome preconcentration and isolation. <i>Lab on A Chip</i> , 2019, 19, 3917-3921.	6.0	25
35	In vivo-mimicking microfluidic perfusion culture of pancreatic islet spheroids. <i>Science Advances</i> , 2019, 5, eaax4520.	10.3	101
36	Graphene-oxide quenching-based molecular beacon imaging of exosome-mediated transfer of neurogenic miR-193a on microfluidic platform. <i>Biosensors and Bioelectronics</i> , 2019, 126, 647-656.	10.1	35

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37	Construction of Continuous Capillary Networks Stabilized by Pericyte-like Perivascular Cells. <i>Tissue Engineering - Part A</i> , 2019, 25, 499-510.	3.1	40
38	Graded 6-OHDA-induced dopamine depletion in the nigrostriatal pathway evokes progressive pathological neuronal activities in the subthalamic nucleus of a hemi-parkinsonian mouse. <i>Behavioural Brain Research</i> , 2018, 344, 42-47.	2.2	11
39	Microfluidic co-culture of pancreatic tumor spheroids with stellate cells as a novel 3D model for investigation of Astroma-mediated cell motility and drug resistance. <i>Journal of Experimental and Clinical Cancer Research</i> , 2018, 37, 4.	8.6	129
40	Enhanced oxygen permeability in membrane-bottomed concave microwells for the formation of pancreatic islet spheroids. <i>Acta Biomaterialia</i> , 2018, 65, 185-196.	8.3	24
41	Isolation of spheroid-forming single cells from gastric cancer cell lines: enrichment of cancer stem-like cells. <i>BioTechniques</i> , 2018, 65, 197-203.	1.8	16
42	Cancer-derived exosomes trigger endothelial to mesenchymal transition followed by the induction of cancer-associated fibroblasts. <i>Acta Biomaterialia</i> , 2018, 76, 146-153.	8.3	116
43	Effect of the pore size in a 3D bioprinted gelatin scaffold on fibroblast proliferation. <i>Journal of Industrial and Engineering Chemistry</i> , 2018, 67, 388-395.	5.8	50
44	Hydrogel-incorporating unit in a well: 3D cell culture for high-throughput analysis. <i>Lab on A Chip</i> , 2018, 18, 2604-2613.	6.0	19
45	Generation of digitized microfluidic filling flow by vent control. <i>Biosensors and Bioelectronics</i> , 2017, 92, 465-471.	10.1	9
46	Battery operated preconcentration-assisted lateral flow assay. <i>Lab on A Chip</i> , 2017, 17, 2451-2458.	6.0	43
47	In vitro nasal mucosa gland-like structure formation on a chip. <i>Lab on A Chip</i> , 2017, 17, 1578-1584.	6.0	30
48	Ethanol-dispersed and antibody-conjugated polymer nanofibers for the selective capture and 3-dimensional culture of EpCAM-positive cells. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2017, 13, 1617-1625.	3.3	16
49	Differential heart rate variability and physiological responses associated with accumulated short- and long-term stress in rodents. <i>Physiology and Behavior</i> , 2017, 171, 21-31.	2.1	23
50	Mycobacterial cord factor enhances migration of neutrophil-like HL60 cells by prolonging AKT phosphorylation. <i>Microbiology and Immunology</i> , 2017, 61, 523-530.	1.4	1
51	On-Chip Lipid Extraction Using Superabsorbent Polymers for Mass Spectrometry. <i>Analytical Chemistry</i> , 2017, 89, 13365-13373.	6.5	15
52	Convective exosome-tracing microfluidics for analysis of cell-non-autonomous neurogenesis. <i>Biomaterials</i> , 2017, 112, 82-94.	11.4	39
53	Spheroid Formation of Hepatocarcinoma Cells in Microwells: Experiments and Monte Carlo Simulations. <i>PLoS ONE</i> , 2016, 11, e0161915.	2.5	21
54	Co-Culture of Tumor Spheroids and Fibroblasts in a Collagen Matrix-Incorporated Microfluidic Chip Mimics Reciprocal Activation in Solid Tumor Microenvironment. <i>PLoS ONE</i> , 2016, 11, e0159013.	2.5	205

