Claudia Fischbach

List of Publications by Year
in descending order

101 papers	7,493 citations	41344 49 h-index	54911 84 g-index
107 all docs	107 docs citations	107 times ranked	10723 citing authors

#	Article	IF	Citations
1	Regulation of Tumor Invasion by the Physical Microenvironment: Lessons from Breast and Brain Cancer. Annual Review of Biomedical Engineering, 2022, 24, 29-59.	12.3	11
2	Fluorescent Silica Nanoparticles to Label Metastatic Tumor Cells in Mineralized Bone Microenvironments. Small, 2021, 17, e2001432.	10.0	14
3	Engineering Modular Half-Antibody Conjugated Nanoparticles for Targeting CD44v6-Expressing Cancer Cells. Nanomaterials, 2021, 11, 295.	4.1	11
4	Computational 4D-OCM for label-free imaging of collective cell invasion and force-mediated deformations in collagen. Scientific Reports, 2021, 11, 2814.	3.3	12
5	Breast cancerâ€“secreted factors perturb murine bone growth in regions prone to metastasis. Science Advances, 2021, 7, .	10.3	29
6	Contractility, focal adhesion orientation, and stress fiber orientation drive cancer cell polarity and migration along wavy ECM substrates. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	39
7	Tetrathiomolybdate (TM)-associated copper depletion influences collagen remodeling and immune response in the pre-metastatic niche of breast cancer. Npj Breast Cancer, 2021, 7, 108.	5.2	30
8	Engineering strategies to capture the biological and biophysical tumor microenvironment in vitro. Advanced Drug Delivery Reviews, 2021, 176, 113852.	13.7	13
9	Engineered ECM models: Opportunities to advance understanding of tumor heterogeneity. Current Opinion in Cell Biology, 2021, 72, 1-9.	5.4	16
10	Biomaterials-Based Model Systems to Study Tumorâ€“Microenvironment Interactions. , 2020, , 1217-1236.		4
11	Extracellular Matrix Remodelling: Obesityâ€Associated Adipose Stromal Cells Promote Breast Cancer Invasion through Direct Cell Contact and ECM Remodeling (Adv. Funct. Mater. 48/2020). Advanced Functional Materials, 2020, 30, 2070320.	14.9	0
12	Obesityâ€Associated Adipose Stromal Cells Promote Breast Cancer Invasion through Direct Cell Contact and ECM Remodeling. Advanced Functional Materials, 2020, 30, 1910650.	14.9	30
13	Collagen microarchitecture mechanically controls myofibroblast differentiation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11387-11398.	7.1	127
14	Supported Membrane Platform to Assess Surface Interactions between Extracellular Vesicles and Stromal Cells. ACS Biomaterials Science and Engineering, 2020, 6, 3945-3956.	5.2	3
15	Direct comparison of optical and electron microscopy methods for structural characterization of extracellular vesicles. Journal of Structural Biology, 2020, 210, 107474.	2.8	64
16	Intrafibrillar, bone-mimetic collagen mineralization regulates breast cancer cell adhesion and migration. Biomaterials, 2019, 198, 95-106.	11.4	56
17	Obesity-Associated Extracellular Matrix Remodeling Promotes a Macrophage Phenotype Similar to Tumor-Associated Macrophages. American Journal of Pathology, 2019, 189, 2019-2035.	3.8	62
18	Physical confinement induces malignant transformation in mammary epithelial cells. Biomaterials, 2019, 217, 119307.	11.4	13

