Claudia Fischbach

List of Publications by Citations

93 papers	6,018 citations	44 h-index	77 g-index
107 ext. papers	6,815 ext. citations	9.3 avg, IF	5.62 L-index

#	Paper	IF	Citations
93	Engineering tumors with 3D scaffolds. *Nature Methods*, **2007**, 4, 855-60	21.6	681
92	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, 9342-7	11.5	657
91	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	11.5	253
90	Dense type I collagen matrices that support cellular remodeling and microfabrication for studies of tumor angiogenesis and vasculogenesis in vitro. *Biomaterials*, **2010**, 31, 8596-607	15.6	243
89	Obesity-dependent changes in interstitial ECM mechanics promote breast tumorigenesis. *Science Translational Medicine*, **2015**, 7, 301ra130	17.5	175
88	Formation of microvascular networks in vitro. *Nature Protocols*, **2013**, 8, 1820-36	18.8	149
87	Glioblastoma stem cells are regulated by interleukin-8 signaling in a tumoral perivascular niche. *Cancer Research*, **2013**, 73, 7079-89	10.1	136
86	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, 16000-5	11.5	118
85	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, 9786-91	11.5	116
84	A physical sciences network characterization of non-tumorigenic and metastatic cells. *Scientific Reports*, **2013**, 3, 1449	4.9	113
83	Hydroxyapatite nanoparticle-containing scaffolds for the study of breast cancer bone metastasis. *Biomaterials*, **2011**, 32, 5112-22	15.6	113
82	Engineered culture models for studies of tumor-microenvironment interactions. *Annual Review of Biomedical Engineering*, **2013**, 15, 29-53	12	112
81	Integrated approach to designing growth factor delivery systems. *FASEB Journal*, **2007**, 21, 3896-903	0.9	111
80	Adipose tissue engineering based on mesenchymal stem cells and basic fibroblast growth factor in vitro. *Tissue Engineering*, **2005**, 11, 1840-51		107
79	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	4.2	100
78	3D Conducting Polymer Platforms for Electrical Control of Protein Conformation and Cellular Functions. *Journal of Materials Chemistry B*, **2015**, 3, 5040-5048	7.3	96
77	Mechanical strain regulates endothelial cell patterning in vitro. *Tissue Engineering*, **2007**, 13, 207-17		94

76	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	12.9	92
75	3D culture broadly regulates tumor cell hypoxia response and angiogenesis via pro-inflammatory pathways. *Biomaterials*, **2015**, 55, 110-8	15.6	90
74	Basic fibroblast growth factor enhances PPARgamma ligand-induced adipogenesis of mesenchymal stem cells. *FEBS Letters*, **2004**, 577, 277-83	3.8	86
73	Oxygen-controlled three-dimensional cultures to analyze tumor angiogenesis. *Tissue Engineering - Part A*, **2010**, 16, 2133-41	3.9	84
72	Stiffness of photocrosslinked RGD-alginate gels regulates adipose progenitor cell behavior. *Biotechnology and Bioengineering*, **2011**, 108, 1683-92	4.9	83
71	A novel 3-D mineralized tumor model to study breast cancer bone metastasis. *PLoS ONE*, **2010**, 5, e8849	3.7	81
70	Polymers for pro- and anti-angiogenic therapy. *Biomaterials*, **2007**, 28, 2069-76	15.6	78
69	Does UV irradiation affect polymer properties relevant to tissue engineering?. *Surface Science*, **2001**, 491, 333-345	1.8	76
68	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		74
67	Microfluidic culture models of tumor angiogenesis. *Tissue Engineering - Part A*, **2010**, 16, 2143-6	3.9	70
66	Loss of Sirtuin 1 Alters the Secretome of Breast Cancer Cells by Impairing Lysosomal Integrity. *Developmental Cell*, **2019**, 49, 393-408.e7	10.2	66
65	In vivo tibial compression decreases osteolysis and tumor formation in a human metastatic breast cancer model. *Journal of Bone and Mineral Research*, **2013**, 28, 2357-67	6.3	64
64	Three-dimensional in vitro model of adipogenesis: comparison of culture conditions. *Tissue Engineering*, **2004**, 10, 215-29		63
63	Electrical control of protein conformation. *Advanced Materials*, **2012**, 24, 2501-5	24	62
62	Physicochemical regulation of endothelial sprouting in a 3D microfluidic angiogenesis model. *Journal of Biomedical Materials Research - Part A*, **2013**, 101, 2948-56	5.4	59
61	Collagen microarchitecture mechanically controls myofibroblast differentiation. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 11387-11398	11.5	58
60	Integrin-adhesion ligand bond formation of preosteoblasts and stem cells in three-dimensional RGD presenting matrices. *Biomacromolecules*, **2008**, 9, 1843-51	6.9	57
59	Stiffening and unfolding of early deposited-fibronectin increase proangiogenic factor secretion by breast cancer-associated stromal cells. *Biomaterials*, **2015**, 54, 63-71	15.6	56