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55	Constructive remodeling of a synthetic endothelial extracellular matrix. <i>Scientific Reports</i> , 2016, 5, 18290.	3.3	28
56	Simple and Highly Sensitive Molecular Diagnosis of Zika Virus by Lateral Flow Assays. <i>Analytical Chemistry</i> , 2016, 88, 12272-12278.	6.5	73
57	Ion concentration polarization for pre-concentration of biological samples without pH change. <i>Analyst</i> , 2016, 141, 6510-6514.	3.5	15
58	Intrinsic FGF2 and FGF5 promotes angiogenesis of human aortic endothelial cells in 3D microfluidic angiogenesis system. <i>Scientific Reports</i> , 2016, 6, 28832.	3.3	45
59	Viscoelastic lithography for fabricating self-organizing soft micro-honeycomb structures with ultra-high aspect ratios. <i>Nature Communications</i> , 2016, 7, 11269.	12.8	38
60	Study on chemotaxis and chemokinesis of bone marrow-derived mesenchymal stem cells in hydrogel-based 3D microfluidic devices. <i>Biomaterials Research</i> , 2016, 20, 25.	6.9	24
61	Angiogenic Type I Collagen Extracellular Matrix Integrated with Recombinant Bacteriophages Displaying Vascular Endothelial Growth Factors. <i>Advanced Healthcare Materials</i> , 2016, 5, 205-212.	7.6	4
62	An aptamer-antibody complex (oligobody) as a novel delivery platform for targeted cancer therapies. <i>Journal of Controlled Release</i> , 2016, 229, 1-9.	9.9	66
63	Collagen-based brain microvasculature model <i>in vitro</i> using three-dimensional printed template. <i>Biomicrofluidics</i> , 2015, 9, 024115.	2.4	123
64	Recapitulation of <i>in vivo</i> -like paracrine signals of human mesenchymal stem cells for functional neuronal differentiation of human neural stem cells in a 3D microfluidic system. <i>Biomaterials</i> , 2015, 63, 177-188.	11.4	67
65	Nanointerstice-driven microflow patterns in physical interrupts. <i>Microfluidics and Nanofluidics</i> , 2015, 18, 1433-1438.	2.2	6
66	Timescale analysis for estimating upper limit perfusion rate in a microfluidic perfusion cell culture platform. <i>Microfluidics and Nanofluidics</i> , 2015, 19, 777-786.	2.2	5
67	A quantitative microfluidic angiogenesis screen for studying anti-angiogenic therapeutic drugs. <i>Lab on A Chip</i> , 2015, 15, 301-310.	6.0	116
68	<i>Clonorchis sinensis</i> Infestation Promotes Three-Dimensional Aggregation and Invasion of Cholangiocarcinoma Cells. <i>PLoS ONE</i> , 2014, 9, e110705.	2.5	19
69	Reconstituting Vascular Microenvironment of Neural Stem Cell Niche in Three-Dimensional Extracellular Matrix. <i>Advanced Healthcare Materials</i> , 2014, 3, 1457-1464.	7.6	58
70	A microfluidic 3D <i>in vitro</i> model for specificity of breast cancer metastasis to bone. <i>Biomaterials</i> , 2014, 35, 2454-2461.	11.4	440
71	Microfluidic in-reservoir pre-concentration using a buffer drain technique. <i>Lab on A Chip</i> , 2014, 14, 2778-2782.	6.0	9
72	Implantable microfluidic device for the formation of three-dimensional vasculature by human endothelial progenitor cells. <i>Biotechnology and Bioprocess Engineering</i> , 2014, 19, 379-385.	2.6	16

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73	Smooth muscle progenitor cells from peripheral blood promote the neovascularization of endothelial colony-forming cells. <i>Biochemical and Biophysical Research Communications</i> , 2014, 449, 405-411.	2.1	17
74	Large-scale, Ultrapliable, and Free-standing Nanomembranes. <i>Advanced Materials</i> , 2013, 25, 2167-2173.	21.0	53
75	Single-step UV diffraction lithography to define a hydrophobic SU-8 interconnected hoodoo structure. <i>Microsystem Technologies</i> , 2013, 19, 1025-1032.	2.0	4