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19	Hydroxyapatite mineral enhances malignant potential in a tissue-engineered model of ductal carcinoma in situ (DCIS). Biomaterials, 2019, 224, 119489.	11.4	21
20	Endothelial cells promote 3D invasion of GBM by IL-8-dependent induction of cancer stem cell properties. Scientific Reports, 2019, 9, 9069.	3.3	76
21	The Physics of Cancer. Cancer Research, 2019, 79, 2107-2110.	0.9	22
22	Mapping and Profiling Lipid Distribution in a 3D Model of Breast Cancer Progression. ACS Central Science, 2019, 5, 768-780.	11.3	40
23	Loss of Sirtuin 1 Alters the Secretome of Breast Cancer Cells by Impairing Lysosomal Integrity. Developmental Cell, 2019, 49, 393-408.e7.	7.0	102
24	Editorial: Special Issue on Tissue Engineering and Biomaterials Approaches to Tumor Modeling. ACS Biomaterials Science and Engineering, 2018, 4, 291-293.	5.2	3
25	CD44v6 increases gastric cancer malignant phenotype by modulating adipose stromal cell-mediated ECM remodeling. Integrative Biology (United Kingdom), 2018, 10, 145-158.	1.3	20
26	Biophysical Properties of Extracellular Matrix: Linking Obesity and Cancer. Trends in Cancer, 2018, 4, 271-273.	7.4	33
27	Tissue-Engineered Models for Studies of Bone Metastasis. Cancer Drug Discovery and Development, 2018, , 95-116.	0.4	0
28	Correlative imaging reveals physiochemical heterogeneity of microcalcifications in human breast carcinomas. Journal of Structural Biology, 2018, 202, 25-34.	2.8	41
29	Cancer metabolism gets physical. Science Translational Medicine, 2018, 10, .	12.4	35
30	Collagen Fiber Orientation Regulates 3D Vascular Network Formation and Alignment. ACS Biomaterials Science and Engineering, 2018, 4, 2967-2976.	5.2	54
31	Studying biomineralization pathways in a 3D culture model of breast cancer microcalcifications. Biomaterials, 2018, 179, 71-82.	11.4	22
32	Revealing Mechanisms of Microvesicle Biogenesis in Breast Cancer Cells via in situ Microscopy. Microscopy and Microanalysis, 2018, 24, 1256-1257.	0.4	1
33	Obesityâ€associated extracellular matrix remodeling promotes a tumorâ€associated macrophage phenotype in tumorâ€free breast adipose tissue. FASEB Journal, 2018, 32, 280.5.	0.5	0
34	Abstract 4506: Loss of SIRT1 alters the secretome of breast cancer cells by impairing lysosomal integrity. , 2018, , .		0
35	Protein-crystal interface mediates cell adhesion and proangiogenic secretion. Biomaterials, 2017, 116, 174-185.	11.4	12
36	Breast cancer-derived extracellular vesicles stimulate myofibroblast differentiation and pro-angiogenic behavior of adipose stem cells. Matrix Biology, 2017, 60-61, 190-205.	3.6	50

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37	Multiscale characterization of the mineral phase at skeletal sites of breast cancer metastasis. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 10542-10547.	7.1	55
38	Influencing the Tumor Microenvironment: A Phase II Study of Copper Depletion Using Tetrathiomolybdate in Patients with Breast Cancer at High Risk for Recurrence and in Preclinical Models of Lung Metastases. Clinical Cancer Research, 2017, 23, 666-676.	7.0	140
39	Breast cancer cells alter the dynamics of stromal fibronectin-collagen interactions. Matrix Biology, 2017, 60-61, 86-95.	3.6	75
40	Contextual Control of Adipose-Derived Stem Cell Function: Implications for Engineered Tumor Models. ACS Biomaterials Science and Engineering, 2017, 3, 1483-1493.	5.2	7
41	Three-Dimensional Mechanical Loading Modulates the Osteogenic Response of Mesenchymal Stem Cells to Tumor-Derived Soluble Signals. Tissue Engineering - Part A, 2016, 22, 1006-1015.	3.1	32
42	Collagen I hydrogel microstructure and composition conjointly regulate vascular network formation. Acta Biomaterialia, 2016, 44, 200-208.	8.3	45
43	Adipose-derived stem cells increase angiogenesis through matrix metalloproteinase-dependent collagen remodeling. Integrative Biology (United Kingdom), 2016, 8, 205-215.	1.3	57
44	Roll-on scaffolds. Nature Materials, 2016, 15, 138-139.	27.5	0
45	Biomaterials approaches to modeling macrophageâ€"extracellular matrix interactions in the tumor microenvironment. Current Opinion in Biotechnology, 2016, 40, 16-23.	6.6	26
46	Fibronectin Mechanobiology Regulates Tumorigenesis. Cellular and Molecular Bioengineering, 2016, 9, 1-11.	2.1	57
47	Abstract LB-349: Copper depletion as a strategy to affect the tumor microenvironment in breast cancer patients at high risk of relapse and in triple negative preclinical models of breast cancer: Updated results of a phase II study of tetrathiomolybdate (TM) in breast cancer (BC) patients (pts) at high risk for recurrence. , 2016, , .		0
48	Lung inflammation promotes metastasis through neutrophil protease-mediated degradation of Tsp-1. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 16000-16005.	7.1	168
49	Chemical and physical properties of carbonated hydroxyapatite affect breast cancer cell behavior. Acta Biomaterialia, 2015, 24, 333-342.	8.3	45
50	Stiffening and unfolding of early deposited-fibronectin increase proangiogenic factor secretion by breast cancer-associated stromal cells. Biomaterials, 2015, 54, 63-71.	11.4	67
51	Effect of the Materials Properties of Hydroxyapatite Nanoparticles on Fibronectin Deposition and Conformation. Crystal Growth and Design, 2015, 15, 2452-2460.	3.0	39
52	3D culture broadly regulates tumor cell hypoxia response and angiogenesis via pro-inflammatory pathways. Biomaterials, 2015, 55, 110-118.	11.4	112
53	3D conducting polymer platforms for electrical control of protein conformation and cellular functions. Journal of Materials Chemistry B, 2015, 3, 5040-5048.	5.8	116
54	Obesity-dependent changes in interstitial ECM mechanics promote breast tumorigenesis. Science Translational Medicine, 2015, 7, 301ra130.	12.4	252