58	Breast cancer cells alter the dynamics of stromal fibronectin-collagen interactions. *Matrix Biology*, **2017**, 60-61, 86-95	11.4	56
57	Adipose progenitor cells increase fibronectin matrix strain and unfolding in breast tumors. *Physical Biology*, **2011**, 8, 015008	3	56
56	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	18.5	55
55	Electrical control of cell density gradients on a conducting polymer surface. *Chemical Communications*, **2009**, 5278-80	5.8	54
54	Fibronectin Mechanobiology Regulates Tumorigenesis. *Cellular and Molecular Bioengineering*, **2016**, 9, 1-11	3.9	50
53	Combination treatment significantly enhances the efficacy of antitumor therapy by preferentially targeting angiogenesis. *Laboratory Investigation*, **2005**, 85, 756-67	5.9	50
52	Phosphorescent nanoparticles for quantitative measurements of oxygen profiles in vitro and in vivo. *Biomaterials*, **2012**, 33, 2710-22	15.6	48
51	Parylene peel-off arrays to probe the role of cell-cell interactions in tumour angiogenesis. *Integrative Biology (United Kingdom)*, **2009**, 1, 587-94	3.7	48
50	Endothelial cells promote 3D invasion of GBM by IL-8-dependent induction of cancer stem cell properties. *Scientific Reports*, **2019**, 9, 9069	4.9	45
49	Adipose-derived stem cells increase angiogenesis through matrix metalloproteinase-dependent collagen remodeling. *Integrative Biology (United Kingdom)*, **2016**, 8, 205-15	3.7	41
48	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	11.5	41
47	Tissue-engineered three-dimensional tumor models to study tumor angiogenesis. *Tissue Engineering - Part A*, **2010**, 16, 2147-52	3.9	41
46	Chemical and physical properties of carbonated hydroxyapatite affect breast cancer cell behavior. *Acta Biomaterialia*, **2015**, 24, 333-42	10.8	40
45	Breast cancer-derived extracellular vesicles stimulate myofibroblast differentiation and pro-angiogenic behavior of adipose stem cells. *Matrix Biology*, **2017**, 60-61, 190-205	11.4	38
44	Obesity-Associated Extracellular Matrix Remodeling Promotes a Macrophage Phenotype Similar to Tumor-Associated Macrophages. *American Journal of Pathology*, **2019**, 189, 2019-2035	5.8	38
43	Multiscale models of breast cancer progression. *Annals of Biomedical Engineering*, **2012**, 40, 2488-500	4.7	38
42	In vivo development and long-term survival of engineered adipose tissue depend on in vitro precultivation strategy. *Tissue Engineering - Part A*, **2008**, 14, 275-84	3.9	37
41	Intrafibrillar, bone-mimetic collagen mineralization regulates breast cancer cell adhesion and migration. *Biomaterials*, **2019**, 198, 95-106	15.6	36

40	Collagen I hydrogel microstructure and composition conjointly regulate vascular network formation. *Acta Biomaterialia*, **2016**, 44, 200-8	10.8	35
39	Microengineered tumor models: insights & opportunities from a physical sciences-oncology perspective. *Biomedical Microdevices*, **2013**, 15, 583-593	3.7	33
38	Fibronectin conformation regulates the proangiogenic capability of tumor-associated adipogenic stromal cells. *Biochimica Et Biophysica Acta - General Subjects*, **2013**, 1830, 4314-20	4	32
37	Direct comparison of optical and electron microscopy methods for structural characterization of extracellular vesicles. *Journal of Structural Biology*, **2020**, 210, 107474	3.4	31
36	Cancer metabolism gets physical. *Science Translational Medicine*, **2018**, 10,	17.5	29
35	Effect of the Materials Properties of Hydroxyapatite Nanoparticles on Fibronectin Deposition and Conformation. *Crystal Growth and Design*, **2015**, 15, 2452-2460	3.5	28
34	Three-Dimensional Mechanical Loading Modulates the Osteogenic Response of Mesenchymal Stem Cells to Tumor-Derived Soluble Signals. *Tissue Engineering - Part A*, **2016**, 22, 1006-15	3.9	27
33	Biomechanical forces in the skeleton and their relevance to bone metastasis: biology and engineering considerations. *Advanced Drug Delivery Reviews*, **2014**, 79-80, 119-34	18.5	26
32	Collagen Fiber Orientation Regulates 3D Vascular Network Formation and Alignment. *ACS Biomaterials Science and Engineering*, **2018**, 4, 2967-2976	5.5	26
31	Correlative imaging reveals physiochemical heterogeneity of microcalcifications in human breast carcinomas. *Journal of Structural Biology*, **2018**, 202, 25-34	3.4	23
30	Biomaterials approaches to modeling macrophage-extracellular matrix interactions in the tumor microenvironment. *Current Opinion in Biotechnology*, **2016**, 40, 16-23	11.4	21
29	Biophysical Properties of Extracellular Matrix: Linking Obesity and Cancer. *Trends in Cancer*, **2018**, 4, 271-273	12.5	20
28	Polymeric Systems for Bioinspired Delivery of Angiogenic Molecules191-221		20
27	Mapping and Profiling Lipid Distribution in a 3D Model of Breast Cancer Progression. *ACS Central Science*, **2019**, 5, 768-780	16.8	19
26	Studying biomineralization pathways in a 3D culture model of breast cancer microcalcifications. *Biomaterials*, **2018**, 179, 71-82	15.6	19
25	Modifying the proliferative state of target cells to control DNA expression and identifying cell types transfected in vivo. *Molecular Therapy*, **2007**, 15, 361-8	11.7	17
24	The Physics of Cancer. *Cancer Research*, **2019**, 79, 2107-2110	10.1	13
23	CD44v6 increases gastric cancer malignant phenotype by modulating adipose stromal cell-mediated ECM remodeling. *Integrative Biology (United Kingdom)*, **2018**, 10, 145-158	3.7	13