76	A three-dimensional microfluidic tumor cell migration assay to screen the effect of anti-migratory drugs and interstitial flow. <i>Microfluidics and Nanofluidics</i> , 2013, 14, 969-981.	2.2	33
77	Extracellular Matrix Heterogeneity Regulates Three-dimensional Morphologies of Breast Adenocarcinoma Cell Invasion. <i>Advanced Healthcare Materials</i> , 2013, 2, 790-794.	7.6	33
78	Hydrogels: Extracellular Matrix Heterogeneity Regulates Three-dimensional Morphologies of Breast Adenocarcinoma Cell Invasion (<i>Adv. Healthcare Mater.</i> 6/2013). <i>Advanced Healthcare Materials</i> , 2013, 2, 920-920.	7.6	1
79	A microfluidic array for quantitative analysis of human neural stem cell self-renewal and differentiation in three-dimensional hypoxic microenvironment. <i>Biomaterials</i> , 2013, 34, 6607-6614.	11.4	44
80	Hydrodynamic effects on bacterial biofilm development in a microfluidic environment. <i>Lab on A Chip</i> , 2013, 13, 1846.	6.0	60
81	The Stabilization Effect of Mesenchymal Stem Cells on the Formation of Microvascular Networks in a Microfluidic Device. <i>Journal of Biomechanical Science and Engineering</i> , 2013, 8, 114-128.	0.3	14
82	In Vitro Model of Tumor Cell Extravasation. <i>PLoS ONE</i> , 2013, 8, e56910.	2.5	201
83	Microfluidic Approaches to Bacterial Biofilm Formation. <i>Molecules</i> , 2012, 17, 9818-9834.	3.8	122
84	Microfluidic assay for simultaneous culture of multiple cell types on surfaces or within hydrogels. <i>Nature Protocols</i> , 2012, 7, 1247-1259.	12.0	518
85	In vitro angiogenesis assay for the study of cell-encapsulation therapy. <i>Lab on A Chip</i> , 2012, 12, 2942.	6.0	21
86	Microfluidic platforms for the study of cancer metastasis. <i>Biomedical Engineering Letters</i> , 2012, 2, 72-77.	4.1	13
87	Generation of core-shell microcapsules with three-dimensional focusing device for efficient formation of cell spheroid. <i>Lab on A Chip</i> , 2011, 11, 246-252.	6.0	140
88	A high-throughput microfluidic assay to study neurite response to growth factor gradients. <i>Lab on A Chip</i> , 2011, 11, 497-507.	6.0	145
89	Sprouting Angiogenesis under a Chemical Gradient Regulated by Interactions with an Endothelial Monolayer in a Microfluidic Platform. <i>Analytical Chemistry</i> , 2011, 83, 8454-8459.	6.5	102
90	In vitro 3D collective sprouting angiogenesis under orchestrated ANG-1 and VEGF gradients. <i>Lab on A Chip</i> , 2011, 11, 2175.	6.0	142

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91	Hot embossing for fabrication of a microfluidic 3D cell culture platform. <i>Biomedical Microdevices</i> , 2011, 13, 325-333.	2.8	83
92	Microfluidic assay of endothelial cell migration in 3D interpenetrating polymer semi-network HA-Collagen hydrogel. <i>Biomedical Microdevices</i> , 2011, 13, 717-723.	2.8	46
93	Differentiation of Embryonic Stem Cells into Cardiomyocytes in a Compliant Microfluidic System. <i>Annals of Biomedical Engineering</i> , 2011, 39, 1840-1847.	2.5	77
94	Concentration gradients in microfluidic 3D matrix cell culture systems. <i>International Journal of Micro-nano Scale Transport</i> , 2010, 1, 27-36.	0.2	30
95	Temperature-dependent threshold shear stress of red blood cell aggregation. <i>Journal of Biomechanics</i> , 2010, 43, 546-550.	2.1	45
96	Microfluidic Platforms for Studies of Angiogenesis, Cell Migration, and Cell-Cell Interactions. <i>Annals of Biomedical Engineering</i> , 2010, 38, 1164-1177.	2.5	140
97	A low resistance microfluidic system for the creation of stable concentration gradients in a defined 3D microenvironment. <i>Biomedical Microdevices</i> , 2010, 12, 1027-1041.	2.8	40