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55	In vitro models of tumor vessels and matrix: Engineering approaches to investigate transport limitations and drug delivery in cancer. Advanced Drug Delivery Reviews, 2014, 69-70, 205-216.	13.7	60
56	Biomechanical forces in the skeleton and their relevance to bone metastasis: Biology and engineering considerations. Advanced Drug Delivery Reviews, 2014, 79-80, 119-134.	13.7	32
57	Engineered Culture Models for Studies of Tumor-Microenvironment Interactions. Annual Review of Biomedical Engineering, 2013, 15, 29-53.	12.3	122
58	Microengineered tumor models: insights & opportunities from a physical sciences-oncology perspective. Biomedical Microdevices, 2013, 15, 583-593.	2.8	35
59	Formation of microvascular networks in vitro. Nature Protocols, 2013, 8, 1820-1836.	12.0	164
60	Fibronectin conformation regulates the proangiogenic capability of tumor-associated adipogenic stromal cells. Biochimica Et Biophysica Acta - General Subjects, 2013, 1830, 4314-4320.	2.4	35
61	Glioblastoma Stem Cells Are Regulated by Interleukin-8 Signaling in a Tumoral Perivascular Niche. Cancer Research, 2013, 73, 7079-7089.	0.9	157
62	In vivo tibial compression decreases osteolysis and tumor formation in a human metastatic breast cancer model. Journal of Bone and Mineral Research, 2013, 28, 2357-2367.	2.8	88
63	A physical sciences network characterization of non-tumorigenic and metastatic cells. Scientific Reports, 2013, 3, 1449.	3.3	146
64	Physicochemical regulation of endothelial sprouting in a 3D microfluidic angiogenesis model. Journal of Biomedical Materials Research - Part A, 2013, 101, 2948-2956.	4.0	70
65	In vitro microvessels for the study of angiogenesis and thrombosis. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9342-9347.	7.1	764
66	Multiscale Models of Breast Cancer Progression. Annals of Biomedical Engineering, 2012, 40, 2488-2500.	2.5	45
67	Electrical Control of Protein Conformation. Advanced Materials, 2012, 24, 2501-2505.	21.0	67
68	Implanted adipose progenitor cells as physicochemical regulators of breast cancer. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9786-9791.	7.1	134
69	Phosphorescent nanoparticles for quantitative measurements of oxygen profiles inÂvitro and inÂvivo. Biomaterials, 2012, 33, 2710-2722.	11.4	54
70	Hydroxyapatite nanoparticle-containing scaffolds for the study of breast cancer bone metastasis. Biomaterials, 2011, 32, 5112-5122.	11.4	141
71	Stiffness of photocrosslinked RGDâ€alginate gels regulates adipose progenitor cell behavior. Biotechnology and Bioengineering, 2011, 108, 1683-1692.	3.3	91
72	Adipose progenitor cells increase fibronectin matrix strain and unfolding in breast tumors. Physical Biology, 2011, 8, 015008.	1.8	65