22	Hydroxyapatite mineral enhances malignant potential in a tissue-engineered model of ductal carcinoma in situ (DCIS). *Biomaterials*, **2019**, 224, 119489	15.6	12
21	Protein-crystal interface mediates cell adhesion and proangiogenic secretion. *Biomaterials*, **2017**, 116, 174-185	15.6	10
20	Breast cancer-secreted factors perturb murine bone growth in regions prone to metastasis. *Science Advances*, **2021**, 7,	14.3	9
19	Obesity-associated Adipose Stromal Cells Promote Breast Cancer Invasion Through Direct Cell Contact and ECM Remodeling. *Advanced Functional Materials*, **2020**, 30, 1910650	15.6	8
18	Physical confinement induces malignant transformation in mammary epithelial cells. *Biomaterials*, **2019**, 217, 119307	15.6	8
17	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,	11.5	8
16	Contextual Control of Adipose-Derived Stem Cell Function: Implications for Engineered Tumor Models. *ACS Biomaterials Science and Engineering*, **2017**, 3, 1483-1493	5.5	6
15	Fluorescent Silica Nanoparticles to Label Metastatic Tumor Cells in Mineralized Bone Microenvironments. *Small*, **2021**, 17, e2001432	11	6
14	Engineering Modular Half-Antibody Conjugated Nanoparticles for Targeting CD44v6-Expressing Cancer Cells. *Nanomaterials*, **2021**, 11,	5.4	5
13	Computational 4D-OCM for label-free imaging of collective cell invasion and force-mediated deformations in collagen. *Scientific Reports*, **2021**, 11, 2814	4.9	4
12	Abstract 153: A Novel 3D Platform to Investigate Neoangiogenesis, Transendothelial Migration and Metastasis of Breast Cancer Cells. *Plastic and Reconstructive Surgery*, **2014**, 133, 169	2.7	3
11	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	7.8	2
10	Engineering strategies to capture the biological and biophysical tumor microenvironment in vitro. *Advanced Drug Delivery Reviews*, **2021**, 176, 113852	18.5	2
9	Supported Membrane Platform to Assess Surface Interactions between Extracellular Vesicles and Stromal Cells. *ACS Biomaterials Science and Engineering*, **2020**, 6, 3945-3956	5.5	1
8	Revealing Mechanisms of Microvesicle Biogenesis in Breast Cancer Cells via in situ Microscopy. *Microscopy and Microanalysis*, **2018**, 24, 1256-1257	0.5	1
7	Biomaterials-Based Model Systems to Study Tumor Microenvironment Interactions **2020**, 1217-1236		1
6	Engineered ECM models: Opportunities to advance understanding of tumor heterogeneity. *Current Opinion in Cell Biology*, **2021**, 72, 1-9	9	1
5	Microenvironmental Regulation of Tumor Angiogenesis: Biological and Engineering Considerations **2011**, 167-202		1

4	Tissue-Engineered Models for Studies of Bone Metastasis. *Cancer Drug Discovery and Development*, **2018**, 95-116	0.3
3	Engineered tumours: Roll-on scaffolds. *Nature Materials*, **2016**, 15, 138-9	27
2	Obesity-associated extracellular matrix remodeling promotes a tumor-associated macrophage phenotype in tumor-free breast adipose tissue. *FASEB Journal*, **2018**, 32, 280.5	0.9
1	Extracellular Matrix Remodelling: Obesity-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	15.6