98	Applications of micromixing technology. <i>Analyst, The</i> , 2010, 135, 460.	3.5	192
99	Transport-mediated angiogenesis in 3D epithelial coculture. <i>FASEB Journal</i> , 2009, 23, 2155-2164.	0.5	179
100	Biomechanical Regulation of Endothelium-dependent Events Critical for Adaptive Remodeling. <i>Journal of Biological Chemistry</i> , 2009, 284, 8412-8420.	3.4	44
101	Surface-treatment-induced Three-Dimensional Capillary Morphogenesis in a Microfluidic Platform. <i>Advanced Materials</i> , 2009, 21, 4863-4867.	21.0	85
102	Nanointerstice-Driven Microflow. <i>Small</i> , 2009, 5, 609-613.	10.0	30
103	Cell migration into scaffolds under co-culture conditions in a microfluidic platform. <i>Lab on A Chip</i> , 2009, 9, 269-275.	6.0	456
104	Microfluidic synthesis of a cell adhesive Janus polyurethane microfiber. <i>Lab on A Chip</i> , 2009, 9, 2596.	6.0	75
105	Non-Lithographic Wrinkle Nanochannels for Protein Preconcentration. <i>Advanced Materials</i> , 2008, 20, 3011-3016.	21.0	125
106	Design, fabrication and implementation of a novel multi-parameter control microfluidic platform for three-dimensional cell culture and real-time imaging. <i>Lab on A Chip</i> , 2008, 8, 1468.	6.0	312
107	On-chip erythrocyte deformability test under optical pressure. <i>Lab on A Chip</i> , 2007, 7, 516.	6.0	33
108	Poly(dimethylsiloxane)-Based Protein Preconcentration Using a Nanogap Generated by Junction Gap Breakdown. <i>Analytical Chemistry</i> , 2007, 79, 6868-6873.	6.5	138

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109	Expansion channel for microchip flow cytometers. Lab on A Chip, 2006, 6, 1381.	6.0	18
110	Ultra-thin microchannel-type electrophoresis chip for TIRFM-based single-DNA observation in the femtomole concentration. Current Applied Physics, 2006, 6, e137-e140.	2.4	0
111	Microfabricated fluorescence-activated cell sorter through hydrodynamic flow manipulation. Microsystem Technologies, 2006, 12, 746-753.	2.0	26
112	Asymmetric nozzle structure for particles converging into a highly confined region. Current Applied Physics, 2006, 6, 992-995.	2.4	14
113	Active sealing for soft polymer microchips: method and practical applications. Journal of Micromechanics and Microengineering, 2006, 16, 708-714.	2.6	15
114	Serial dilution microchip for cytotoxicity test. Journal of Micromechanics and Microengineering, 2004, 14, 1165-1170.	2.6	36
115	Rapid three-dimensional passive rotation micromixer using the breakup process. Journal of Micromechanics and Microengineering, 2004, 14, 6-14.	2.6	127
116	Retinal Pigment Epithelial Cell Behavior is Modulated by Alterations in Focal Cell-Substrate Contacts. , 2004, 45, 4210.		33
117	In-plane single-crystal-silicon microneedles for minimally invasive microfluid systems. Sensors and Actuators A: Physical, 2004, 114, 276-284.	4.1	97
118	Development of MEMS-based Cerebrospinal Fluid Shunt System. Biomedical Microdevices, 2003, 5, 311-321.	2.8	22
119	Functional integration of serial dilution and capillary electrophoresis on a PDMS microchip. Biotechnology and Bioprocess Engineering, 2003, 8, 233-239.	2.6	8
120	Effects of peak anomalies with the hydrophilic or hydrophobic properties of reservoirs during serial injection on a capillary electrophoresis microchip. Journal of Chromatography A, 2003, 1013, 111-122.	3.7	12
121	PDMS-based micro PCR chip with Parylene coating. Journal of Micromechanics and Microengineering, 2003, 13, 768-774.	2.6	356
122	Development of endovascular microtools. Journal of Micromechanics and Microengineering, 2002, 12, 824-831.	2.6	22