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73	Microenvironmental Regulation of Tumor Angiogenesis: Biological and Engineering Considerations. Biological and Medical Physics Series, 2011, , 167-202.	0.4	1
74	Dense type I collagen matrices that support cellular remodeling and microfabrication for studies of tumor angiogenesis and vasculogenesis in vitro. Biomaterials, 2010, 31, 8596-8607.	11.4	306
75	A Novel 3-D Mineralized Tumor Model to Study Breast Cancer Bone Metastasis. PLoS ONE, 2010, 5, e8849.	2.5	95
76	Oxygen-Controlled Three-Dimensional Cultures to Analyze Tumor Angiogenesis. Tissue Engineering - Part A, 2010, 16, 2133-2141.	3.1	89
77	Tissue-Engineered Three-Dimensional Tumor Models to Study Tumor Angiogenesis. Tissue Engineering - Part A, 2010, 16, 2147-2152.	3.1	44
78	Microfluidic Culture Models of Tumor Angiogenesis. Tissue Engineering - Part A, 2010, 16, 2143-2146.	3.1	75
79	Electrical control of cell density and morphology on conducting polymer surfaces. , 2009, , .		0
80	Cancer cell angiogenic capability is regulated by 3D culture and integrin engagement. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 399-404.	7.1	280
81	Parylene peel-off arrays to probe the role of cellâ€"cell interactions in tumour angiogenesis. Integrative Biology (United Kingdom), 2009, 1, 587.	1.3	55
82	Biomineralized scaffolds as an in vitro platform for studying metastatic bone disease. , 2009, , .		0
83	Electrical control of cell density gradients on a conducting polymer surface. Chemical Communications, 2009, , 5278.	4.1	57
84	Photocrosslinked alginate gels for analysis of stromal cell behavior in tumors. , 2009, , .		0
85	Oxygen-Sensing Microfluidic Scaffolds. , 2009, , .		1
86	Microvascular Structure and Function in Vitro. , 2009, , .		0
87	Integrin-Adhesion Ligand Bond Formation of Preosteoblasts and Stem Cells in Three-Dimensional RGD Presenting Matrices. Biomacromolecules, 2008, 9, 1843-1851.	5.4	61
88	<i>In Vivo</i>Development and Long-Term Survival of Engineered Adipose Tissue Depend on<i>In Vitro</i>Precultivation Strategy. Tissue Engineering - Part A, 2008, 14, 275-284.	3.1	45
89	Modifying the Proliferative State of Target Cells to Control DNA Expression and Identifying Cell Types Transfected In Vivo. Molecular Therapy, 2007, 15, 361-368.	8.2	18
90	Mechanical Strain Regulates Endothelial Cell Patterning In Vitro. Tissue Engineering, 2007, 13, 207-217.	4.6	105

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91	Integrated approach to designing growth factor delivery systems. FASEB Journal, 2007, 21, 3896-3903.	0.5	119
92	Polymers for pro- and anti-angiogenic therapy. Biomaterials, 2007, 28, 2069-2076.	11.4	86
93	Engineering tumors with 3D scaffolds. Nature Methods, 2007, 4, 855-860.	19.0	779
94	Combination treatment significantly enhances the efficacy of antitumor therapy by preferentially targeting angiogenesis. Laboratory Investigation, 2005, 85, 756-767.	3.7	56
95	Adipose Tissue Engineering Based on Mesenchymal Stem Cells and Basic Fibroblast Growth Factor<i>in Vitro</i>. Tissue Engineering, 2005, 11, 1840-1851.	4.6	113
96	Basic fibroblast growth factor enhances PPARÎ³ ligandâ€induced adipogenesis of mesenchymal stem cells. FEBS Letters, 2004, 577, 277-283.	2.8	96
97	Three-Dimensional<i>in Vitro</i>Model of Adipogenesis: Comparison of Culture Conditions. Tissue Engineering, 2004, 10, 215-229.	4.6	71
98	Generation of mature fat pads in vitro and in vivo utilizing 3-D long-term culture of 3T3-L1 preadipocytes. Experimental Cell Research, 2004, 300, 54-64.	2.6	107
99	Poly(D,L-lactic acid)-Poly(ethylene glycol)-Monomethyl Ether Diblock Copolymers Control Adhesion and Osteoblastic Differentiation of Marrow Stromal Cells. Tissue Engineering, 2003, 9, 71-84.	4.6	82
100	Does UV irradiation affect polymer properties relevant to tissue engineering?. Surface Science, 2001, 491, 333-345.	1.9	83
101	Polymeric Systems for Bioinspired Delivery of Angiogenic Molecules. , 0, , 191-221.		22